Committee on Digital Payments

Medium Term Recommendations to Strengthen Digital Payments Ecosystem

Report

December 2016

Constituted by

MINISTRY OF FINANCE, GOVERNMENT OF INDIA

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Committee to review the framework related to Digital Payments

New Delhi
09 December 2016

Shri Arun Jaitley
Finance Minister
Government of India
New Delhi 110001

Dear Finance Minister,

The Committee to review the framework related to Digital Payments presents its Report to the Government of India. The recommendations aim to strengthen the ecosystem to promote digital payments with a focus on reaching financially and socially excluded groups.

Yours sincerely

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1.Acknowledgement

The remit of the Committee was comprehensive and included suggesting legislative as well as regulatory changes with a view to promote digital payments over medium term (See: *Government order establishing the Committee* on *Page 180*).

The task at hand was equally challenging. The business models around digital payments are yet to clearly emerge. Should State encourage pricing models to develop for payments or mandate/ encourage it to be a free utility? What should be done to enable the common man to access, adopt and use digital payments in a meaningful manner? How can the pace of growth of digital payments be accelerated? What should be the role of State in enabling that vision?

The answers to these questions can change as fast as changes in technologies. In this backdrop, the Committee approached the mandate based on sound economic principles. It greatly benefited from the fact that all the major stakeholders were members of the Committee. These comprised of H.R. Khan, former Deputy Governor, Reserve Bank of India (RBI); Chandan Sinha, Executive Director, RBI; Neeraj Kumar Gupta, Secretary, Department of Investment and Public Asset Management (DIPAM); R. Chandrashekhar, President, National Association of Software and Services Companies (NASSCOM); A.B. Pandey, CEO, Unique Identification Authority of India (UIDAI); Ashwini Kumar and later Rajeev Rishi as Chairman, Indian Banks Association (IBA); Rani Singh Nair and later Sushil Chandra as Chairman, Central Board of Direct Taxation (CBDT); Naveen Surya, President, Payments Council of India (PCI); Subho Ray, President, Internet and Mobile Association of India (IAMAI); and Dr. Saurabh Garg, Joint Secretary, Department of Economic Affairs (DEA). The Committee also benefited from inputs from NPCI which graciously offered to participate in the meeting of the Committee. Input from NPCI was provided by A.P. Hota, Chairman; Dilip Abse, COO and S.K. Gupta, Chief Project Officer.

Various experts gave their valuable insights and submissions which translated into rich input for the Committee. Some of the important discussions which benefited the Committee came from B.N. Satpathy, Deepika Shrivasatava, Ajay

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Kaushal, Nanda Sameer Dave, Udai Mehta, Amol Kulkarni, David Katz, Sanjay Jain, Mathew Homer, Badal Malick, Rohit Kumar, Varad Pande, Arun Sharma, Anu Tiwari, Vipul Jain, Rajesh Bhoot, Ravi Agarwal, Harshala Chandorkar, Susan Thomas, Chetna Batra and Ashish Gupta. The Committee received may useful submissions from various stakeholders. These are acknowledged separately in the Annexures. It is possible that some names might not have figured in the list above as Committee members have individually benefited from many consultations.

The Committee met five times during its three month tenure. In addition, it held three meetings involving consultations involving industry and government agencies. It invited written submissions from a wider audience from Niti Aayog's website. The Committee's research secretariat independently met and interacted with a variety of stakeholders including banks, non bank Payment Service Providers (PSPs), card schemes, regulator, payment system operators, Aadhaar, web aggregators and Fintech companies. It interacted with firms who were globally active in payments but were sitting on the fence on their Indian business. It interacted with academics and think tanks.

The Committee studied the domestic scenario and drew on the best practices in the developed world in understanding the trajectory of development in payments industry and various interventions undertaken to promote digital payments.

The task of putting together the key issues, researching the problems, suggesting policy options, developing the rationale for the final recommendation would not have been possible without the efforts of the members of the Committee and all those who enriched the discussion. The Committee was ably supported by the research work of the Macro Finance Policy team at National Institute of Public Finance and Policy (NIPFP) comprising Ashish Aggarwal, Pratik Datta, Indrajeet Sircar and Aditya Singh Rajput. I appreciate and acknowledge their contribution to this report.

09 December 2016
New Delhi

Ratan P. Watal

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Acronyms

ACCC	Australian Competition and Consumer Commission
AD	Authorised Dealer
AEPS	Aadhaar Enabled Payment System
AISP	Account Information Service Provider
APC	Australian Payments Council
APCA	Australian Payments Clearing Association
API	Application Programming Interface
APRA	Australian Prudential Regulation Authority
APTEL	Appellate Authority for Electricity
ASBA	Applications Supported by Blocked Amount
ASIC	Australian Securities & Investments Commission
ASPSP	Account Servicing Payment Services Provider
ATM	Automated Teller Machine
BoC	Bank of Canada
BoE	Bank of England
BPSS	Board for Regulation and Supervision of Payment and Settlement Systems
BSE	Bombay Stock Exchange
CASA	Current Account, Savings Account
CAT	Competition Appellate Tribunal
CBDT	Central Board of Direct Taxation
CBEC	Central Board of Excise and Customs
CEA	Central Electricity Authority
CIC	Credit Information Company
CKYCR	Central KYC Registry
CMA	Competition and Market Authority
COMPAT	Competition Appellate Tribunal
CPA	Canadian Payment Association
CPIC	Critical Payment Infrastructure Company
CPMI	Committee on Payments and Market Infrastructure
CPSS	Committee on Payment and Settlement Systems
Cr	Crore

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DCB	Direct Carrier Billing
DEA	Department of Economic Affairs
DGS&D	Directorate General of Supplies and Disposal
DIPAM	Department of Investment and Public Asset Management
DNS	Deferred Net Settlement
DoT	Department of Telecommunications
DPSS	Department of Payment and Settlement Systems
EDC	Electronic Data Capture
ERC	Electricity Regulatory Commission
EU	European Union
FCA	Financial Conduct Authority
FEDWIRE	Federal Reserve Wire Network
FMI	Financial Market Infrastructure
FSA	Financial Services Authority
FSLRC	Financial Sector Legislative Reforms Commission
FSP	Financial Service Provider
GDP	Gross Domestic Product
GeM	Government e-Marketplace
GOI	Government of India
IAMAI	Internet and Mobile Association of India
IBA	Indian Banks Association
IFC	Indian Financial Code
IMPS	Immediate Payment Service
INR	Indian Rupee
IPO	Initial Public Offering
IT	Information Technology
ITU	International Telecommunication Union
KYC	Know Your Customer
LVTS	Large Value Transfer System
MAS	Monetary Authority of Singapore

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MC	Master Circular
MDR	Merchant Discount Rate
MoF	Ministry of Finance
MPC	Monetary Policy Committee
MTSS	Money Transfer Service Scheme
NASSCOM	National Association of Software and Services Companies
NECS	National Electronic Clearing Service
NEFT	National Electronic Fund Transafer
NFC	Near Field Communication
NFS	National Financial Switch
NIPFP	National Institute of Public Finance and Policy
NPCI	National Payments Corporation of India
NSE	National Stock Exchange
OTP	One-Time-Password
OTT	Over-The-Top
PAN	Permanent Account Number
PCI	Payments Council of India
PIN	Personal Identification Number
PISP	Payment Initiation Service Provider
PMJDY	Pradhan Mantri Jan Dhan Yojana
POS	Point of Sale
PPI	Prepaid Payment Instrument
PRA	Prudential Regulation Authority
PRB	Payments Regulatory Board
PSAC	Payment System Advisory Council
PSB	Payment Systems Board
PSD	Payment System Directive
PSP	Payment Service Provider
PSR	Payment System Regulator
PSRs	Payment System Regulations, 2009
PSU	Public Sector Undertaking
RBA	Reserve Bank of Australia
RBI	Reserve Bank of India
RTGS	Real Time Gross Settlement

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SAT	Securities Appellate Tribunal
SEB	State Electricity Board
SEBI	Securities and Exchange Board of India
SIFI	Systemically Important Financial Institution
SIPS	Systemically Important Payment System
SSN	Social Security Number
TIN	Tax Identification Number
TRAI	Telecom Regulatory Authority of India
TReDS	Trade Receivable Discounting System
UIDAI	Unique Identification Authority of India
UK	United Kingdom
UPI	Unified Payment Interface
USSD	Unstructured Supplementary Service Data
VAS	Value Added Service
VAT	Value Added Tax

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2.Executive Summary

Digital payments is to finance what invention of wheel was to transport. It offers an unprecedented opportunity to our people, most of whom live in rural India or are migrants in big cities. It promises access to formal financial services and benefits from e-commerce, specially for those who continue to be excluded. In addition to accelerating financial inclusion, opening new business models and markets – digital payments can improve the State's ability to curb tax leakages, funding of criminal activities and reduce cash related costs.

The phenomenal global growth in digital payments may be attributed to four factors – (i) digital and technology revolution, (ii) entry of several non banking PSPs into payments space, (iii) customers becoming more demanding and expecting instantaneous and one-touch payment solutions and (iv) progressive changes in the regulatory framework.

India is no exception to these changes. Over the past few years, the payment landscape in India, too, has mirrored these developments, with digital payments displaying a robust growth. However, India continues to have one of the lowest use of digital payments globally. The recent initiative to demonetise high denomination paper currency has highlighted the gaps in our digital payments ecosystem. The situation needs to be reviewed from the perspective of an ordinary Indian – *Why Digital?* For all its inefficiencies, cash offers instant settlement, *24x7* up-time, familiarity and an illusion of zero transaction cost.

In this backdrop, the *Vision* of the Committee is to set a roadmap for digital payments to grow substantially over the next three years from the current level of about five percent of personal consumption and twenty per cent of all transactions. India's cash to Gross Domestic Product (GDP) ratio is among the highest in the world. Over the next three years, it is the vision of the Committee to reduce this ratio from about twelve percent to six percent.

Today, this is achievable as it is possible to build secure payment solutions suited to ordinary Indians which are as convenient as sending a message. About sixty-five percent of population have active mobile telephony. Ninety-nine percent have electronic identity in the form of Aadhaar. About thirty-five

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percent have already adopted use of technology in the form of internet and social messaging – a ten fold increase over ten years. This was made possible because telecom regulations mandated open access and inter-connectivity. The regulator defined common standards and required the incumbents to connect to new rivals thus preventing anti-competitive practices.

Likewise, in the payments market, the Government and the Regulator may lay down the ground rules for a competitive market so that markets constantly improve solutions, reduce prices, retain existing consumers and find new ones. This might also mitigate the need for Government to intervene regularly. Given the evolving nature of payments, what is a great solution today becomes an obsolete technology tomorrow. The *Role of the State* should be minimal and be driven towards creating an enabling ecosystem. It should focus on identifying and addressing market failures, situations when the competitive outcome of markets is not satisfactory from the point of view of society. The actions of the State should consider its capacity to intervene.

Banks perform both banking and payments services. Traditionally, the field of payments has been bank driven. Technology has led to payments emerging as a distinct industry: one that is increasingly dominated by Fintech companies. Payments is a business of transferring money. In contrast, banking is the business of giving assured returns on deposits and lending. India needs the combined effort of banks and non-banks to promote digital payments. The *Policy Analysis* needs to focus on strengthening the ecosystems and suggest ways to enable the markets to be competitive and innovative; safe and resilient; accessible and inclusive.

Banks, the incumbents, today face increasing competition from new Fintech PSPs. They earn revenues (i) by using low cost *Current Account, Savings Account (CASA)* deposits of consumers for onward lending at higher rates; (ii) when consumers undertake payments transactions, and (iii) from 'the float' when payments transactions move slowly. This business model is now increasingly under pressure, more so for those banks who are not geared to compete and innovate. Fintech companies that require to connect to banking systems to serve their customers tend to face restrictive practices. This anti-competitive setting is not conducive for innovation and consumer interest. Moreover, India stands to lose out on benefits from global innovation as international technology based PSPs do not find it attractive to grow in India and Indian banks are not challenged to become truly globally competitive.

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Payments now need to be regulated independently. The approach of RBI has already been to regulate non-banks in payments lightly. This has enabled them to emerge as significant players in a relatively short time frame. This growth now needs to be nurtured so that banks have competitive pressure to innovate and non-banks have an equal opportunity to compete. Globally, this has been recognised and structural changes have been put in place to ensure that the consumers benefit the most from this technology led payments revolution. This is true for many progressive economies including countries in European Union (including UK), Australia and South Africa. The common themes across these jurisdiction is to promote increased participation of non-banks in payments, and promote access and competition in the payments industry.

India has a unique opportunity to leverage the Jan Dhan, Aadhaar and Mobile (JAM) trinity to rapidly enable ordinary Indians to participate in digital payments. In addition to the high Aadhaar and mobile penetration, sixty-five percent of our population is below thirty-five years of age. This population could find it easier to adopt to new ways of doing payments. However, this transformational phase is accompanied by heightened concerns around consumer protection, competition, safety and convenience. The anonymity of cash transaction is a non-trivial barrier to digital payments and is a constant battle between Government and those who steal taxes.

Following the demonetisation of high denomination paper currency notes, the Hon'ble Prime Minister urged small traders to embrace technology by using digital payment systems. In his address to the nation on 27 November 2016, the Prime Minister emphasised that by embracing technology, we can bring about a big transformation in the form of a cashless society.

It is in this context, that the Committee has evaluated the current digital payments landscape in India, and has calibrated its *Recommendations* 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.

Several initiatives such as the Committee of Officers constituted under the leadership of CEO, NITI Aayog, are taking steps to identify immediate steps to promote understanding and adoption of available digital payment options. More recently, a Committee of Chief Ministers has been constituted on 30 November 2016 under the Chairmanship of Chief Minister of Andhra Pradesh to accelerate digital payments. The present Report will be an important input

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to these Committees.

The recommendations may be put into implementation over the *next thirty to ninety days*. These include (i) placing the proposed legislative changes before the Parliament, (ii) regulatory changes by RBI within the current legislative framework and (iii) implementing the policy and executive steps by Ministry of Finance (MoF) and other nodal ministries.

Over the course of its deliberation, two recommendations of the Committee resulted in rich debate. The first related to upgrading the decade old *Payment and Settlement Act, 2007* to enshrine certain key principles in it and the second, on *making the regulation of payments independent* from the task of regulating banking. RBI, being the regulator, adopted a progressive approach which led to a broad consensus on the recommendations. All except IBA agreed on the suggested course of action. Member H.R Khan had different points of view on some issues and some additional suggestions as mentioned in his mails attached as *Annexure* to the report on *Page 182*. The RBI provided an additional note to further detail their views. This too is attached as part of the *Annexure* on *Page 186*.

The Committee recommends that the Government and RBI shifts gears and undertake structural reforms. The major recommendations of the Committee are highlighted below (See: *Recommendations* on *Page 153* and *Implementation Roadmap* on *Page 176* for details):

- The Government may consider the following recommendations:

R- 1 **Make regulation of payments independent from the function of central banking**. The Committee weighed two options on how best this be implemented: (i) create an new payments regulator, or (ii) make the current Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) within RBI more independent. While both the options would serve the intended objective, the Committee recommends that the BPSS be given an independent status which it today lacks by being a sub-committee of the Central Board of RBI. The statutory status of the new Board, within the overall structure of RBI, called Payments Regulatory Board (PRB) should be enshrined in the *Payments and Settlement Systems Act, 2007 – Implementation by MoF: Finalisation of structure of PRB may be done in 30 days.*

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R- 2 **Update the current *Payments and Settlement Systems Act, 2007*** to include explicit mandate for (i) competition and innovation, (ii) open access and interoperability, (iii) consumer protection including penalties and independent appeal mechanism, (iv) regulations on systemic risks, (v) data protection and security and (v) a process of regulatory governance. The Committee has provided drafting instructions for the new Payments and Settlement Systems Act and this may be initiated at the earliest – *Implementation by MoF: Finalisation of amendment bill and placing the same before the Union Cabinet may be done 30 days.*

R- 3 **Promote digital payments and receipts within Government** by (i) adopting digital payments for all its needs, (ii) withdraw all charges levied by Government department and utilities on digital payments and bear the cost of such transactions, (iii) mandate government departments and agencies to provide option to consumers to pay digitally, (iv) incentivise consumers to make payments (including payment of fines and penalties) to Government electronically by giving a discount or cash back, (v) enable consumers to make payments (including taxes) to Government through suitable digital means like cards and wallets, (vi) special emphasis to promote digital payments for recurring low value transactions and (vii) reduce custom duties on payments acceptance equipment. – *Implementation agencies listed in recommendation section. Steps may be initiated in 30 days and reviewed fortnightly.*

R- 4 **Create a fund proposed as DIPAYAN from savings generated from cash-less transactions** to expand digital payments. Build audit capability to measure savings – *Implementation by MoF, Ministry of Social Justice, Ministry of tribal Affairs and Ministry of Development of North Eastern Region. A time period of 60 days may be considered for initiating implementation by user agencies.*

R- 5 **Create a ranking and reward framework** to encourage and recognise government departments, State Governments, districts and panchayats and other market participants who lead the efforts on enabling digital payments – *Implementation by NITI Aayog along with State Governments. Development of the framework maybe achieved in 60-90 days.*

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R- 6 **Implement other measures to promote digital payments** including (i) promoting Aadaar based eKYC and paperless authentication (including where Permanent Account Number (PAN) has not been obtained), (ii) providing disincentives for usage of cash and (iii) creating awareness and transparency on cost of cash – *Implementation by MoF, UIDAI, CBDT, Telecom Regulatory Authority of India (TRAI), Ministry of HRD, DoPT and RBI. May be initiated over 60-90 days.*

- The RBI may, within the existing regulatory framework of *Payments and Settlement Act, 2007*, immediately initiate steps to:

R- 7 **Consider outsourcing the function of operation of payment systems** like Real Time Gross Settlement (RTGS) and National Electronic Fund Transafer (NEFT). While moving RTGS to a separate operator is not envisaged for now – a cost benefit analysis may be initiated as an initial step. Overtime, multiple payment system operators should be encouraged and payment systems should be operated by market entities – *Consultation paper may be released over 180 days.*

R- 8 **Upgrade payment systems like RTGS and NEFT to operate on *24x7* basis in due course of time**. RBI should progressively increase their timings over due course – *A consultation paper may be released over 90 days.*

R- 9 **Allow non-bank PSPs to directly access payment systems** – *Regulations may be released for consultation over 60 days.*

R- 10 **Require NPCI, to be payments centric in its ownership and objectives**. Ownership of NPCI should be diversified widely to include more banks and include non-banks. Its Board should be represented by majority public interest directors and include shareholder directors. NPCI should be allowed to function independently – *Regulations may be released for consultation over 60 days.*

R- 11 **Enable payments to be inter-operable between bank and non-banks as well as within non-banks**. Mobile number and Aadhaar based fully inter-operable payments should be prioritised – *NPCI may enable this on its platforms over 60 days.*

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R- 12 **Create a formal mechanism to enable innovations and new business models** – *Consultation paper may be released over 90-120 days.*

R- 13 **Implement other measures to promote digital payments** including issuing regulations on Systemically Important Payment System (SIPS) and Systemically Important Financial Institutions (SIFIs), growing acceptance network, enabling faster and cheaper credit and promoting cross border payments – *Regulations may be released for consultation over 60-180 days.* The RBI may within two weeks of releasing this Report, develop a comprehensive metric to quantitatively measure and monitor the enhancement of digital payment services in India.

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3.Why Digital?

Financial inclusion is one of the foremost policy challenges facing India today. As of 2014, approximately 53% of India's population had access to formal financial services.[1] Since then, the Government has taken several significant steps towards including a greater percentage of India's population within the umbrella of formal financial services. The most notable initiative in this regard being the Pradhan Mantri Jan Dhan Yojana (PMJDY). Since its inception, the PMJDY has undertaken a commendable task of opening approximately 25.68 crore bank accounts.[2] However, as noted by a recent inquiry, there remains a case for catalysing the process of attaining greater financial inclusion, with the overarching goal of including over 90% of underserved sections of society in the ambit of formal finance by the year 2021.[3]

When one considers the array of financial services that are available as a part of the formal financial system, there is an observable hierarchy of demand within financial products (See Figure 3.1)

In this context, payments are often the first and most used financial services, required by almost 100% of the population. While certain stakeholders have submitted that such an estimation might be misplaced,[4] the Committee believes that ensuring convenient access to a basic transactional account (as a financial service distinct from a savings account), and a robust payment system, can complement the efforts of conventional banking, towards attaining greater financial inclusion.[5]

However, the focus of this Committee is not merely on enabling payments, but to strengthen the ecosystem for "digital" payments. The question therefore

[1] See, World Bank Financial Inclusion Index Data (2014), Available at URL: `http://datatopics.worldbank.org/financialinclusion/country/india`

[2] See, PMJDY Progress Report, Available at URL: `http://pmjdy.gov.in/account`

[3] See, RBI Committee on Medium Term Path on Financial Inclusion, *Report of the Committee on Medium Term Path on Financial Inclusion*.

[4] See, Submission dated 24 November 2016 by the Indian Banks Association, It has been submitted that in the absence of social security, the unbanked first and foremost requires savings. In this regard, they have highlighted the role played by banks and their efforts towards ensuring financial inclusion.

[5] See, Bank for International Settlements, World Bank Group, *Payment Aspects of Financial Inclusion*.

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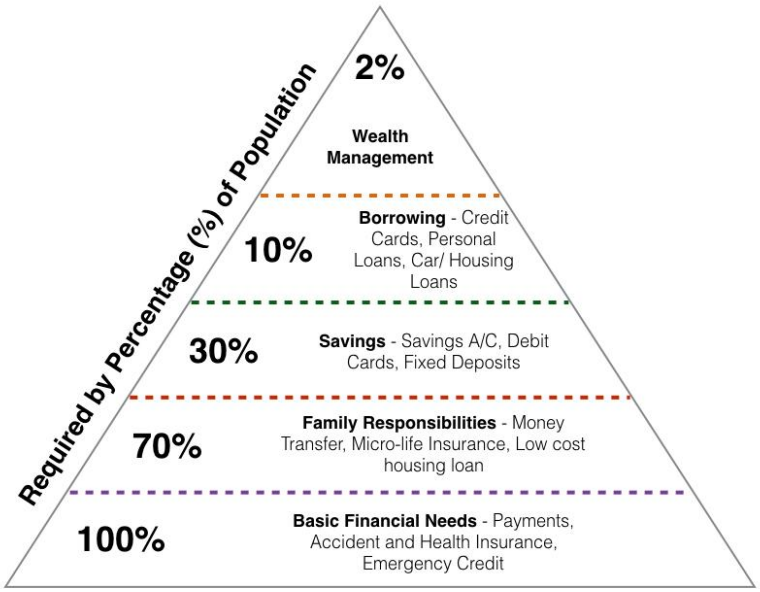

Figure 3.1.: *Hierarchy of Demand of Financial Products (Source: Payments Council of India)*

arises, why "digital"?

The Committee believes that the case for digital payments can be made on the basis of four key factors, that make paperless payment instruments and systems more desirable - *First*, cash is expensive. While there are several perceived benefits of transacting in cash (such as instantaneous settlement, relative anonymity, and the notion of security associated with holding physical value), there are several latent and implicit costs associated with cash. *Second*, technology has been advancing at a rapid pace to deliver robust, secure and convenient payments solutions. This enables rapid delivery of payment services to large sections of the population. *Third*, digital payments allow for services to be delivered at lower costs, afford greater scalability and greater ease of access. This in turn, helps in fostering economic growth and financial inclusion. *Lastly*, recent Government initiatives have created a catalytic environment for the greater proliferation and growth of digital payments.

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3.1. High Cost of Cash

India is a cash heavy economy, with almost 78% of all consumer payments being effected in cash.[6]

India's preference for cash as a payment instrument is further reflected by India's significant cash to GDP ratio of (12.04%), which is substantially higher than comparable countries.[7] India's dependency on cash imposes an estimated cost of approximately INR 21,000 Crores on account of various aspects of currency operations including cost of printing new currency, costs of currency chest, costs of maintaining supply to ATM networks, and interests accrued.[8] This estimate does not reflect other external costs imposed by the use of cash, including the costs imposed by counterfeit currency and black money.[9] Some estimates indicated that the net cost of cash (including cost of currency operations, as well as other costs borne by households, businesses and banks in handling cash) as 1.7% of India's real GDP in 2014-15. Similarly, estimates indicated that foregone tax revenues from the shadow economy constituting 19% of India's GDP, account for 3.2% of India's GDP.[10]

Transitioning to digital payments is estimated to bring about a significant reduction in costs incurred on account of inefficiencies associated with cash and other paper based payments. For instance, by certain estimates, transitioning to an electronic platform for government payments itself could save approximately INR 100,000 Crores annually, with the cost of the transition being estimated at

[6] See, Boston Consultancy Group and Google, *Digital Payments 2020: The Making of a $500 Billion Ecosystem in India*, In comparison, cash transactions (in the form of paper currency and coins) as a percentage of total retail payments have reduced to less than 50%, in Brazil, China, United Kingdom, Australia, United States, France and Germany. Russia and Turkey remain cash-heavy with cash transactions respectively representing 69% and 60% of total retail transactions. The Report does not clarify if this reflects the volume or value of cash as a percentage of total consumer payments.

[7] See, Institute for Business in Global Context, *The Cost of Cash in India*, Estimate based on International Monetary Fund, International Financial Statistics, 2013; Cash to GDP ration of comparable countries, i.e. Brazil, Mexico and South Africa are 3.93%, 5.32% and 3.72% respectively.

[8] See, Institute for Business in Global Context, *The Cost of Cash in India*, Based on data published in RBI Annual Reports and Survey Data collected by IBGC.

[9] See, Department of Revenue, Ministry of Finance, *White Paper on Black Money*, At Page 55.

[10] See, VISA, *Accelerating the Growth of Digital Payments in India*.

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INR 60,000 to INR 70,000 Crores.[11] Similarly, a recent report estimates that for a total investment of about INR 60,000 crores over 5 years towards creating a digital payments ecosystem, India could reduce its cost of cash from the present levels of 1.7% to 1.3% of GDP.[12]

The Committee notes that the transition to digital payments cannot be agnostic to the actual costs incurred by the end customers, the reasons for preferring cash, and the factors inhibiting the uptake of existent channels of digital payments.

The benefits of using digital payments are neither understood by all equally, nor are they communicated efficiently.[13] A sample survey conducted in 2014 across urban and rural neighbourhoods in Delhi and Meerut, shows that despite being keenly aware of the costs associated with transacting in cash, most consumers see three main benefits of cash, viz. freedom of negotiations, faster settlements, and ensuring exact payments.[14]

The Committee recognises that the lack of awareness and consumer confidence in digital payments is a gap that needs to be addressed. Digital payments have significant dependencies upon power and telecommunications infrastructure. Therefore, the roll out of robust and user friendly digital payments solutions to unelectrified areas/areas without telecommunications network coverage, remains a challenge. Nonetheless, significant cost savings associated with digital payments, and the emergence of robust payments technologies, suggest that a transition to digital payments, could translate into significant benefits for the economy as a whole.

[11] See, Mc Kinsey, *The Benefits of E-payments to Indian Society*.
[12] See, VISA, *Accelerating the Growth of Digital Payments in India*.
[13] See, Submission dated 10 October 2016 by Centre for Digital Financial Inclusion
[14] See, Institute for Business in Global Context, *The Cost of Cash in India*, The costs incurred by consumers are primarily towards accessing and holding cash. Depending on the point of access, the consumers may have to pay fees to access cash (e.g. at Automated Teller Machines (ATMs)), pay for transit costs for travelling to the point the cash is accessed, and incur costs such as waiting in queues for accessing cash. More significantly, customers may also entirely bear risks such as accidental loss or theft, when holding or transacting in cash.

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3.2. Emergence of Technology Led Payments Solutions

Technology has given rise to several innovative use cases. A cattle farmer in a remote corner of the country can today transact by sharing photos of the trade over social media. Tractors and other farm equipment can be rented in villages, in the same way as taxis can be hired in cities – based on real time demand and dynamic pricing. E-commerce platforms have spawned millions of small entrepreneurs who can now potentially access a global marketplace. Payment of utility expenses can be done at a click instead of standing in long queues. When payments are instant, they can also reduce the risks associated with possible defaults. Digital payments help remove friction in transferring money and make it a background activity.

While payments have traditionally been associated with banking, on account of their adjacency with banking services,[15] technology has transformed payments and eliminated the requirement for physical transfer of value, making invisible payments possible within electronic commerce.[16]

Further, recent Government initiatives such as the promotion of the JAM Trinity (viz. the PMJDY, Aadhaar Based Authentication and Mobile), have led to the development of indigenous technology led payments solutions. Given the high levels of penetration of mobile telephony services (as of August 2016, there were 931 million active mobile subscriptions, which represents over 74% of India's population)[17], emergence of technology led payment solutions such as payment services based on Unstructured Supplementary Service Data (USSD), Direct Carrier Billing (DCB) and Aadhaar Enabled Payment System (AEPS) (See discussion at Chapter 6.1), have put digital payments as a focal point of reforms towards reducing the extent of cash usage in the economy.

The Committee believes that in comparison to cash, existing technologies promise to offer comparable levels of convenience for customers, and pipeline

[15] See, Nachiket Mor, *Nachiket Mor Committee Report*.

[16] See, VISA, *Perspectives on Accelerating Global Payment Acceptance*.

[17] See, Telecom Regulatory Authority of India, *Press Release - Highlights of Telecom Subscription Data as on 31st August 2016*, TRAI data on telecom subscriptions as on 31st August 2016, indicates 1028.88 million wireless telephone subscriptions (of which 931 million were active). This translates 82% mobile penetration, which however does not account for instances of multiple subscriptions held by one person.

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innovations such as digital currencies, can further catalyse the adoption of digital payments in India.

3.3. Fostering Economic Growth, Social Inclusion and International e-Commerce

Digital payments can enable greater economic growth, growth in international e-commerce, and aid in social and financial inclusion.

There are several inherent and unique benefits of digital payments. For instance, digital payments enable customers to make certain types of transactions that are not viable in cash (such as remote payments).[18] One of the most unique advantages of digital payments is that they are low cost and low priced.[19] Therefore, there is consensus on the fact that ubiquitous electronic payments play an important role in furthering the goals of financial and social inclusion.[20] Models of leveraging digital payments to bolster financial inclusion have in fact been tried and tested successfully in other jurisdictions, with one of the most cited examples being the case of telecom led M-PESA payments platform in Kenya.[21]

Digital payments also have the potential of becoming a gateway to other financial services such as credit facilities for small businesses and low-income households. Lack of easy access to formal credit means merchants fall prey to illegal ponzi schemes, chit funds and exploitative money lenders.[22] In 2014, only 6% of Indian adults borrowed from a formal institution, while micro-small and medium enterprises obtained only 4% of their funding needs through formal credit.[23] By enabling the creation of robust credit history, digital payments can also enable the provision of micro-credit to low-income households and small businesses.

[18] See, Bank for International Settlements, World Bank Group, *Payment Aspects of Financial Inclusion*.

[19] See, Submission dated 10 October 2016 by the Bill and Melinda Gates Foundation, Studies indicate that digital are the cheapest and lowest cost variance across a 30 country study.

[20] See, Nachiket Mor, *Nachiket Mor Committee Report*.

[21] See, VISA, *Perspectives on Accelerating Global Payment Acceptance*.

[22] See, Submission dated 11 October 2016 by iSpirit

[23] See, World Bank Financial Inclusion Index Data (2014), Available at URL: `http://datatopics.worldbank.org/financialinclusion/country/india`

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Lastly, there is a case for leveraging the significant advances made in the Digital India initiative in the context of digital payments. Given the significant adjacencies between the payments industry and the e-commerce sector, digital payments would play a catalytic role in boosting the emerging e-commerce sector in India, and position India as a major e-commerce market.[24]

3.4. Recent Reforms and Policy Recommendations

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:

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

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.[25]

The Honble 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.

[24] See, Submission dated 10 October 2016 by the Bill and Melinda Gates Foundation
[25] See, Neeraj Gupta, *Report of Task Force for Promotion of Payments Through Cards and Digital Means*.

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Subsequently, a massive impetus towards transitioning the economy towards cashless alternatives to payments, was provided by the Government's initiative to demonetise high denomination paper currency of the Mahatma Gandhi Series.[26] While the move was primarily aimed at combating the adverse effects of counterfeit currency, and the storage of unaccounted wealth in cash,[27] 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.

Following the demonetisation of high denomination paper currency notes, the Hon'ble Prime Minister urged small traders to embrace technology by using digital payment systems. In his address to the nation on 27 November 2016, the Prime Minister emphasized that by embracing technology, we can bring about a big transformation in the form of a cashless society. With the ultimate goal to gradually move from a less-cash society to a cashless society.

Several initiatives such as the Committee of Officers constituted under the leadership of Mr. Amitabh Kant, NITI Aayog CEO, are taking steps to identify immediate steps to promote understanding and adoption of available digital payment options. This entails the implementation of an action plan on advocacy, awareness and handholding efforts among public, micro enterprises and other stakeholders, and training and capacity building of various states/UTs, Ministries/Departments of the Government of India, representatives of States/UTs, Trade and Industry Bodies as well as other stakeholders.

The Committee has recognized the sweeping change in the payment landscape brought about by the demonetisation move of the Government. The present Report will be a significant initiative and will give enough material to the Committee of Chief Ministers recently constituted by NITI Aayog on 30 November 2016 under the Chairmanship of Mr. N. Chandrababu Naidu, Chief Minister of Andhra Pradesh to accelerate digital payments. It is in this context, that the 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.

[26] See, Reserve Bank of India, *Press Release on the Withdrawal of Legal Tender Status for INR 500 and INR 1000 Notes*.

[27] See, Department of Economic Affairs, Ministry of Finance, *Notification:Demonetisation*.

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4.Role of State

State intervention should address market failure. The fundamental tenet of a market economy is that markets work. They promote efficiency by allocating resources to their highest value users.

4.0.1. Market failure

Markets may be vulnerable to some forms of market failure that may impede market transactions. In general, there are five sources of *market failure*:

1. Externalities arise when the actions of an individual or firm create a benefit or a cost for others who are not a party to the transaction, and these impacts are not reflected in market prices.

2. Public goods arise where consumption of a good is non-rivalrous (consumption by one person does not affect the amount available to others) and non-excludable (people cannot be prevented from consuming the good). Producers and consumers cannot capture the full benefits of provision and payments for provision cannot be enforced. Consequently, public goods are likely to be under-provided by the private sector

3. Inadequate information about a transaction can occur where there are institutional or cost barriers preventing parties to a transaction obtaining relevant information about the characteristics of a transaction (most notably risks) and/or each other. In such cases, market participants may adopt simplified decision rules based on a reduced set of information.

4. Information asymmetry arises where one of the parties knows more about key aspects of the transaction than the other. One possible consequence is adverse selection a bias toward entering into lower quality or higher risk transactions. Another potential problem is moral hazard, which occurs when a party modifies its behaviour after the transaction to exploit any information advantage.

5. Lack of effective competition may arise in the presence of market char-

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acteristics such as natural monopoly or when the market has a small number of firms that are able to restrict output and maintain prices above optimal levels. A small number of participants in the market, alone, is not evidence of the exercise of market power. The threat of new entrants may discourage the use of market power.

The role of the state in a market economy should be focussed to precisely address these failures.[1]

Additionally, in its overall aim to address potential market failures, the state should also proactively ensure financial inclusion and facilitate the development of market infrastructure. In the Indian context, a large section of the Indian population does not have equitable access to the benefits of a market economy. For the market forces to truly benefit the masses, the state must ensure that markets do not fail to serve the marginalised sections of the society. To solve this market failure, the state may take initiatives where certain sectors, income or occupational categories are the beneficiaries of redistribution of financial services. To facilitate financial inclusion, the state has a legitimate role in market development. This involves ensuring modernisation of market infrastructure and processes, particularly with respect to adoption on new technologies to expand the reach of financial services.[2] However, state intervention in markets is never perfect. Therefore, the costs of a particular intervention generally needs to be weighed against there benefits. Otherwise, well intentioned government policies may distort market outcomes due to poorly designed regulations.[3]

4.0.1.1. Market failures and payments systems

Payment systems can potentially give rise to four market failures: systemic risk, network externalities, collection action problem, and information asymmetry. A payment system is essentially a network. And all networks are susceptible to two types of risks. First, the risk that failure of one agent will spill to the other. In a payments system, failure of one agent to pay to another, may have a domino effect on the other agents in that system. Second, the risk of a single point of failure. In a payment system, where all the network participants are

[1] See pp. 11-12, Productivity Commission, *Australia's Export Credit Arrangements*.
[2] See pp. 99-100, Financial Sector Legislative Reforms Committee, *Report of Financial Sector Legislative Reforms Committee*.
[3] See pp. 11-12 Productivity Commission, *Australia's Export Credit Arrangements*.

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highly dependent on a single supplier of infrastructure for payment processing, this risk is very high. Both these risks are systemic - the aggregate risk facing the network is higher than the sum of the risk to each participant in isolation. Consequently, the private participants and operators of payment systems do not have any incentive to internalise this cost to mitigate these risks.[4]

Payment systems exhibit stong network externalities. These externalities arise when the value of a good or service to a user increases with more users adopting the same good or service. Consequently, if an existing network has established itself and starts attracting more and more users, it pushes out other smaller networks because users do not see value in them. Overall, network externalities may induce monopolistic structure in the market for payment systems and users may get locked in a single network market.[5]

Payment system are often organised as member-owned structures. Such arrangments can potentially lead to inefficient outcomes as has been observed with securities exchanges. Securities exchanges evolved as member-owned cooperatives - the members being the traders trading on the exchanges themselves. This led to inefficient outcomes due to collective action problem - conflict of interests between individual traders and that of the exchange. Similar conflict of interest arises between payment service providers and the payment system. To avoid such collective action problems, exchanges were corporatised and demutualised - ownership and trading rights were separated. Collective action problems in payment systems require similar consideration.[6]

One fundamental source of market failure in financial markets is information asymmetry between financial service provider and consumers. This makes financial consumer protection regulations necessary. Payments is no exception. Payment service providers like any financial service provider is likely to have more information than the consumer of its services. Regulations are needed to redress any information asymmetry in this regard which may prejudice consumer protection. These market failures justify state intervention in the payments market.

[4] See pp. 7-8, Bank of England, *Payment System Oversight Report 2004*.

[5] See pp. 7-8, Bolt, "Public Good Issues in Target Natural Monopoly, Scale Economies, Network Effects and Cost Allocation".

[6] See 56-57, Wilko Bolt and John Moore, "The governance of exchanges: Members' cooperatives versus outside ownership".

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4.0.2. State intervention to address market failure

The state can play three roles in the payments market: owner of payment systems; operator of payment systems; regulator of payment systems. *Ownership* of payment system by the state refers to a case in which the public sector, typically the central bank, has an ownership stake in the entity governing the payment system or has a role in its governance. State as an *operator* of a payment system here refers to active public sector engagement in the design, implementation and operation of all, or a sub-set, of the elements such as software, hardware, communication networks, data centres and contingency sites that underpin modern day payment infrastructures. However, it should be noted that the central bank can provide access to the ultimate settlement asset - central bank money - without being the operator of the payment system. State as the *regulator* of the payment system refers to the day-to-day regulatory activity that ensures continued compliance with relevant regulations.

Different permutations and combinations of these roles are possible. Table 4.1 gives an overview of the six possible models of state intervention in the payments market.[7]

Table 4.1.: *Ranking of models*

Model	*Financial stability*	*Competition*
Model 1: Owner + operator	High/Medium	Low
Model 2: Owner	High/Medium	Medium
Model 3: Operator	Medium/Low	Medium/Low
Model 4: Regulator	**High/Medium**	**High**
Model 5: Regulator + operator	High	Medium/Low
Model 6: Laissez-faire	Low	Low

Effectively, the Committee explored the following six potential models of state intervention in the payments market:

In Model 1, the state through the central bank may have a controlling ownership stake and operates the key components of infrastructure. . In Model 2, the central bank has controlling stake but the infrastructure is operated by a private sector provider. In both these models, the central bank ownership

[7] See pp. 25-31, Millard and Sapotra, *Central Bank and Payment Sytems: Past, Present and Future*.

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may be highly effective in achieving the central bank's objective of ensuring that payment systems which are critical to the monetary and financial system are free from systemic risk externalities. This may help achieve high financial stability. However, on the other hand, the banking system will have no stake in how the payment system is run and may be more inclined to divert flows to competing and perhaps more risky systems and payments vehicles. Additionally, the cost of owning and operating the payment system will have to be bourne by the central bank and ultimately the tax payers. Most importantly, this model thwarts competition among private participants since the state is either the owner or operator of the payment system. Thus this model may achieve the financial stability objective but at the cost of killing of private competition and innovation.

In Model 3, the state operates key components of the infrastructure on behalf of a private sector owner. It has high degree of operational control but no formal powers of enforcement afforded by either ownership or oversight. This model does not offer the state any legal means to enforce risk mitigating actions like settlement model adopted by payment systems, membership rules etc. This model does not address the systemic risk externalities and is inappropriate.

In Model 4, the state is vested with legal powers to regulate and enforce without excluding the role of the central bank in providing the ultimate settlement asset for systems that settle in central bank money. The regulator would be able to prescribe the requisite level of reporting. Also, the regulator can generate revenue by imposing fees on participants in this market instead of using taxpayer's money. This model allows the state to ensure financial stability by making adequating regulations as well as ensure competition by not being an operator or owner of a payment system itself. This model achieves effectively mitigates systemic risk concerns without negating the benefits of competition.

In Model 5 the state has regulatory powers of enforcement and also operates the payments infrastructure, without ownership. This leads to a conflict of interest because of the dual role of the state, as an operator as well as the regulator. This conflict renders this model undesirable.

Finally, in Model 6, the state does not intervene in the payments market. This model clearly does not address the market failures and therefore is not appropriate. The Committee's deliberations on the pros and cons of these various models informed its approach towards reforming the Indian payments market.

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5.Vision

The Committee began with the intent of setting a measurable target over the next three years as a way to track progress on digital payments and include that metric in its vision. We know that India's cash to GDP ratio at 12.04% is among the highest in the world and should come down significantly. However, today, there is no single measure to reliably indicate what is the total share of digital transactions as a proportion of total transactions. This is because we do not know the volume or value of cash transactions. The available data shows that the share of digital payments is at about five percent of total personal consumption or even lower at two percent of total transactions. On the other side, there is data which suggest the share of retail transactions to be much higher at about twenty-two percent.

Towards a less cash India

Cash has been in use for over 2600 years and is the dominant form of transaction globally. Challenging this would be as revolutionary as attempting to replace fire or the wheel.[a] *Many developed countries continue to have a significant proportion of transactions in cash. We do not know the future but it is not the intent of the Committee to replace all cash transactions with digital ones.*

It is for the people to have the incentives to decide whether it makes sense for them to transact in cash or in digital form.

It is important for them to have this choice. This choice must be a real choice.

The vision of the Committee is to set a roadmap for digital payments to grow substantially over the next three years. An ordinary Indian should have the choice to be able to safely, reliably and conveniently transact money digitally at a price which is affordable and at a places where needed. Over the next three years, it is the vision of the Committee to reduce the cash to GDP ratio from about twelve percent to six percent over the next three years.

[a] See, Tom Mowat, Tim Harrabin, *Mobile financial services; the evolution of payment.*

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6.Policy Analysis

6.1. Competition and Innovation

6.1.1. Introduction

Competition and innovation are essential elements of a well functioning payments market - one that is convenient, efficient and most importantly inclusive. Competitive markets facilitate free entry and exit of a greater number of players, and provide players with incentives to offer quality products and services at best prices.[1] Conversely, the lack of competition in the market may hinder the development of the market, and deliver sub-optimal social outcomes such as:

- impeding the inclusion of greater number of users into the formal economy, by harnessing the potential of digital payments;
- creating a stagnation in the number of players in the payments industry in India; and
- disincentivising participants from investing towards developing safer, more efficient and user-friendly payments systems.

It is therefore desirable that competition, and through it innovation, be infused into payment systems. However, competition in itself might not always ensure innovation in the market. High levels of competition, may at certain times fail to provide adequate incentives to innovate, as it may reduce the profits that can be captured by a firm in successfully catching up with a rival. But increased levels of competition may also provide incentives to innovate, in order to escape competition.[2] Therefore, innovation must be considered as an independent yet related objective to competition.[3]

[1] See, United Nations Conference on Trade and Development, *Secretariat Note on the Benefit of Competition Policy for Consumers*.

[2] See, Bolt, "Retail Payment Systems: Competition, Innovation, and Implications".

[3] See, *Financial Services (Banking Reforms) Act, 2013*, The Payment System Regulator (PSR) has separate competition and innovation objectives; See also, Discussion at Section

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6.1.1.1. Overview of the Payments Ecosystem

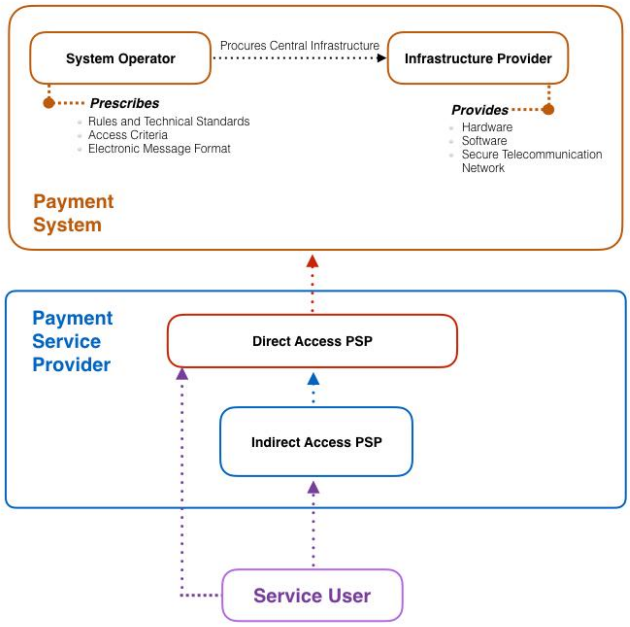

Figure 6.1.: *Payments Ecosystem*

Payment systems comprise of infrastructure providers and system operators (See Figure 6.1). Infrastructure providers provide the hardware, software and network infrastructure necessary for the operation of a payment system. The operation of the system, including the regulation of access and protocols for transactions, is the prerogative of system operators. PSPs are service providers, who utilise payment systems to provide various financial products and services, including money transfer and payments. Some PSPs have direct access to payment systems (Direct Access PSPs), other PSPs might have indirect access to payment systems through other PSPs (Indirect Access PSPs).

6.1.3 of this Report.

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6.1.2. Domestic scenario

6.1.2.1. Payments Ecosystem in India

In India, the major payment systems include - RTGS, NEFT, Immediate Payment Service (IMPS), Unified Payment Interface (UPI), National Electronic Clearing Service (NECS) and various card schemes (such as Visa, MasterCard and RuPay). These payment systems can be classified into two categories, based on the mode of settlement. RTGS is a gross-settlement based payment system, which works on a real-time basis. The remaining payment systems, are operated on a "delayed net settlement" basis.[4] Apart from the NEFT, all other payment systems rely upon the RTGS for settlement of transactions (See Table 7.1).

PSPs in India consist of both bank and non-bank players. Only bank-led PSPs have direct access to payment systems. Non-bank PSPs can access payment systems only through a member bank.[5] As of July 2016, the PSP segment had 44 authorised PrePaid Payment Instruments (PPIs) (including mobile wallets, prepaid cards, etc.) and 8 authorised Payments Banks. Apart from this, the RBI has also authorised 8 Cross-Border Money Transfer operators, and 8 White-label ATM Operators.[6]

[4] A settlement system where a large number of transactions are accumulated and offset against each other, with only the net difference being transferred at the end of a given settlement cycle.

[5] See, Department of Payment and Settlement Systems, Reserve Bank of India, *RTGS System Regulations*, The procedural guidelines for the RTGS, NEFT and NECS, restrict membership to banks having settlement accounts with the RBI. The procedural guidelines for IMPS allow non-banks to become sub-members of member banks; Reserve Bank of India, *National Electronic Funds Transfer System Procedural Guidelines*, *National Electronic Clearing Service Procedural Guidelines*; National Payments Corporation of India, *IMPS Procedureal Guidelines*.

[6] See, Reserve Bank of India, *List of authorised Payment System Operators*.

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Table 6.1.: *Major Payment Systems - Operations and Membership*

Payment System	Membership	Comments
RTGS	Banks, PDs, special institutions, clearing houses having settlement accounts with RBI	Operated by RBI. Gross settlement on a realtime basis, with priorities assigned by members. Characterised by least amount of settlement risk.
NEFT	Bank members of RTGS having settlement account with NEFT clearing centre at RBI	Operated by RBI. Multilateral netting, settled on a delayed net settlement basis. Characterised by the existence of settlement risks.
IMPS	RTGS member banks having settlement accounts with RBI; Non-banks which are sub-members of member banks.	Operated by NPCI. While customer account is debited, positions are netted by NPCI and passed through RTGS thrice a day. Settlement for non-banks happens on the books of member banks. NPCI bears settlement risk.

6.1.2.2. Policy Backdrop

As it emerges, the payment ecosystem in India, is largely bank-centric, with most payment systems being operated either by the RBI, or NPCI, which is owned by a consortium of major banks.[7] The bank-centric nature of the payments industry is not peculiar to India. In jurisdictions such as Australia and United Kingdom (UK), the payment system was largely bank-led, and inquiries into the sector recognised the need to ensure competitiveness by providing for equal treatment of bank and non-bank participants in the payments market. Accordingly these jurisdictions transitioned to a legal framework, which provided regulatory parity for both bank and non-bank participants, and provided for interoperability and open access to payment systems for all players.[8]

[7] See, National Payments Corporation of India, *Press Release - "NPCI Shareholding Gets Broadbased"*, The initial set of promoters of the NPCI included six public sector banks, viz. State Bank of India, Punjab National Bank, Canara Bank, Bank of Baroda, Bank of India and Union Bank of India; two private banks, viz. ICICI Bank and HDFC Bank; and two foreign banks, viz. Citibank and HSBC. More recently in 2016, the shareholding has been diluted to include 13 additional public sector banks, 15 additional private sector banks, 1 additional foreign bank, 10 multi-state co-operative banks and 7 regional rural banks.

[8] See, Don Cruickshank, *Competition in UK Banking*, See also, Discussion at Section 6.1.3 of this Report; Financial System Inquiry (Chaired by Stan Wallis), *Financial System Inquiry Report, 1997*.

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The bank-centric nature of the payments industry in India, has been brought to light by several earlier inquiries into the payments industry in India.[9] Accordingly, recent policy discourse around reforming the payments industry in India, focusses on the potential of non-bank payment systems and services. For example, the *Nachiket Mor Committee Report* 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. In particular, the *Nachiket Mor Committee Report* notes that while provisioning of credit was an important adjacency to payment services, there could be several other businesses with adjacencies to payments, such as retailing and mobile telephony.[10]

Subsequently, the Working Group on Payments, constituted under the Financial Sector Legislative Reforms Commission (FSLRC) observed that innovations in payments technology and newer payment services business models, necessitated a move away from a bank-centric model of payments.[11] The recommendations of the Working Group have been summarised at Box 1.

Most recently in 2016, the *Report of Task Force for Promotion of Payments Through Cards and Digital Means*, chaired by Secretary, DIPAM, noted that payments infrastructure and operations in India are largely driven by banks leaving aside a vast set of players associated with the payments ecosystem. While the mandate of the Task Force was to recommend short-term measures to enable a transition to greater cash-less transactions, it noted that innovations in the payments industry should be encouraged, and regulatory measures should be taken to encourage competition between banks and non-bank systems to drive down costs, facilitate innovation and improve compliance.[12]

It is against this backdrop, that the Committee has defined the issues and challenges relating to competition and innovation in the payments industry in India.

[9] See, Zarir J. Cama, *Report of the Working Group on Electronic Money*, In July 2002, the Report of the Working Group on Electronic Money, while exploring the potential of electronic money, recommended a model which restricted the full use of electronic money only to scheduled commercial banks, with very limited participation to non-banks, owing to concerns of lack of seigniorage income for the RBI and the lack of perceived credibility of non-bank financial institutions.

[10] See, Nachiket Mor, *Nachiket Mor Committee Report*.

[11] See, FSLRC, *Report of the Working Group on Payments*.

[12] See, Neeraj Gupta, *Report of Task Force for Promotion of Payments Through Cards and Digital Means*.

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Box 1: *Recommendations of the FSLRC Working Group on Payments*

- Ensuring a consistent legislative framework for all PSPs.
- Allowing self-registration of PSPs, along with permitting existing non-payment businesses to extend their business models to cover payments.
- Empowering the payments regulator to ensure that access to infrastructure services is open and free of restrictive practices.
- A system of *proportionate regulation*, that would allow nascent businesses to adapt technology solutions without undue regulatory intervention, while requiring systemically important businesses to submit to stronger regulatory oversight.
- Regulation to maintain a level playing field within the payments industry between the public sector and the private sector, and between bank and non-bank players. Regulation would need to be neutral to the ownership and category structures of the regulated entity, in the absence of which innovation within the payments industry is liable to be stifled.
- Regulation to encourage independent payment system providers, which are not linked to payment participants, thereby minimising moral hazard through conflict of interest, including the separation of RTGS and NEFT from RBI.
- Encouraging innovation in payments regulation and supervision, by bringing in relevant expertise into the regulatory body in order to improve the regulation and supervision of the industry.
- Restricting representation from within RBI on the BPSS to the Governor (as Chairman) and the Deputy Governor in charge of payments.
- Actively sponsoring the constitution of a Payments Council, a body which would be representative of payment system providers and users of payment systems.
- Infusing transparent and fair rule of law into regulatory decisions.

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6.1.2.3. Changing Nature of the Payments Industry

As of August 2016, there were 931 million active mobile subscriptions in India, which is over 74% of India's population, whereas 52.8% of the population had access to accounts in financial institutions as of 2014.[13] Simultaneously, the emergence of technology led payments solutions, continue to deliver more efficient and inclusive services. Given the significant leverage that exists on account of the high level of mobile penetration, technology based innovations provide an immense opportunity for growth of the payments industry in India. In the course of its deliberations, the Committee noted several such innovations, which provide immense potential in terms of future scale, efficiencies and benefits. These include:

- **USSD Based Banking Services** - USSD communication uses a mobile network's signalling channels, to provide a robust channel for communication. Services provided by way of USSD do not require sophisticated hardware (such as smartphones) nor do they require an active data connection. Therefore, USSD communications can be utilised to provide reliable payment services on basic feature phones. Even applications with rich user-interfaces, typically developed for smartphones, can communicate over the USSD channel. The NPCI has developed a platform in collaboration with most major mobile operators in India, which enables users to carry out basic banking activities, such as money transfer and balance queries. High tariff ceilings for USSD transactions had so far hindered wider adoption of the platform. Recently however, the TRAI revised the tariff ceiling to 0.50p,[14] on the basis of responses received on their consultation paper regarding wider uptake of USSD based payments technologies.[15]

- **Direct Carrier Billing** - DCB is a form of mobile payment, facilitated

[13] See, Telecom Regulatory Authority of India, *Press Release - Highlights of Telecom Subscription Data as on 31st August 2016*, The TRAI data on telecom subscriptions as on 31st August 2016, indicates 1028.88 million wireless telephone subscriptions, out of which 931 million were active. This translates to 82% mobile penetration, which however does not account for instances of multiple subscriptions held by one person. *World Bank International Findex Data (2014)*.

[14] See, Telecom Regulatory of India, *The Telecommunication Tariff (Sixty First Amendment) Order, 2016*.

[15] See, Telecom Regulatory Authority of India, *Consultation Paper on the Review of Regulatory Framework for the use of USSD for Mobile Financial Services*.

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entirely by mobile operators. Every mobile operator, creates a unique account associated with each of their subscribers. In a pre-paid subscription, this account contains certain value, which is utilised towards talk-time. In a post-paid subscription, this account functions as a credit faclity, where charges towards communications services are paid by a subscriber, at the end of a billing cycle. A DCB facility, utilises the stored value in these accounts, and enables subscribers to use their mobile phones as payment instruments. The Committee notes that at present, DCB is already offered in a limited manner by mobile operators for the purchase of various mobile Value Added Services (VASs), which have evolved globally to include mobile apps and content.[16] However, there remains ambiguity over whether offering wider DCB facilities could potentially contravene the provisions of RBI's PPI Guidlines, and the Department of Telecommunications (DoT)'s license conditions.[17] TRAI has in the past indicated that DCB and other mobile commerce platforms would fall under the category of VASs,[18] there is no regulatory clarity on this issue from the DoT.

The Committee feels that DCB has the potential of providing increased access to digital payments to large sections of the population. Globally, DCB is a recognized form VAS provided by telecom operators.[19] Accordingly, DCB should be expressly allowed by the RBI, TRAI and the DoT under the applicable regulatory framework. The Committee futher notes that mobile accounts need to be KYC compliant in terms of the directions of the DoT,[20] and that the DoT has allowed "Aadhaar" based eKYC for subscriber verification.[21] Given these developments, the Committee notes that a wider roll-out of DCB facilities by telecom operators (Discussed further in Chapter 6.3) can be fast-tracked.

[16] See, *Why India's Carrier Billing Platform Market is Heating Up*.

[17] See, NASSCOM, *NASSCOM Comments on Draft Final Report of the Committee on Digital Payments*.

[18] See, Telecom Regulatory Authority of India, *Consultation Paper on Growth of Value Added Services and Regulatory Issues*.

[19] In the UK, the Office of Communications classifies DCB as a "Premium Rate Service" (Similar to VAS), Available at URL: `http://stakeholders.ofcom.org.uk/binaries/research/technology-research/2014/e-payments.pdf`

[20] See, Department of Telecommunications, *Instructions on Verification of New Mobile Subscribers (Pre-Paid and Postpaid)*.

[21] See, Department of Telecommunications, *Use of 'Aadhaar" e-KYC service of Unique Identity Authority of India for Issuing Mobile Connections to Subscribers*.

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- **Mobile Money and Social Network Payments** - Mobile money has witnessed some growth in India with the introduction of the PPI license by RBI. However, there are several other platforms for transacting in mobile money, that have not been made possible in India. Some of the newer innovations in this context, relate to social network-based payments such as those offered by WeChat in China,[22] and by Facebook in certain other jurisdictions.[23] The lack of interoperability, and significant entry barriers in the market have prevented the roll-out of social network based payments in India.

- **Blockchain Technology** - Blockchain technology is a database solution, which has several applications in the payments space, including the development of crypto-currencies such as Bitcoin. As opposed to having a physical ledger maintained by a centralised authority, blockchain enables a distributed ledger which resides on each market participant's device. This enables a more robust authentication process, where a transaction is not completed unless authenticated by each individual ledger. In this manner, the blockchain ensures transparency and integrity of transactions purely through mathematics, and not trust.[24] Blockchain can be used to develop smart self-monitoring systems that can authenticate and monitor payments at lower costs.

- **Digitally Issued Currency** - Digital currencies are currency issued in a digital form. This could include crypto-currencies such as Bitcoins (which are an independent form of money separate from any country's central bank issued legal tender) or digitally issued central bank currencies. In the course of consultations, the Committee was presented with a case for digitally issued Indian currency, as a means to substitute physical currency. Central bank issued digital currency seeks to retain the characteristics of central bank issued M0 currency, but merely change the form factor from paper to digital. Such a digital currency would have to be issued by the RBI, and used by way of hardware modules. The security of the currency is ensured by cryptographic technology, inspired by existent security features on physical currency. The Committee notes that several benefits of digital currency, including the instantaneous settlement of transactions, reduction of costs of cash, ability to provide a more comprehensive and unified source

[22] See, Juro Osawa, *China Mobile-Payment Battle Becomes a Free-for-All*.
[23] See, Facebook, *Payments in Messenger*.
[24] See, Nishith Desai Associates, *Beyond Bitcoin - Exploring the Blockchain*.

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of credit history and reduction in instances of tax avoidance. The most significant benefit however, is that the technology makes it extremely difficult to counterfeit, and more importantly enables the central bank to detect the existence of counterfeit currency on a real-time basis.[25]

- **Payments Software Development Kit** - Several e-Commerce and financial technology innovations can potentially harness their adjacency with payments. A notable initiative in this regard, is the development of of IndiaStack, which is a set of Application Programming Interfaces (APIs) which integrate application layers supporting Aadhaar based authentication, UPI based payments, eKYC and other publicly managed services.[26] The incorporation of IndiaStack APIs into an increasing number of mobile based applications, could lay the foundations for greater innovation in the space of mobile driven digital payments growth.

Presently, the payments ecosystem in India remains largely bank-centric. Given the emergence of technology led payment solutions, it is important to ensure that such technology innovations are not constrained by their dependence on the banking sector. Further, given the competitive pressures imposed by new payment technologies upon bank-led systems and PSPs,[27] it is imperative to ensure a level playing field, and provide an enabling framework for technology innovations in the payments industry.

6.1.2.4. Legal Framework

The present legal framework governing payment systems in India is set forth in the *Payment and Settlement Systems Act, 2007* and the Regulations and Notifications made thereunder. Pursuant to the provisions of the *Board for Regulation and Supervision of Payment and Settlement System Regulations*, the BPSS, a sub-committee of the Central Board of the RBI is in charge of discharging the regulatory functions vested in the RBI by the *Payment*

[25] See, eCurrency, *Submission before the Committee on Digital Payments*.
[26] See, iSpirit, *iSpirit Ideas Conclave: Igniting Hundreds of Experiments*.
[27] See, Mark Carney, *Speech*, In his speech, the Governor, Bank of England (BoE) mentions that technologies such as distributed ledger technologies, etc. help in lowering compliance costs, and thereby have the potential of broadening the pool of non-banks able to provide individuals and companies with viable alternatives to bank-based services, but for now banks continue to act as gatekeepers to payment and settlement in central bank money.

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and Settlement Systems Act, 2007. The BPSS is empowered for authorising, prescribing policies and setting standards for regulating and supervising all the payment and settlement systems in the country. In addition, the RBI has issued several Master Circulars (MCs), Guidelines and Notifications under the *Payment and Settlement Systems Act, 2007*, relating to operation of payment systems, access to payment systems, operation of PPIs and other PSPs.

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6.1.3. Global best practices and emerging direction

Independent Payments Regulator

Most payment legislations create independent regulatory frameworks for the regulation of payment systems and PSPs. In certain countries, jurisdiction is vested in a separate regulator outside the central bank,[28] in others, jurisdiction is vested with an independent board within the central bank (e.g. in Australia; Figure 6.2 provides an overview of payments regulations in Australia).[29]

In certain jurisdictions, where the payments regulator's oversight is limited to prudential regulation and efficiency related aspects, competition issues are dealt with by the cross-sectoral regulator. For example, in Sweden, the Riksbank is primarily engaged in identifying, managing and limiting systemic risks, and considering questions of efficiency of retail payment systems. Accordingly, the Swedish Competition Authority is concurrently empowered to apply provisions of the Swedish Competition Act to the payments industry, and to make proposals for amending rules and other measures for eliminating obstacles to effective competition in the payments industry.[30]

Competition and Open Access

Most payments legislations across the world, provide for the payments systems regulator to ensure competitiveness in the payments market.[31] While some

[28] See, *Financial Services (Banking Reforms) Act, 2013*, In the UK, the PSR is vested with jurisdiction over retail payment systems. The Competition and Market Authority (CMA) and the Financial Conduct Authority (FCA) also have concurrent jurisdiction over retail payment systems. Prudential regulation is vested in the Prudential Regulation Authority (PRA), and regulation of SIPS is vested with the BoE.; *Banking Act, 2009*.

[29] See, *RBA Act*, In Australia, the Reserve Bank of Australia (RBA) has two separate boards, viz. the Reserve Bank Board and the Payment Systems Board (PSB), that are functionally and operationally independent. The PSB is vested with the jurisdiction to regulate retail payment systems. The PSB is composed of the Governor of the RBA, one nominee of the RBA, one nominee of the Australian Prudential Regulation Authority (APRA) and five nominees of the Treasury. The Act provides for resolution mechanisms where the decisions of either boards are conflicted on the basis of their respective policy prerogatives. Prudential regulation is the prerogative of the APRA; *PSR Act*; *PSN Act*.

[30] See, Bank for International Settlements, *Payment, clearing and settlement systems in Sweden*.

[31] See, *Financial Services (Banking Reforms) Act, 2013*, In the UK, the Banking Reform Act, 2013 specifies the PSR's three objectives, viz. the competition objective, the innovation

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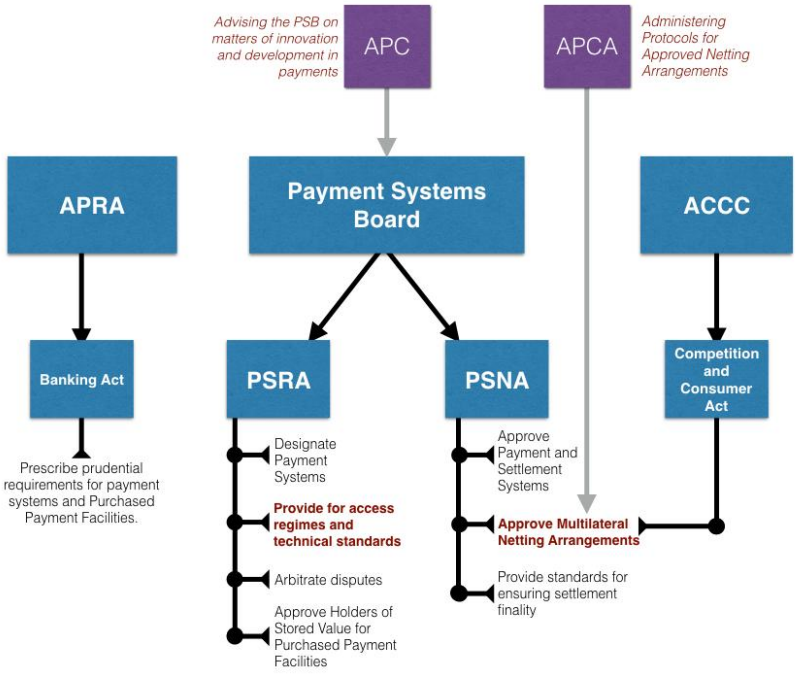

Figure 6.2.: *Payments Regulation in Australia*

legislations, such as UK's *Financial Services (Banking Reforms) Act, 2013* have detailed principles relating to the competition objective in the text of the legislation (See Box 2), other legislations merely state competition as an objective. Nonetheless, recognising open access and interoperability as key facilitators of competition in payment systems, most legislations provide for open access and interoperability obligations.

Jurisdictions, including Singapore, the European Union (EU), Australia, and Brazil, prescribe and enforce access and interoperability obligations in the context of payment systems.[32] Similarly in Australia, the PSB is specifically

objective, and the service user objective. The competition objective is defined as promoting competition in the markets for payment systems and PSPs, in the interests of those who use, or are likely to use, services provided by payment systems; In Australia, the Payment Systems (Regulation) Act, 1998 states efficiency and competition in payments systems as one of the policy objectives of the PSB; *PSR Act*.

[32] See, Parliament and Council of the European Union, *Payment Service Directive, 2007*, Article 28 of the Payment Services Directive - *"Member States shall ensure that the rules*

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Box 2: *Competition Objective under the* Financial Services (Banking Reforms) Act, 2013

Under the *Financial Services (Banking Reforms) Act, 2013*, the competition objective focusses on promoting *effective competition* between (a) different operators of payment systems; (b) different payment service providers; and (c) different infrastructure providers. While considering the effectiveness of competition in the relevant market, the PSR should consider -

- The needs of different persons who use, or may use, services provided by payment systems;
- The ease with which persons who may wish to use those services can do so;
- The ease with which persons who obtain those services can change the person from whom they obtain them;
- The needs of different payment service providers or persons who wish to become payment service providers;
- The ease with which payment service providers, or persons who wish to become payment service providers, can provide services using payment systems;
- The ease with which payment service providers can change the payment system they use to provide their services;
- The needs of different infrastructure providers or persons who wish to become infrastructure providers;
- The ease with which infrastructure providers, or persons who wish to become infrastructure providers, can provide infrastructure for the purposes of operating payment systems;
- The needs of different operators of payment systems;
- The ease with which operators of payment systems can change the infrastructure used to operate the payment systems;
- The level and structure of fees, charges or other costs associated with participation in payment systems;
- The ease with which new entrants can enter the market;
- How far competition is contributing to the development of efficient and effective infrastructure for the purposes of operating payment systems;
- How far competition is encouraging innovation.

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empowered to determine rules for participation in a payment system, including rules on access for new participants. Further, while the Australian Payments Clearing Association (APCA) (an industry association which administers several multilateral netting arrangements) is in charge of specifying protocols for the netting arrangements administered by it, these arrangements need to be approved by the PSB and the Australian Competition and Consumer Commission (ACCC) under the provisions of the *PSN Act* and the *Competition Act* (See Figure 6.2). Likewise, in the UK the PSR has the power to review system rules (Section 55 of *Financial Services (Banking Reforms) Act, 2013*) and to allow access to payment systems (Section 56 of *Financial Services (Banking Reforms) Act, 2013*) The Committee further notes that the *Payment Service Directive, 2015* also provides for open data access, which enables non-bank PSPs to have access to bank payment information through an open API (See Box 3).

Innovation and Regulatory Governance

The manner of inclusion of innovation as a regulatory objective, differs across jurisdictions. In some jurisdictions, encouraging innovation is implicit in the promotion of competition in the market. In other jurisdictions, e.g. the UK, legislation clearly states competition and innovation as distinct yet interrelated objectives of the PSR.[33] Some jurisdictions, facilitate innovation through measures that ensure regulatory responsiveness (e.g. by providing for rule-making petitions[34]). In other cases, regulatory exceptions are provided in "sandbox" environments, where new innovative technologies are incubated. These technologies are typically allowed to operate under a limited license for the

on access of authorised or registered payment service providers that are legal persons to payment systems shall be objective, non-discriminatory and proportionate and that those rules do not inhibit access more than is necessary to safeguard against specific risks such as settlement risk, operational risk and business risk and to protect the financial and operational stability of the payment system." PayPal, *Payment Systems Infrastructure India*.

[33] See, *Financial Services (Banking Reforms) Act, 2013*, While the competition objective includes a consideration of whether innovation is being facilitated through adequate competition, legislation provides for a separate innovation objective that requires the PSR to promote innovation with a view to improving the quality, efficiency and economy of payment systems.

[34] See, United States, *Administrative Procedures Act*, 5 U.S.C. 553(e); Rule-making petition is a concept in regulatory governance, that has been most widely adopted in the United States. The provision for rule-making petition, ensures the people's right to petition the government, a right which is protected by the First Amendment to the United States Constitution. Accordingly, federal agencies must give interested persons the right to petition for the issuance, amendment, or repeal of a rule.

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Box 3: *Open Data Access under the* Payment Service Directive, 2015

Under the *Payment Service Directive, 2015*, all registered Payment Initiation Service Providers (PISPs) (Service providers who initiate a payment order at the request of the user with respect to a payment account held at another PSP) and Account Information Service Providers (AISPs) (Service provider, who provides an online service consolidating information on one or more payment accounts held by the user with either another PSP or with more than one PSPs) and all licensed PSPs are allowed to have access to payment accounts held at Account Servicing Payment Services Providers (ASPSPs) under explicit consent of the client. The ASPSP (A PSP providing and maintaining a payment account for a payment user) must share all data through an open API, to perform the service requested by the client. However, the PISP/AISP may not use, access or store any data for other purposes than the provision of the requested service. To this extent the provisions of the *EU Data Protection Directive, 1995* continue to apply to PISP/AISP.[a]

These provisions are widely anticipated to provide greater accessibility of customer data for authorised third parties. Together with advances in big data analytics and data driven solutions, greater data access is expected to enable service providers to develop easy to use internet and mobile payment services, and lead to the development of products and services that allow customers to optimise the use of their account and transaction data.[b]

[a] See, Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[b] See, Payments UK, *The Second Payment Services Directive (PSD2) - A Briefing from Payments UK*.

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purposes of evaluating the feasibility of the business model, and the likely risks arising from such a business. The regulator's evaluation of these "sandboxed" offerings, can eventually be factored in for making appropriate amendments to the regulatory framework (See Box 4). Lastly, most jurisdictions formalise the role of industry representative associations in an advisory capacity to the regulator. For example in Australia, the Australian Payments Council (APC), which has been incorporated by the PSB and the APCA, includes members who are payments and technology businesses, consultancy companies, etc. The APC advices the PSB on matters relating to strategic directions for the payments industry in Australia (See Figure 6.2).

Moreover, most jurisdictions include principles of regulatory responsiveness and regulatory governance, as independent regulatory principles. In Australia, the *PSR Act* requires the PSB to conduct public consultations in matters where it proposes the imposition or variation of an access regime or standard. In particular, the PSB is required to publish a notice summarising the purpose and possible effects of its actions, invite people to make submissions within a specified time and consider any submissions that are received. Moreover, the PSB is also bound by general notification obligations, which require it to publish notice, and ensure that participants in the payment system are informed of actions involving the imposition or variation of an access regime or standard.[35]

Similarly, in UK the *Financial Services (Banking Reforms) Act, 2013* provides for detailed procedures and binds the PSR to the general regulatory principle of exercising its functions as transparently as possible.[36] Rules of transparency also apply to the Treasury when designating any payment system.[37] The *Financial Services (Banking Reforms) Act, 2013* also provides for procedures that need to be followed by the PSR while entertaining complaints by representative bodies, procedures and regulatory guidelines for imposition of penalties, procedures for appeals to the Competition Appellate Tribunal (CAT) or CMA (in case of CMA appealable orders), regulatory guidelines for handling of confidential information and procedures for the conduct of investigations.[38] Further, the *Financial Services (Banking Reforms) Act, 2013* enables the PSR to issue

[35] See, *PSR Act*, Section 28 - "Consultation Obligations".
[36] See, *Financial Services (Banking Reforms) Act, 2013*, Section 53(h).
[37] See, *Financial Services (Banking Reforms) Act, 2013*, Section 45; The Treasury must in respect of designation orders, consult the PSR and the BoE, notify the operator of the payment system and consider any representations made.
[38] See, *Financial Services (Banking Reforms) Act, 2013*, Sections 68 to 95.

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Box 4: *Regulatory Sandboxes*

Certain jurisdictions, e.g. Australia, UK, Singapore and Malaysia, provide for regulatory sandbox environments. A "regulatory sandbox" refers to a safe and conducive environment where new innovative financial products and services can be offered on an experimental basis. This ensures that the consequences of the product's failure on financial stability and consumers can be limited.[a] Regulators have recognised that regulatory sandboxes have the potential to deliver more effective competition in the interests of consumers by reducing the time and costs of getting new innovations to the market, increasing consumer choice and enabling regulators themselves to work with innovators to ensure that risk-appropriate consumer protection safeguards are built in to the new products and services.[b] Accordingly, regulators such as the Monetary Authority of Singapore (MAS) have identified criteria based on which innovative businesses can avail of a sandbox environment.[c] Some of the models for implementing a regulatory sandbox include providing a conditional, industry-wide exemption to allow new businesses to test certain financial services for six months without holding a full-fledged license,[d] creating regulatory exemptions that could allow some small-scale, heavily automated businesses to rely upon appropriately experienced third parties in order to meet organisational competence requirements,[e] and enabling virtual sandboxes that could enable firms to test their solutions virtually without entering the real market.[f] Typically regulations relating to the provision of a sandbox environment maintain clearly defined test scenarios and outcomes, appropriate boundary conditions for protecting the interests of consumers, and mechanisms to frame acceptable terms of exit and transition, including the incorporation of feedback into possible regulatory changes.

[a] See, Monetary Authority of Singapore, *Consultation Paper on Fintech Regulatory Sandbox Guidlines*.
[b] See, Financial Conduct Authority, *Regulatory Sanbox*.
[c] See, Monetary Authority of Singapore, *Consultation Paper on Fintech Regulatory Sandbox Guidlines*.
[d] See, Australian Securities and Investments Commission, *Consultation Paper on Further Measures to Facilitate Innovation in Financial Services*.
[e] See, Australian Securities and Investments Commission, *Consultation Paper on Further Measures to Facilitate Innovation in Financial Services*.
[f] See, Financial Conduct Authority, *Regulatory Sanbox*.

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specific or general guidance with respect to the operation of specified provisions of the *Financial Services (Banking Reforms) Act, 2013*, or other matters about which it appears to the PSR to be desirable to give information or advice, and also if the PSR so considers appropriate prepare and publish a report into any matter concerning the *Financial Services (Banking Reforms) Act, 2013*. This is accompanied by the obligation of the PSR to publish such guidance.[39]

[39]See, *Financial Services (Banking Reforms) Act, 2013*, Sections 96 and 97.

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6.1.4. Options before the Committee

6.1.4.1. Analysis of Key Issues

In view of the changing nature of the payments industry, the Committee reviewed the existing legal framework governing payments in India. In particular, the Committee focussed upon impediments to the creation of a level playing field for all players in the payments industry, and entry barriers that exist under the present regime. The Committee's analysis is built up around 4 key issues, viz. neutrality in ecosystem, market entry and market competition, institutional architecture, and innovation and regulatory governance. The Committee's analysis takes into account international best practices, representations received in the course of public consultations, and issues that emerged from the Committee's deliberations.

Neutrality in Ecosystem

Competitive neutrality in regulation is a prerequisite to ensuring effective competition in markets.[40] The Committee notes that at present the legal and regulatory framework governing the payments industry is largely silent on the observance of these principles. This has in certain cases led to the development of a market structure, that is inherently tilted in favour of particular categories of market participants. Accordingly, the Committee's analysis focusses upon competitive neutrality in regulation, by ensuring ownership neutrality, technology neutrality and infrastructure neutrality.

1. **Ownership Neutrality** - Ownership neutrality implies that governance standards for regulated entities should not depend on the form of organisation of the financial firm or its ownership structure. This also entails the provision of a level playing field between public and private providers of goods and services.[41]

[40] See, Organisation for Economic Co-operation and Development, *Roundtable on Competition Neutrality (Issues Paper by Secretariat)*.

[41] See, Financial Sector Legislative Reforms Committee, *Report of Financial Sector Legislative Reforms Committee*, Recommending the inclusion of principles of ownership neutrality in the Indian Financial Code (IFC), the Committee observes that, "The Indian financial system has an array of firms: co-operatives, private Indian firms, foreign firms and public sector firms. The Commission envisages a regulatory framework where governance standards for regulated entities will not depend on the form of organisation of the financial

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The most notable distortion in the market, is the case of RTGS, NEFT and NECS, where the RBI performs both commercial functions, as well as regulatory functions. This leads to a conflict of interest, and goes against the principles of competitive neutrality. Accordingly, earlier enquiries have recommended that RBI minimise the moral hazard caused by this conflict of interest, by separating the RTGS and NEFT from RBI.[42] This proposal is supported by similar reforms made in the telecommunications and power sectors in the past (See Box 5). In order to eliminate any conflict of interest, the Committee recommends that the RBI should focus on its role as the banking regulator and not combine that with the role of operating payment systems. In this regard, the option of implementing a time bound plan to hive off RTGS and NEFT to an independent entity (which in turn would be regulated by the RBI) could be considered, subject to an assessment of the costs and benefits associated with such divestements.

The Committee however notes that even in the absence of any structural separation, it is imperative to open up the market for realtime gross Large Value Transfer Systems (LVTSs) such as RTGS and other net-settlement payment systems NEFT and NECS. This would ensure that existing payment systems are subject to potential competitive pressures. Further, appropriate regulatory obligations of open access and interoperability can ensure competitive neutrality in the market for payment systems. Accordingly, in line with global best practices in jurisdictions such as Australia,[43] and UK,[44], the Committee reccomends that the market for payment systems be opened up subject to appropriate authorization norms. Further, existing payment systems such as the RTGS, NEFT and NECS should be compliant with such norms, and should not benefit from "grandfather clauses" which exempt incumbent players from additional regulatory requirements applicable to new players.[45]

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firm or its ownership structure. This will yield "competitive neutrality". In this framework, the regulatory treatment of companies, co-operatives and partnerships; public and private financial firms; and domestic and foreign firms, will be identical."

[42] See, Recommendations of the FSLRC Working Group on Payments, at Box 1 above.

[43] See, *PSN Act*.

[44] See, *Banking Act, 2009*.

[45] See, OECD, *Competition Impact Assessment Toolkit*, "Grandfather clauses" which exempt incumbent players on account of their experience in the marketplace, are widely recognised as anticompetitive entry barriers. Organisation for Economic Co-operation and Development, *Competitive Neutrality - A Compendium of OECD Reccomendations, Guidlines and Best Practices*.

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Box 5: *Experiences with Segregation of Commercial and Regulatory Functions in the Power and Telecom Sectors*

Several representations before the Committee emphasised the need to de-couple the commercial and regulatory role of the state in provisioning for payment systems. The Committee in its analysis, found support for these arguments, in the reforms undertaken in the telecom and power sectors in India.

After its separation from Indian Post & Telecommunication, the DoT was responsible for telecommunications services in the country. After the segregation of Mahanagar Telephone Nigam Limited (MTNL) in the year 1986, the DoT continued in its role as an operator and regulator of the telecommunications industry in India. Given the conflicting roles of the DoT, the TRAI was established as an independent regulator of the telecommunications sector. Subsequently, the Government of India segregated the operations wing of the DoT in 2000, and hived them off into Bharat Sanchar Nigam Limited (BSNL). These structural changes coupled with the TRAI regulations relating to interconnection for all fixed line and mobile telecommunications operators, ensured a competitively neutral telecommunications industry in India.

While initially the power sector in India was largely driven and operated by private sector licensees, the the Electricity Supply Act, 1948 mandated the creation and transfer of licenses to vertically integrated State Electricity Boards (SEBs). Given the potential conflict of interest, Electricity Regulatory Commissions (ERCs) were established in the year 1998, thereby distancing the government from the tariff determination process. The most major reform however, was the enactment of the Electricity Act, 2003. This entailed the establishment of the Central Electricity Authority (CEA) as the regulator, and the Appellate Authority for Electricity (APTEL) as the appellate forum for appeals against decisions of the ERCs. Shortly thereafter, in 2004, amendments to the Electricity Act provided for separation of carriage from content in the power sector, and open access. This led to (a) de-coupling the regulation from generation and distribution; (b) infusing greater competition in the power sector; and (c) ensuring competitive neutrality in the power sector.

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The Committee notes that most stakeholder representations supported the inclusion of ownership neutrality in the current framework.[46] Representations highlighted several other instances in the current framework, which indicate the lack of ownership neutrality. For instance, RBI's regulations relating to receipts of inward foreign exchange remittances into PPIs, treat bank and non-bank PSPs differently.[47] Similarly, direct access to payment systems is limited to bank-led PSPs.[48] This has inherently tilted the regulatory framework in favour of bank-led PSPs. Other issues relating to ownership neutrality were also highlighted in the course of stakeholder consultations,[49] wherein certain stakeholders pointed out that the regulatory framework concerning access to payment systems is not truly ownership neutral. To this end, several stakeholders pointed out that access to payment systems such as UPI have been restricted to banks. Similarly, while the PPIs issued by banks are open loop cards, non-banks are restricted from issuing open loop PPIs. Some of the suggestions placed before the Committee included allowing access to all the payment entities to essential payments infrastructure such as RTGS, NEFT and UPI, bringing load limits for PPIs to the same level as cash acceptances by banks (i.e. INR 50,000), allowing non-bank participants to issue open system payment instruments through Visa, MasterCard, RuPay platforms, and allowing foreign inward remittances into non-bank PPIs.

As stated by the RBI, the Committee notes that the approach of RBI has been to regulate non-banks in payments lightly, thereby leading to differential regulatory requirements for bank and non-bank PPIs.[50] This has led non-bank PPIs to emerge as significant players in a relatively short

[46] See, NASSCOM, *NASSCOM inputs for Committee on Digital Payments*, NASSCOM has submitted that the payments law should lay down some core principles. In particular, it has submitted that laws/regulations should not be designed in a manner that would protect any incumbent base or sector, business model or product type from competition and market forces, and that the law should ensure equal treatment and parity among all market players; IBA has supported the Committee's approach towards ownership neutrality and providing for a level playing field between banks and non-banks; Indian Banks Association, *Digital Payments Interim Report - Comments of IBA*.

[47] See, NASSCOM, *NASSCOM inputs for Committee on Digital Payments*; Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*.

[48] See, Discussion at Section 6.1.2.1 above.

[49] See, Proceedings of IGIDR-PCI Dialogue on Jumpstarting Digital Payments; Mumbai, 5 October 2016

[50] See, Reserve Bank of India, *Comments of the Reserve Bank of India on the Draft Final Report of the Committee on Digital Payments*.

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span of time. This growth now needs to be nurtured so that banks have competitive pressure to innovate and non-banks have an equal opportunity to compete. Accordingly, the Committee reccomends that regulation should be risk based, with all PSPs facing similar risks (settlement risk, operational risk and business risk)[51] being placed in one category. In the case of differential restrictions such as those placed upon non-bank PPIs with regard to inward remittances, the Committee believes that the problem may be resolved by creating a new limited Authorised Dealer license for non-bank players only for inward remittance purposes. This can be done by RBI through regulations under Section 10 of the Foreign Exchange Management Act, 1999. This will allow non-bank players to act as Indian agents under the MTSS and issue PPIs to approved Overseas Agents. RBI and Member H.R. Khan have expressed their reservations against this approach,[52] and indicated that it may not be necessary to provide a limited Authorised Dealer (AD) status to non-bank PPIs since transactions at the agent level would be in Indian Rupee (INR). The Committee notes that while it may not be necessary to provide a limited AD status to non-bank PPIs for them to receive inward remittances, a limited AD license would ensure that non-bank PPIs do not have to depend upon banks for their remittance operations. This would ensure a level playing field and regulatory parity for bank and non-bank PPIs.

2. **Technology Neutrality** - Certain stakeholder representations, highlighted the need for technology neutrality in regulations.[53] Technology neutrality requires regulation to be outcome based, without mandating the adoption of any particular type of technology. The Committee observes that laws and regulations tend to assume, or in certain cases mandate the use of a particular technology for the attainment of a regulatory outcome. However, mandating the use of a particular technology could result in hindering innovation and efficiency, by preventing the adoption of newer and possibly more efficient technologies. Similarly, any presumption of appropriate technology, could prevent regulators from managing risks

[51] See, Parliament and Council of the European Union, *Payment Service Directive, 2015*, Risk based regulation has been incorporated in the European Payments Services Directive 2015, which recognizes for specific types of risk, e.g. settlement risk, operational risk and business risk.

[52] See, Reserve Bank of India, *Comments of the Reserve Bank of India on the Draft Final Report of the Committee on Digital Payments*; H.R.Khan, *Comments on the Draft Final Report of the Committee on Digital Payments*.

[53] See, PayPal, *Payment Systems Infrastructure India*.

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appropriately.[54] Accordingly, the Committee notes that technology neutrality as a principle must be incorporated into the payments legislation in India. However, the Committee would recommend against mandating similar standards of technology neutrality for regulations. The reasons for this are two-fold - Firstly, certain technologies might be not be adopted by the industry, despite being more efficient. In such cases, the regulatory framework should have the flexibility to prescribe the adoption of a particular technology, subject to an assessment of the costs and benefits associated with such a regulatory prescription. Second, the costs associated with amending regulations are far less than the costs associated with amending parliamentary laws. Nonetheless, the Committee notes that given the fast changing nature of technologies, any such regulatory prescription should be put in place for a limited duration of time, and be accompanied by appropriate sunset reviews of the efficacy and relevance of the prescribed technology.

3. **Infrastructure Neutrality** - Infrastructure neutrality requires essential infrastructure to be provided on a non-discriminatory basis to all products and services based on that infrastructure.[55] In the context of payments, this would require regulation to ensure that access to essential payments infrastructure remains unencumbered for existing PSPs and potential new entrants. The Committee feels that while structural separation might not be appropriate, there is nonetheless a need to ensure infrastructure neutrality. In this regard, the Committee notes that placing open access and interoperability obligations upon infrastructure providers, would be

[54] See, Financial System Inquiry (Chaired by David Murray), *Financial System Inquiry Report, 2014*, Citing these concerns, and noting that technology neutral regulation enables any mode of technology to be used and tends to be competitively neutral, the Report recommended that the principle of technology neutrality be incorporated into Australian government policy-making guides, and processes for developing future regulation.

[55] See, FSLRC, *Report of the Working Group on Payments*, Working Group recommendations suggest that a clear separation is needed between the infrastructure provider function and the service-provider function, when the two functions are provided by the same entity. When a corporate extends its existing infrastructure to encompass the payments business, regulation must ensure that competing payment systems are not subject to price or non-price barriers in the utilisation of this same infrastructure. As an example, the Working Group suggests that in instances where a telecommunications company acts provides payment services, it acts as a service provider. But at the same time, it also acts as an infrastructure provider offering communication access services to banks, BCs and other PSPs. Therefore, the Working Group recommended that payments regulator be empowered to ensure that no restrictive practices exist in opening out such communication access.

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sufficient in ensuring infrastructure neutrality (See discussion at Page 71, under "Open Access").

While considering the issue of infrastructure neutrality, the Committee specifically evaluated the role played by NPCI. NPCI is a provider of crucial payment systems and infrastructure, and could potentially be classified as a Critical Payment Infrastructure Company (CPIC) by the Government of India (GOI). The Committee notes that presently around 74.7% of the shareholding of NPCI is held by 10 banks (Refer to Table 6.2).[56] The remaining shareholding is held by 46 banks, with Co-operative Banks holding a total of 0.85% of the shareholding in NPCI. The Committee notes that the present ownership structure of NPCI might be conflicted with its pivotal role in the digital payments ecosystem (See Box 6). In this regard, the Committee feels that it might be desirable to explore ways in which the shareholding could be diffused, and ownership of NPCI be demutualised from the payment system participants. For example at least 51% of the paid up equity share capital could be held by the public, with no person individually or through persons acting in concert should hold more than 5% of the shares of the company.

Accordingly, the Committee believes that the law should define CPIC and specify only CPICs (like NPCI) as the operators and infrastructure providers of critical payment systems in India. CPICs should be set up as companies limited by shares and regulated by the payments regulator. There should not be any legal restriction on the number of CPICs that can be set up. Apart from being subject to open access obligations, CPICs such as NPCI should have a broad-based shareholding with a view to prevent any potential conflict of interest.

In this regard, the Committee considered the option of listing NPCI on account of it being a CPIC (the only one as of now). However, the Committee notes that the RBI has expressed its reservations against NPCI being listed, since it believes that listing would create a perverse incentive in NPCI's corporate structure – the quest for profits may not be consistent with NPCI's role as a CPIC.[57] While the RBI has supported the position of the Committee with regard to diffusion of shareholding

[56] Obtained from records filed with the Registrar of Companies

[57] See, Reserve Bank of India, *Comments of the Reserve Bank of India on the Draft Final Report of the Committee on Digital Payments*.

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Box 6: *Demutualisation and Listing: Lessons from Stock Exchanges and Card Schemes*

NPCI provides crucial infrastructure such as IMPS, UPI and National Financial Switch (NFS), which form the proverbial backbone of retail payments in the country. In this sense, NPCI plays a role similar to that of other market infrastructure institutions such as stock exchanges, and major card networks. The evolution of the ownership and governance structure of stock exchanges in India, and of major card networks globally, provide a compelling narrative in favour of demutualisation and listing of market infrastructure institutions such as NPCI.

Demutualisation and Listing of Stock Exchanges

Traditionally, securities were traded after interaction amongst traders at designated locations. An increase in the number of traders, necessitated the development of rules for conduct of transactions, and membership to such associations of traders. Non-members would typically be represented by trading members, thereby placing trading members as intermediaries. Therefore, stock exchanges started to perform a unique role, where apart from providing trading services, they also performed a regulatory and supervisory role. From an ownership and management perspective, this implied that stock exchanges were privately owned businesses performing public responsibilities. The need for a sustainable flow of income and generation of profits, raised the potential for a conflict of interest. Therefore stock exchanges underwent a process of corporatisation and demutualisation, i.e. separation of owners from trading members. This allowed for wider participation of shareholders and segregation of ownership, management and trading responsibilities of an exchange.

More recently, there has been a significant push towards listing of stock exchanges, to further diversify the ownership and management of stock exchanges. Accordingly, after obtaining an in-principle approval from the Securities and Exchange Board of India (SEBI) in March 2016, both National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) are in the process of issuing an Initial Public Offering (IPO).[a] Those in favour of listing stock exchanges have argued that demutualisation by itself may not be able to change the incentive structure available to trading members. This is because outside ownership may be limited to entities which have little incentive to challenge the broker interests. However, those against listing stock exchanges have argued that a quest for profit making might not be compatible with the regulatory and supervisory functions of the exchange.

Listing of Card Networks

The Committee also looked at the international experience with network infrastructure companies such as Visa and MasterCard. By way of IPOs carried out in 2008 and 2006 respectively, Visa and MasterCard moved from being a consortium of competitor banks into single-entity, publicly traded companies with no bank governance. In an antitrust settlement decree relating to the role of the two companies in setting interchange fees, the IPO was considered to be a measure that wrested governance and control from member banks, thereby allowing the parameters of access (such as interchange fees) to not be affected by the member banks' commercial interests.[b]

[a] See, Jayshree P. Upadhyay, *BSE looks to offload 30% in IPO; NSE hires merchant bankers*.
[b] See, *In re Payment Card Interchange Fee and Merchant Discount Antirust Litigation, 986 F.Supp.2d 207, 212 (E.D.N.Y. 2013)*.

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of NPCI, it has recommended that ownership be diluted towards direct members of the payment systems operated by NPCI. The Committee feels that while this might enable wider representation of both bank and non-bank system participants, it alone might not attain the desired objective of demutualisation. Accordingly, the Committee has made appropriate recommendations to ensure a diffused shareholding and independent functioning of NPCI. These include the diversification of the board of directors of NPCI, with the appointment of public interest directors, and restrictions on the shareholding that can be held by any person or persons acting in concert. The Committee's detailed recommendations in this regard have been captured at Chapter 7.

Table 6.2.: *NPCI Shareholding Pattern as on 22 January 2016*

Entities	**Shareholding Per Entity**	**Total**
SBI, PNB, Canara Bank, Bank of Baroda, Union Bank of India, Bank of India, ICICI Bank, HDFC Bank, Citibank N.A, HSBC	7.47%	74.7%
Dena Bank, Central Bank of India, Allahabad Bank, Bank of Maharashtra, Andhra Bank, Syndicate Bank, UCO Bank, Oriental Bank of Commerce, Corporation Bank, Indian Bank, Vijaya Bank, United Bank of India, Punjab & Sind Bank, Axis Bank, Kotak Mahindra Bank, Yes Bank, The Jammu & Kashmir Bank, Indusind Bank, Federal Bank	1.06%	20.14%
South Indian Bank, Karur Vyasya Bank, Karnataka Bank, Tamilnad Mercantile Bank, City Union Bank, Lakshmi Vilas Bank, Catholic Syrian Bank, RBL Bank, DCB Bank, Deutsche Bank AG	0.42%	4.2%
The Saraswat Co-operative Bank, The Cosmos Co-operative Bank, The Shamrao Vithal Co-operative Bank, Abhudaya Co-operative Bank, The Bharat Co-operative Bank (Mumbai), TJSB Sahakari Bank, Janta Sahakari Bank, Pune, Punjab & Maharashtra Co-operative Bank, NKGSB Co-operative Bank, Kalupur Commercial Coop. Bank, Baroda Uttar Pradesh Gramin Bank, Pragati Krishna Gramin Bank, Kerala Gramin Bank, Kaveri Grameen Bank, Andhra Pradesh Grameena Vikas Bank, Karnataka Vikas Grameen Bank, Gramin Bank of Aryavart	0.05%	0.85%

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Market Entry and Market Competition

The Committee evaluated three aspects of market entry and market competition, viz. authorisation, open access and interoperability, and pricing. Obtaining authorisation is a threshold requirement for firms to be able to operate in the market. In contrast, the absence of interoperability as a condition in the market, can lead to the creation of entry barriers for new entrants. Lastly, restrictions on pricing can limit the ability of players to compete.

1. **Authorisation** - The present legal framework relating to authorisation of payment systems and PSPs, enables a continuous licensing framework.[58] However, administrative actions such as suspension of licensing,[59] or placing discretionary limits upon number of licenses,[60] create disruptions in the market and raise entry barriers for new entrants.[61] Given that the RBI has allowed for continuous/"on-tap" licensing for banks,[62] the Committee sees no reason why a similar framework cannot be extended for PSPs and payment systems. Moreover, there could also be a case for self-registration of PSPs through online modalities.[63] The Committee notes that provisioning for continuous licensing and self-registration, does not

[58] See, *Payment and Settlement Systems Act, 2007*, Sections 5, 8(4).

[59] See, Reserve Bank of India, *Temporary suspension in grant of Authorisations for PPI issuance*.

[60] See, Reserve Bank of India, *Press Release - RBI grants "in-principle" approval to 11 Applicants for Payments Banks*, Out of the 42 applicants which sought to obtain approvals from the RBI for operating payments banks, the RBI granted an "in-principle" approval to only 11 applicants. In the press release, the RBI acknowledges that there is a case for transitioning to an "on-tap" licensing framework.

[61] See, Financial Sector Legislative Reforms Committee, *Report of Financial Sector Legislative Reforms Committee*, At Page 65; The FSLRC notes that certain instruments of micro-prudential regulation, such as licensing, may have a direct impact on competition, innovation and access in the system. As an example, it is possible to use rules for entry in ways that close down entry altogether for years on end. Going beyond entry barriers, instruments such as capital requirements, if not properly used, could impede innovation and access.

[62] See, Reserve Bank of India, *Guidelines for "On-Tap" Licensing of Universal Banks in the Private Sector*, Based on the recommendations of the Narasimham Committee, Raghuram G. Rajan Committee, and other inquiries into the banking sector, the RBI reviewed its Stop and Go licensing policy and considered a continuous authorisation policy on the grounds that such a policy would increase the level of competition and bring greater innovation in the system.

[63] See, FSLRC, *Report of the Working Group on Payments*, The FSLRC Working Group on Payments recommends permitting self- registration of payment system providers, including through online modalities. The Working Group suggests that automaticity in registration would help promote innovation and also lead to other forms of existing businesses combining their business models with payments.

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imply relaxing authorisation norms. Properly defined eligibility criteria and risk-based operational norms should continue to apply.

2. **Open Access** - In networked markets such as payments, the lack of open access to payment systems, can cause significant entry barriers for new players.[64] Moreover, the Committee observes that providing for open access and interoperability obligations is a recognised international best practice (See discussion at Page 54 under "Competition and Open Access" in Section 6.1.3). The Committee notes that most stakeholders have supported the imposition of access obligations upon payment systems.[65] Accordingly the Committee believes that the payments regulator should be empowered to impose open access obligations upon payment systems and PSPs.

   Particularly, the Committee notes that in its present form, the provisions of the *Payment and Settlement Systems Act, 2007* and the RBI's Guidelines relating to major payment systems, do not allow open access to all system participants.[66] Several stakeholder representations have highlighted the benefits that can be achieved by allowing open access to the major payment systems such as the UPI for non-bank PPIs and PSPs.[67] Similarly, earlier

[64] See, Bolt, "Retail Payment Systems: Competition, Innovation, and Implications", It is argued that existence of network effects, can raise entry barriers for newer, and possibly more efficient technologies in the market. In such cases, regulatory intervention might be warranted. However, mandating the use of new technologies can impose costs across the ecosystem. Accordingly, providing for open access and interoperability can ease the transition.

[65] See, Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*; NASSCOM, *NASSCOM inputs for Committee on Digital Payments*; Finance Research Group, Indira Gandhi Institute for Development Research, *Recommendations for Encouraging Digital Payments in India*; PayPal, *Payment Systems Infrastructure India*; Indian Banks Association, *Digital Payments Interim Report - Comments of IBA*.

[66] See, Department of Payment and Settlement Systems, Reserve Bank of India, *RTGS System Regulations*; Reserve Bank of India, *National Electronic Funds Transfer System Procedural Guidelines*.

[67] See, Credit Information Bureau (India) Limited, *Accelerating Digital Payment and Cashless Economy using Aadhaar*; Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*; NASSCOM, *NASSCOM inputs for Committee on Digital Payments*; Finance Research Group, Indira Gandhi Institute for Development Research, *Recommendations for Encouraging Digital Payments in India*; Thyagarajan Seshadri, *Feedback on Terms of Reference of the Committee Formed to Review*

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enquiries highlighted the need to open access to major payment systems for all PSPs.[68]

The Committee notes that as of 2012, 36 jurisdictions around the world permitted supervised non-bank institutions to access RTGS and settlement accounts with the central bank.[69] Moreover, countries such as the UK have indicated their intent to allow wider access for non-bank PSPs to large value RTGS payment systems.[70] Accordingly, the Committee recommends that open access to payment systems on a non-exclusive (i.e. terms of accessing one payment system cannot restrict an authorised PSPs from accessing another payment system) and non-discriminatory (i.e. payment system or a Direct Access PSP must not discriminate between Direct Access PSPs or Indirect Access PSPs or the same category) basis, must be opened up to all PSPs. Such access could be direct or indirect depending on the nature and size of the PSP.[71] Further, open access to all major payment systems including RTGS, NEFT, IMPS and UPI should be allowed on a non-exclusive and non-discriminatory basis, subject to proportionate risk based restrictions. This is in line with the recommendations of the Committee on Payments and Market Infrastructure (CPMI), which has recently recommended that payment infrastructures, including those operated by central banks, should have objective, risk-based participation requirements that permit fair and open access to their services.[72]

Moreover, the Committee notes that providing for open access would also lead to greater interoperability. Interoperability refers to the ability of customers to transact across commercially and technically independent payment platforms (See Box 7). The lack of interoperability could lead to the creation of multiple "islands" of PSPs, thereby reducing the value that can be derived by customers out of the services provided by a particular PSP. The Committee notes that interoperability in payments, would play a crucial role in attaining the Committee's vision of transitioning

the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments.

[68] See, Recommendations of the FSLRC Working Group on Payments, at Box 1 above.

[69] See, International Telecommunication Union, *Access to Payment Infrastrctures*.

[70] See, Mark Carney, *Speech*.

[71] See, Mark Carney, *Speech*, Small scale PSPs might not want to incurr costs of maintaining direct access to payment systems. International Telecommunication Union, *Payment System Oversight and Interoperability*.

[72] See, Bank for International Settlements, World Bank Group, *Payment Aspects of Financial Inclusion*.

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to non-cash payments methods. Firstly, interoperability and open access helps firms manage costs and increase efficiency through shared infrastructures. This would lower the transaction costs incurred by consumers availing various payment services. Second, interoperability can enable cost-efficient payments for the unbanked population, by enabling use of electronically received funds without accessing a physical bank branch. Lastly, interoperability will facilitate the replacement of cash with digital payment. By providing tailored solutions for retailers, and establishing interoperability with existing and future retail payment infrastructures, interoperability can increase the relevance of digital payments, vis-a-vis cash.[73]

Box 7: *Levels of Interoperability in Payments*[a]

The International Telecommunication Union (ITU) identifies the levels at which interoperability is desirable in digital payments -

- *Electronic Money Interoperability* - One or more PSPs, each offering two commercially and technically independent payment services, interconnect to enable a service user affiliated with one PSP to transact in the PSP's electronic money with a service user affiliated with another PSP (Example - moving money from one mobile wallet to another competing mobile wallet).
- *Interoperability with Financial Institutions* - One or more PSPs operating commercially and technically independent payment services, interconnect with a traditional financial PSP's platform, in order to enable interaction between the two PSPs (Example - Customer sending money from a mobile wallet to a bank account).
- *Interoperability with Payment Networks* - One or more PSPs operating commercially and technically independent payment services, interconnect with a separate payment system (Example - mobile wallets connecting with card schemes)

[a]See, International Telecommunication Union, *Payment System Oversight and Interoperability*.

Therefore, based on representations received, the Committee believes that the apart from allowing open access, the following measures could also help in promoting interoperability in the payments ecosystem -

a) *Interoperability between PPIs* - Presently the provisions of the *Payment and Settlement Systems Act, 2007* do not allow the transfer of

[73]See, International Telecommunication Union, *Payment System Oversight and Interoperability*.

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funds between PPIs.[74] Representations before the Committee highlighted that the lack of interoperability between PPIs limits the value that can be derived by customers from any given mobile wallet.[75] The Committee believes that allowing transfer of funds between PPIs would enable semi-closed PPIs to communicate with each other, and enable customers to gain the benefits of an open-loop PPI.

b) *Leveraging AEPS to attain Addressability and Interoperability* - Addressability of systems and subscribers, is crucial to facilitating interoperability between PSPs and payment systems. In the absence of addressability, it is not possible to facilitate communication between discrete systems. In this regard, almost all stakeholders have unanimously suggested the leveraging of Aadhaar to provide for greater addressability and interoperability in the payments ecosystem in India.[76] Integrating Aadhaar based eKYC with existing and future PSPs, would enable a mapping of bank accounts, digital accounts and other accounts (such as mobile subscription accounts under a DCB framework) seeded with a user's Aadhaar number. Together with open access, and a standardised interconnect regime, AEPS can be leveraged to attain full interoperability between bank

[74] See, Reserve Bank of India, *Master Circular: PPIs*, The RBI's Policy Guidelines on Issuance and Operation of Pre-paid Payment Instruments in India, restricts interoperability between PPIs. The submissiomns highlighted the lack of interoperability between PPIs as a significant impediment to competition in the payments sector. Further, it was indicated that certain "walled gardens" had been created by certain public sector banks by restricting access to select non-bank PPI players, thereby resulting in customers not able to load funds into their PPI accounts through these banks and fully use the vide ambit of services made available by them. NASSCOM, *NASSCOM inputs for Committee on Digital Payments*; Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*.

[75] See, Payments Council of India, *Short Term Reccomendations for Promoting the use of Electronic Transactions*; NASSCOM, *NASSCOM inputs for Committee on Digital Payments*.

[76] See, Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*; Credit Information Bureau (India) Limited, *Accelerating Digital Payment and Cashless Economy using Aadhaar*; NASSCOM, *NASSCOM inputs for Committee on Digital Payments*; Indian Post Payments Bank, *Comments for the Committee on Digital Payments to consider from the India Post Payments Bank (IPPB)*; Thyagarajan Seshadri, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*.

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accounts, PPIs and other PSP provided accounts holding value. Accordingly, the Committee has made appropriate recommendations to be implemented in this regard in Chapter 7.

c) *Providing Open Data Access* - Similar to the approach followed in the *Payment Service Directive, 2015* (See Box 3), provisions could be made to ensure open data access for all PSPs, subject to adequate data protection requirements (See discussion at Chapter 6.2). The Committee believes that this would lead to greater interoperability between PSPs and enable grater convenience for customers to manage their finances through various payment channels.

3. **Pricing** - The Committee notes that Merchant Discount Rate (MDR) is essential to the sustained growth of the digital payments industry since it incentivises - (a) banks to issue cards and promote their usage; (b) card schemes to manage and grow the card network; and (c) banks and non-banks to acquire merchants. Therefore, keeping with the wider objective of ensuring greater penetration of digital payments, the Committee observes that MDR must be set at an optimal level. The MDR must be low enough to ensure that merchants adopt the payment method, and encourage customers to use such payment methods. At the same time, the MDR must be high enough to cover costs, and incentivise issuers and acquirers to keep acquiring greater number of merchants.[77]

   Literature surrounding the issue of optimal levels of MDR and interchange fees, indicates that optimal pricing is typically dependent upon the circumstances of the payments market in a country.[78] Therefore, the Committee needs to to consider whether regulatory intervention with pricing would ultimately improve economic welfare in the context of the Indian payments market. Several representations before the Committee have submitted that the present regulatory framework surrounding MDR, fails to incentivise payment aggregators/ intermediaries, merchants and acquirers.[79] One of the representations provided the Committee with data

[77] See, Bill and Melinda Gates Foundation, *Submission to the Committee to review the framework related to Digital Payments*, The submission highlights the problem of setting a socially optimal MDR, and argues that there is no "one size fits all" model to setting MDR, as is evident from the varying models followed in other countries.

[78] See, Bolt, "Retail Payment Systems: Competition, Innovation, and Implications".

[79] See, Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to*

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indicating that regulation on MDR ceilings has reduced the pace of growth for card present transactions.[80]

In light of the above, the Committee believes that regulatory caps placed upon MDR may ultimately hamper the growth of the payments industry. Accordingly, the Committee believes that regulatory intervention with regard to pricing should be minimal, and that regulation should focus upon removal of entry barriers, and ensuring greater competition in the markets. The Committee therefore recommends that the setting of MDR should be market driven. However, interchange fees may be regulated on an evidence based approach. The issue of regulation of interchange fees and differential MDR caps (in cases where it is appropriate in view of the encouraging greater adoption and usage) has been discussed in Chapter 6.3.

Institutional Architecture

The Committee observed that the present framework relating to the operation and functions of the BPSS, fail to empower the BPSS with adequate resources to be able to encourage innovation in payment systems. For instance, instead of being constituted as an independent board within the RBI, the BPSS is a sub-committee of the Central Board of the RBI.[81] Further, the BPSS is composed of the Governor, all the Deputy Governors and not more than three Directors from the Central Board of the RBI.[82] Therefore, the BPSS cannot be said to be structurally independent from the RBI.

Further, the *Board for Regulation and Supervision of Payment and Settlement System Regulations* does not provide for the appointment of persons with domain skills in payment and settlement systems, and limits their participation in the policy making process.[83] Given the fast changing nature of the payments

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[80] See, Master Card, *Recommendations - Achieving a Less Cash Economy over the Medium Term*.

[81] See, *Board for Regulation and Supervision of Payment and Settlement System Regulations*, Regulation 3(1).

[82] See, *Board for Regulation and Supervision of Payment and Settlement System Regulations*, Regulation 3(2).

[83] See, *Board for Regulation and Supervision of Payment and Settlement System Regulations*, Regulation 10 empowers sub-committees of the BPSS to invite persons with experience in the fields of Payment and Settlement Systems to attend the meetings of that Committee.

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industry, with newer innovative payment solutions being developed by technology based business, such restricted representation from the industry, might be sub-optimal.

The RBI in its representation before the Committee has stated that central banks are ideally placed to maintain oversight over all payment systems, and that presently the BPSS plays a catalytic role in ensuring competition and innovation in payment systems,[84] and the IBA has submitted that the RBI should be empowered to regulate all entities dealing with payments, including digital payments.[85] In this regard, the Committee observed that central banks are ideally placed to be macro-prudential regulators, and deal with matters of systemic importance.[86] However, the enforcement of competition and innovation objectives, relate to market conduct of firms in the payment industry. Therefore, regulation of retail payment systems and PSPs is typically vested in an independent market conduct regulator. The primary rationale for adopting such a "twin-peak" model of financial regulation, is the tradeoff between stability and competition (See Table 4.1 in Section 4.0.2). This leads to a divergence in the objectives and functions of a prudential and market conduct regulator. A prudential regulator, whose objective is to promote financial stability may do so at the cost of sacrificing competition and innovation. Likewise, a regulator whose objective is to enhance competition, may do so at the cost of jeopardising financial stability.[87]

[84] See, Reserve Bank of India, *Comments of the Reserve Bank of India on the Interim Report of the Committee on Digital Payments*, The RBI has stated that the reason why all payments are generally with the central bank is because regulating money supply is an integral function of a central bank; this includes maintaining the confidence in money as a means of exchange. Payment and settlement systems facilitate the exchange of money for goods, services and financial assets supporting real economic activity if the payment systems are inefficient or fail, there may be loss of public confidence and money would not fulfil its purpose effectively.

[85] See, Indian Banks Association, *Digital Payments Interim Report - Comments of IBA*.

[86] See, Committee on Payment and Settlement Systems, Technical Committee of the International Organization of Securities Commissions, *Principles for Financial Market Infrastructures*.

[87] See, Financial System Inquiry (Chaired by Stan Wallis), *Financial System Inquiry Report, 1997*, In UK the Financial Services Authority (FSA) was divided, with prudential regulation transferred to the PRA (a subsidiary of the BoE) and market conduct regulation being vested in the FCA. The move to this model was ostensibly on account of FSAs increased focus on market conduct dimensions of financial regulation, at the cost of relative neglect of the prudential dimension. Pursuant to the report of the Financial Sector Inquiry of 1997, Australia had moved to a similar "twin peak" model, with prudential regulation vested in the APRA; J. Carmichael points out that a unified regulatory approach to both prudential and market conduct aspects might not be desirable given certain inevitable conflicts

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As discussed at Section 6.1.3 above, other jurisdictions such as Australia, and UK follow a similar institutional structure, where market conduct (competition, innovation and consumer protection) and prudential objectives (safety and resilience) are vested in separate regulators. The Committee observes that in the context of payments, a similar segregation of jurisdiction would involve - (a) vesting oversight of SIPS with the RBI; and (b) vesting jurisdiction over retail payment systems with an independent payments regulator empowered to look into market conduct issues. Most Committee members were in agreement regarding the need for an independent regulator for payment systems and service providers in India. Member Neeraj Gupta recommended the setting up of a separate regulator, the Indian Payment Authority (IPAY) outside the RBI, to bring out a structural and regulatory separation between payments and banking services, and provide for an exclusive institutional framework to bind all stakeholders involved in effecting a digital payments transactions. The proposed regulator would draw a majority of its membership from businesses having direct familiarity with the payment process, or allied businesses such as technology companies or banks.[88] However, other Members considered it sufficient to update the existing framework to provide more operational autonomy to the BPSS. Accordingly, the Committee has considered two separate options with regard to the institutional design of the proposed independent payments regulator at Section 6.1.4.2.

Innovation and Regulatory Governance

As highlighted in Section 6.1.2.3 above, the payments industry has seen several disruptive technologies emerge in the recent past, which has necessitated a re-look at the extant legal and regulatory framework. Accordingly, Committee believes that not only should the regulatory framework allow for innovation, regulations should work to positively disrupt existing business models, by being responsive to the rapidly evolving industry.

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between the prudential and market conduct objectives of regulation. For example, a major market transgression by a bank might entail penalties and adverse publicity sufficient to cause a run by depositors. The interests of the prudential regulator in protecting depositors in this case will be diametrically opposed to those of the market conduct regulator, whose objective is to ensure open, fair and efficient markets. Consequently, they might prefer to approach the problem in entirely different ways. Carmichael, "Regulatory Structure"; Financial Sector Legislative Reforms Committee, *Report of Financial Sector Legislative Reforms Committee*.

[88] See, Mr. Neeraj Gupta, Secretary (DIPAM), *Note for Setting up the India Payment Authority (IPAY)*.

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The Committee in its deliberations considered the recommendations of previous inquiries in this regard, and noted that the FSLRC placed substantial emphasis on clarity of objectives, transparent processes and accountability mechanisms. In particular, the recommendations of the FSLRC emphasised the need for a well-structured regulation-making process with appropriate checks and balances (such as appellate mechanisms) to ensure that all regulations are backed by thorough analysis of costs and benefits and are made through an open consultative process.[89]

The Committee considers these to be essential elements of a truly responsive regulatory framework. Accordingly, the Committee's recommendations at Chapter 7 prescribe that the regulator should be bound by transparency and performance reporting obligations. In particular the regulator must follow a consultative process to regulation making, by publishing draft regulations with sufficient information on the problem being addressed by the regulation and the manner in which such problem is addressed. Moreover, the regulator must ensure that all representations are duly considered, and must provide reasons for proceeding with the final regulation.

Keeping with the regulators wider objective of promoting competition and innovation in the payments industry, the regulator must publish a cost-benefit analysis, and a competition impact assessment of any proposed regulation. Typically, a competition impact assessment should assess the impact of the proposed regulations on the choice and information available to consumers of payment services; number or range of payments services providers, incentives and ability of payment service providers to compete efficiently in the market.[90]

Member H.R. Khan was of the view that, while adequate prior public consultations are desirable, there must be provisions to account for exigencies where regulations/ directions have to made instantaneously, subject to ratification by the regulator where necessary. The Committee notes that the legislative framework must provide the regulator with tools to act swiftly in such situations, however, such directions/ regulations must be made in a transparent manner, and be subject to sunset reviews.

With regard to the provision of appellate mechanisms, the Committee notes

[89] See, Financial Sector Legislative Reforms Committee, *Report of Financial Sector Legislative Reforms Committee*.
[90] See, OECD, *Competition Impact Assessment Toolkit*.

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that at present the *Payment and Settlement Systems Act, 2007* provides for an appeal to the Central Government, whereas the Statement of Objects and Reasons accompanying the *Payment and Settlement Systems Act, 2007* envisages an appeal to the Securities Appellate Tribunal (SAT). The Committee notes that as envisaged in the Statement of Object and Reasons, there should be an independent appellate mechanism, and all appeals should lie before appropriately empowered Tribunals. While certain disputes before the payments regulator, may arise from issues relating purely to principles of competition. In other instances, disputes may relate to other regulatory issues. In this regard, the Committee recommends that while issues relating purely to competition principles (such as disputes over denial of open access) should be referred to the Competition Appellate Tribunal (COMPAT), whereas challenges to regulatory actions (such as authorisation, suspension and penalties) may be referred to the SAT. Member H.R. Khan has voiced his concern over providing for appellate oversight of regulatory actions in non-expert bodies. Given that both the COMPAT and SAT are established statutory Tribunals, with both Judicial and non-Judicial members having domain expertise relating to competition and financial laws, the Committee believes that these concerns are sufficiently addressed.

Certain stakeholder submissions suggested recommended the incorporation of regulatory responsiveness by allowing greater collaboration between the regulator and the industry through an advisory council. In this regard, the Committee notes that the RBI Vision 2018 recommends the establishment of the Payment System Advisory Council (PSAC) to assist the BPSS in the formulation of new policies commensurate with the extent of innovation in the payments industry. Further, the RBI Vision 2018 contemplates a membership base for the PSAC which would draw from wide array of fields such as technology, telecommunications, FinTech, security solutions providers, academia, Government, etc.[91] However, the Committee believes that while the establishment of an advisory body such as the PSAC would indeed assist the regulator in being responsive, there would always be the risk of a capture by incumbent payment systems and PSPs. Accordingly, the Committee explored other methods of ensuring responsive regulation making, including the possibility of introducing a mechanism for filing rule-making petitions, and providing for regulatory sandboxes (See Box 4). The Committee observes that rule-making petitions could be complementary to the provision of a sandbox environment. Rule-making petitions can prevent the possibility of capture by incumbent firms, by providing an opportunity to

[91] See, Reserve Bank of India, *Payment and Settlement Systems in India: Vision-2018*.

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new entrants to petition the regulator, for enabling the introduction of newer and innovative payments services. Likewise, a regulatory sandbox environment, will enable new businesses and the regulator, to collaborate and encourage innovation, while at the same time limiting the risks faced by customers and the financial system.

Lastly, the Committee notes in this regard, that some of the new technologies that have been brought to the attention of the Committee, e.g. central bank issued digital currencies and direct carrier billing, have the potential of encouraging greater innovation in the payments ecosystem. Accordingly, and as discussed further in Chapter 6.3, the Committee recommends that these be allowed to operate in a sandbox environment. This would enable the Government and the payments regulator to evaluate risks associated with these technologies, and the the viability and scalability of these technologies.

6.1.4.2. Options for Consideration

On the basis of its review and analysis of the extant framework and international best practices, the Committee agreed that there is a need for -

1. Creating an independent regulatory framework for payments.

2. Incorporating competition and innovation as objectives.

3. Ensuring ownership neutrality, technology neutrality and infrastructure neutrality.

4. Ensuring a clear separation between the infrastructure provider function and the regulatory function, when the two functions are vested with the same entity.

5. Ensuring open access and greater interoperability between payment systems.

6. Providing for regulatory governance principles

7. Ensuring regulatory responsiveness with a view to foster innovation.

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The Committee notes that certain members have disagreed with some of the above mentioned recommendations. In particular, Member H.R. Khan and the IBA are not in favour of replacing the legal regime under the *Payment and Settlement Systems Act, 2007* with a new legislation. It has been suggested that keeping in view the global practice of giving primacy to central banks in the payments regulatory framework, the Committee should make recommendations to build upon the existing framework, since it is not advisable to have two parallel regulators for banking and payment systems, with overlapping functions.[92] In particular, the IBA has submitted that most of the Indian banks have done good work in adopting latest technology in Banking in India in the last decade, including digital banking and financial inclusion. In this regard, the IBA has highlighted the initiatives undertaken by Indian banks towards introducing user-friendly internet banking, mobile banking, Near Field Communication (NFC) cards, etc.

The Committee notes that the payments ecosystem in India has grown significantly in the last two decades, with banks playing a major role in its development. However, the Committee believes that the future of the payments ecosystem needs to be premised upon a more appropriate definition of the market, i.e. payment systems and services, as a distinct and separate market from that for banking services. Such a definitional framework in the law, would enable the regulator to provide for a level playing field for all players who wish to participate in the market.

Member H.R. Khan expressed the opinion that the *Payment and Settlement Systems Act, 2007* has enough flexibility to accommodate emerging changes and different types of players, and that the primary hinderances to the uptake of digital payments in India are the lack of appropriate incentives and disincentives, and the lack of education and awareness about digital payments.[93] The Committee observes that the *Payment and Settlement Systems Act, 2007* does not articulate principles, objectives and positive obligations of the regulator. This, in the Committee's opinion is a fundamental drawback in the extant legal framework. The test of a good law is not that it does not prohibit the regulator from doing things. The law has to guide the regulator on what needs to be done, through positive obligations and accountability mechanisms. That said, the Committee recognises the importance of providing appropriate incentives

[92] See, H.R.Khan, *Comments on the Draft Final Report of the Committee on Digital Payments*; Indian Banks Association, *Comments of the IBA on the Draft Final Report of the Committee on Digital Payments*.

[93] See, H.R.Khan, *Comments on the Draft Final Report of the Committee on Digital Payments*.

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for the usage of digital payments, and providing commensurate disincentives for using cash. Similarly, the Committee recognises the importance of increasing awareness and education about digital payments in the country. Accordingly, the Committee has addressed these issues in Chapter 6.3.

The Committee has already elaborated upon the rationale for having an independent regulatory framework for payment systems and service providers (See discussion at Section 6.1.4.1 above), and notes that the creation of such a framework would not impede the functioning of either the RBI in terms of its role as a banking regulator, or as a regulator of macro-prudential issues relating to payments systems. The Committee notes that one of the concerns raised by IBA relates to the need to have regulatory intervention to correct market practices that might harm customers or be anti-competitive.[94] The Committee feels that such concerns are addressed by the Committee's present recommendations which call for the establishment of an independent regulator for payment systems and service providers, to look over the market conduct of participants.

Accordingly, and in view of the discussion on Institutional Architecture at Page 77 above, the Committee considered the following options on the implementation of the first proposition, i.e. creation of an independent regulatory framework for payments. The Committee's evaluation of these options has been provided below:

1. **Option 1: A new regulator** - A new statutory payments regulator, the IPAY, could be set up with the objective of promoting competition, innovation and convenience for consumers. IPAY will have jurisdiction over all payment systems and payment service providers across all sectors. However, for systemically important inter-bank payments systems, RBI will have an overriding jurisdiction. In other words, the RBI can specifically exempt such systemically important inter-bank payments systems from any specific regulation passed by the IPAY, by giving reasons in writing. This will ensure maximum competition while adequately safeguarding against any systemic risk concern.

2. **Option 2: Giving independent status to BPSS** - BPSS can be made independent of RBI's central board such that it enjoys adequate

[94] See, Indian Banks Association, *Comments of the IBA on the Draft Final Report of the Committee on Digital Payments*.

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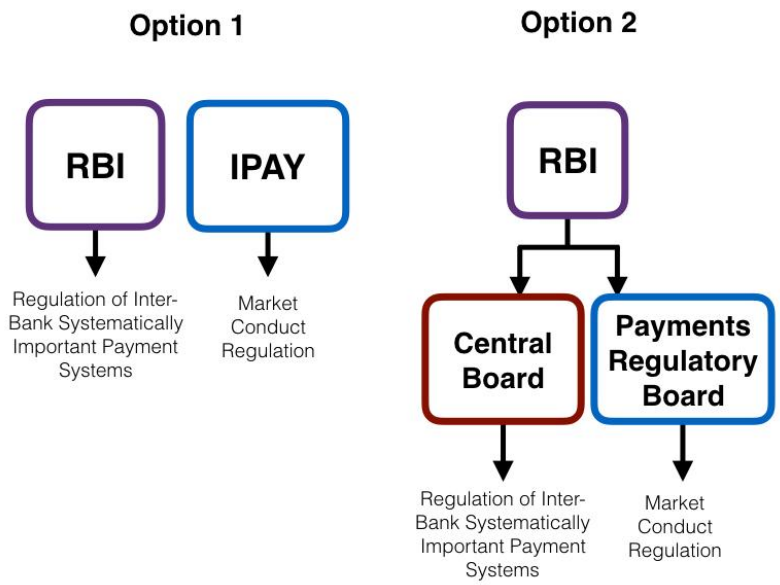

Figure 6.3.: *Options for Institutional Arrangement*

independence in setting the competition policy for payments market. In the resulting statutory board, the PRB, Governor of RBI will be the Chairman of PRB. But its composition will have majority of non-RBI members nominated by the Central Government. The PRB will have three statutory objectives: competition, innovation and user convenience. In pursuance of these objectives it will issue a payments policy and issue necessary regulations to give effect to that policy. However, if there is any conflict between the payments policies or regulations of the PRB and the micro-prudential or central banking policies or regulations of the Central Board of RBI, the latter's decision will prevail. This will ensure maximum independence to PRB to pursue the competition objective while adequately safeguarding against any systemic risk concern.

Pursuant to deliberations of the Committee, there was consensus on adopting Option 2, i.e. giving independent status to the BPSS, by separating it into an independent statutory board, the PRB. The Committee felt that given the existing organisational captial of the Department of Payment and Settlement Systems (DPSS), and other constraints of institutional capacity - empowering the BPSS with powers of monitoring market conduct, and re-establishing it as an independent statutory board within the RBI, will be the most efficient manner

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of transitioning to the suggested regulatory framework. The Committee notes that the IBA has expressed its reservations with the creation of a separate board dedicated to payments systems within the RBI.[95] The IBA has submitted that the creation of a separate board, might in certain situations lead to the policy objectives of the payments board gaining primacy over the larger objectives of the Central Board of the RBI. In this regard, the Committee notes that the legislative framework recommended by the Committee, ensures that in instances where there is a potential conflict between the policy or regulatory actions of the Central Board and the PRB, the RBI Central Board's decision will prevail. This is similar to the position under Australian law, which follows an institutional framework similar to that proposed under Option 2.[96]

The RBI is in agreement with the recommendations of the Committee. However, the RBI has sought equal representation of RBI and non-RBI members on the PRB.[97] The RBI's suggestion of equal representation stems from the accepted Monetary Policy Committee (MPC) structure. As per RBI, all proposed directors of the PRB including the Governor and Deputy Governors are Government appointees, and hence, there should not be any issues as such. RBI has suggested, that a director of the Central Board from the IT industry, for example, can add immense value to the PRB. Similarly, by having a Deputy Governor responsible for banking regulation or supervision, would be helpful in ensuring that banking regulations per se don't work against the objectives of the payments regulation especially in a scenario where banks remain the dominant players.[98]

Members of the Committee, other than Mr. H.R. Khan, Mr. Chandan Sinha and IBA, believe that there is an inherent divergence in the micro-prudential mandate vested with the Central Board of the RBI and the mandate of ensuring competition and innovation in the payments industry. This, in the Committee's opinion, is the fundamental rationale underlying its recommendation for the establishment of the PRB. These members believe that by having a majority of non-RBI members of the PRB, the RBI would benefit from views from outside

[95] See, Indian Banks Association, *Comments of the IBA on the Draft Final Report of the Committee on Digital Payments*.

[96] See, *RBA Act*, See also, Discussion at Page 54 under Section 6.1.3 above.

[97] See, Reserve Bank of India, *Comments of the Reserve Bank of India on the Draft Final Report of the Committee on Digital Payments*.

[98] See, Reserve Bank of India, *Comments of the Reserve Bank of India on the Draft Final Report of the Committee on Digital Payments*, See also, RBI's additional note in Annexure at Page 186.

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the Central Board, which are directed towards the competition and innovation objectives of the RBI with regard to payment systems and participants. The PRB could consist of the Governor, RBI and another representative from RBI, a representative of SEBI, a representative of the Central Government (not below the rank of Joint Secretary) and four independent members appointed by the Ministry of Finance. Given the recommendations in relation to resolution of conflicts between policies of the Central Board and the PRB, and given the fact that the RBI continues to be responsible for the implementation of the regulatory framework, these members believe that the recommendations would not hamper the RBI's independent functioning as the banking regulator.

The Committee notes that there is consensus amongst the members on all remaining recommendations made in relation to issues of promoting competition and innovation in the payments industry.

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6.2. Safety and Resilience

6.2.1. Introduction

Innovation in digital payments is disrupting cash based transaction models. Simultaneously it is also raising important issues on safety and resilience. Safety and resilience of payment systems and operation play a vital role in maintaining and supporting financial stability. A well designed payment system on one hand helps in reducing the cost and uncertainty of settlements and on the other hand, enhances public confidence in the system by ensuring safe and on time transactions.[99] Moreover, the efficiency of the payment systems is imperative to have a sustainable competitive market for digital payments.[100] Barring financial stability objective, there are some other objectives like fraud prevention, consumer protection and data protection which play a vital role in the overall design and operation of payment systems.[101] In this context, the Committee looked into the potential market failures with respect to safety and resilience existing in the payment system.

6.2.1.1. Oversight of payment and settlement systems

Oversight of payment systems is of paramount importance. Each payment system is exposed to various risks like credit, liquidity, legal, operational and settlement risks. Some even give rise to systemic risks, which outweighs the other types of risks in terms of consequences. Box 8 explains the different types of risks emanating from the payment systems. Systemic risk refers to a failure of one participant leading to a domino effect causing settlement failures in other payment systems, thereby affecting the stability of the financial system.[102] For instance, banks heavily depend on incoming funds to finance outgoing payments. A bank which is a member of a payment system bears the credit risk on behalf

[99] See, Committee on Payment and Settlement Systems, *Report of the Task Force on Payment System Principles and Practices*.

[100] See, Committee on Payment and Settlement Systems, *Report of the Task Force on Payment System Principles and Practices*.

[101] See, Committee on Payment and Settlement Systems, *Report of the Task Force on Payment System Principles and Practices*.

[102] See, Committee on Payment and Settlement Systems, BIS, *A glossary of terms used in payments and settlement systems*.

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of its customers for incoming payments before occurrence of final settlement.[103] At the same time, it invites credit exposures to other members of the payment system. And if the payment arrives late, it may give rise to liquidity risk.[104] This shows how a problem in one member is likely to have direct effects on other members. Apart from settlement failures, systemic risk may arise out of operational failure. Small value transactions in a large volume may also give rise to systemic risk. For instance, salary payments through a system to large number of individual, could expose them with liquidity or overdraft crisis.[105]

Box 8: *Range of risks emanating from payment systems*[a]

- **Credit risk**: The risk that a party within the system will be unable fully to meet its financial obligations within the system currently or at any time in the future.
- **Liquidity risk**: The risk that a party within the system will have insufficient funds to meet financial obligations within the system as and when expected, although it may be able to do so at some time in the future.
- **Legal risk**: The risk that a poor legal framework or legal uncertainties will cause or exacerbate credit or liquidity risks.
- **Operational risk**: The risk that operational factors such as technical malfunctions or operational mistakes will cause or exacerbate credit or liquidity risks.

[a]See, Committee on Payment and Settlement Systems, *Report of the Task Force on Payment System Principles and Practices*.

6.2.1.2. Consumer protection for users

Security of digital payments is fundamental for ensuring the protection of users and the development of sound environment for digital payments. Consumers have been benefitted by the virtue of recent technological advancement in the field of payments to some extent, but at the same time, it has presented new challenges to be reckoned with. Payment services have been going through a phase of innovation, but at the same time, has increased the scope for deception and misunderstanding in the payment services. Some of the challenges to

[103]The completion of a transaction or of processing with the aim of discharging participants obligations through the transfer of funds.
[104]See, Bank of England, *Oversight of Payment Systems*.
[105]See, Committee on Payment and Settlement Systems, *Report of the Task Force on Payment System Principles and Practices*.

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consumer protection which inhibit greater consumer adoption are personal data protection, digital identity theft and fraud. India has recently witnessed incidents of data theft which have raised concerns about data protection and security of digital payments. Box 9 highlights one such incident.

Box 9: *ATM/Debit Card Data Breach*

Recently, certain cards issued by a few banks came under threat after a security breach by ATM linked to the ATM switch of one of the service providers which connects the database of bank with ATM machine. As per reports floated by media, the compromised debit cards were used in ATMs that are suspected to have exposed details of the cards to the malware which damages computer systems at ATMs or bank servers, and allows fraudsters to access confidential debit card data. In this case, swiping a card at a said ATM allowed the miscreants to steal personal informations and misuse the data on the card for fraudulent transactions. As per the RBI press release dated 24-10-2016, the issue is currently being investigated by an approved forensic auditor, under PCI-DSS framework.[a]

[a]See, Reserve Bank of India, *ATM/Debit Card Data Breach*.

Creating and protecting trust is a key issue in the payment services. Given the low literacy levels in India, ensuring safety and security of electronic transactions is indeed a formidable challenge. The absence of strong laws protecting consumers is a fundamental issue. With more and more customers opting for digital payments, it is necessary to buttress the confidence of consumers in the market. India needs a robust consumer protection law framework for digital payments. Consumers must be effectively informed about terms and conditions of service; the risks associated alongside the benefits of a service; liability in case of unauthorised access and so on. To empower the consumers, the payments regulator must take a consumer-centric approach when developing and expanding the Indian digital payment market. Consumer protection is too important an issue to be left to the discretion of any agency. Instead, the broad principles for consumer empowerment needs to be hardwired into statutory laws with clear accountability to enable a regulatory shift towards consumer-centric approach.

In this context, the Committee framed issues which have been highlighted in Box 10 which require a complete rethink and overhaul.

6.2.2. Domestic scenario

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Box 10: *Issues before the Committee*

- How should safety and resilience of Indian payments and settlement systems be enhanced?
- What measures need to be taken to adequately strengthen the consumer protection framework in digital payments?
- What should be the optimal regulatory structure to enhance consumer protection as well as competition and innovation in payments and settlement systems?

6.2.2.1. Oversight of Payment and settlement systems

Under the *Payment and Settlement Systems Act, 2007* oversight activity is carried out through three ways comprising of activities of monitoring, assessment and inducing change. Box 11 stipulates power of RBI under *Payment and Settlement Systems Act, 2007.*

Box 11: *Power of RBI under Payment and Settlement Act*

- To formulate policies for the regulations and supervision of all types of payment and settlement systems[a];
- To set out standards for existing and future systems[b];
- To authorise payment and settlement systems;
- To determine criteria for the membership and to decide on continuation, termination and rejection of membership[c];
- To conduct on and off-site inspections of payment systems[d].

[a]See, section 18 of the *Payment and Settlement Systems Act, 2007*.
[b]See, section 10(d) of the *Payment and Settlement Systems Act, 2007*.
[c]See, section 10(e) of the *Payment and Settlement Systems Act, 2007*.
[d]See, section 16 of the *Payment and Settlement Systems Act, 2007*.

Under the *Payment and Settlement Systems Act, 2007* "payment system" has been defined as a system that enables payment to be effected between a payer and a beneficiary, involving clearing, payment or settlement service or all of them,

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but does not include stock exchange.[106] In the existing framework, systemic risk has been defined as the inability of a system participants to meet this payment obligation or any disruption in the payment system which may cause other participants to fail to meet their obligations which impacts the stability of the system.[107] The *Payment and Settlement Systems Act, 2007* empowers the RBI to cease and desist any payment system or a system participant[108] from engaging in the act which in the opinion of RBI may result in systemic risk.[109] In 2013, the RBI releases a policy document on regulation and supervision of Financial Market Infrastructures (FMIs). The term FMI refers to SIPSs. The policy covers the criterias designating an FMI, oversight of FMIs and related aspects. Presently, RTGS is a SIPS where the inter-bank payments settle on a real time and on gross basis in the books of the RBI.[110]

Based on the above discussion, the Committee noted that the *Payment and Settlement Systems Act, 2007* does not mention any clear process for desig-

[106] See, Section 2(i) of the *Payment and Settlement Systems Act, 2007*.

[107] See Section 2(o) of the section *Payment and Settlement Systems Act, 2007*, Systemic risk means the risk arising from (i) the inability of a system participant to meet his payment obligations under the payment system as and when they become due; or (ii) any disruption in the system, which may cause other participants to fail to meet their obligations when due and is likely to have an impact on the stability of the system: Provided that if any doubt or difference arises as to whether a particular risk is likely to have an impact on the stability of the system, the decision of the Reserve Bank shall be final.

[108] See, section 2(p) of the *Payment and Settlement Systems Act, 2007*, System participant means a bank or any other person participating in a payment system and includes the system provider.

[109] See, section 17 of the *Payment and Settlement Systems Act, 2007*, Where the Reserve Bank is of the opinion that, (a) a payment system or a system participant is engaging in, or is about to engage in, any act, omission or course of conduct that results, or is likely to result, in systemic risk being inadequately controlled or (b) any action under clause (a) is likely to affect the payment system, the monetary policy or the credit policy of the country, the Reserve Bank may issue directions in writing to such payment system or system participant requiring it, within such time as the Reserve Bank may specify (i) to cease and desist from engaging in the act, omission or course of conduct or to ensure the system participants to cease and desist from the act, omission or course of conduct; or (ii) to perform such acts as may be necessary, in the opinion of the Reserve Bank, to remedy the situation.

[110] Financial Market Infrastructure is defined as a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions. The term FMI generally refers to systemically important payment systems, Central Securities Depositories, Securities Settlement Systems, Central Counter Parties, and Trade Repositories that facilitate the clearing, settlement, and recording of financial transactions. Reserve Bank of India, *Regulation and Supervision of Financial Market Infrastructures regulated by Reserve Bank of India*.

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nation and de-designation of any payment system as SIPs. There is no clear statutory appeal from such designation order. Even RBI has not issued any regulations on the same. The RBI has only floated a policy document on regulation and supervision of SIPSs, but the same has not been concretised in the primary legislation unlike other jurisdictions such as Australia, Canada and United Kingdom. (Discussed further in 6.2.3 and 6.2.4) Furthermore, the present framework does not distinguish between SIPS and non-SIPS in terms of regulations.

The Committee has observed that the same issue has been addressed in the RBI Vision 2018 which contemplates an oversight framework which is proportionate to the systemic risks or system-wide risks posed by a payment system or operator or participant.[111] Additionally, the Committee has observed the recommendations of the FSLRC working Group wherein it was recommended that "a system of 'proportionate regulation' would be helpful, allowing nascent businesses to adapt technology solutions without undue regulatory intervention, while requiring systemically important businesses to submit to stronger regulatory oversight." Additionally, the Committee noted that pursuant to the Budget Speech of 2016-17, the Ministry of Finance and RBI have been working towards drafting a new statutory law on resolution corporation. This law will also cover the resolution of SIPs.[112] In addition, adequate statutory provisions for regulation of SIPs (other than resolution) needs to be provided. Currently, the *Payment and Settlement Systems Act, 2007* falls short on this aspect.

6.2.2.2. Consumer Protection for users

In the present regime, the RBI has issued various guidelines from time to time on mobile banking transactions and pre-paid instruments wherein customer protections have been dealt with. These guidelines have been issued under Section 18 read with Section 10(2) of *Payment and Settlement Systems Act, 2007*.[113] These guidelines mandates the payment system provider to disclose

[111] See, Reserve Bank of India, *Payment and Settlement Systems in India: Vision-2018*, A well-structured oversight framework complements the framework for resilience of payment infrastructure. Proportionality of oversight: The intensity of oversight would be made proportionate to the systemic risks or system-wide risks posed by a payment system or operator or participant.

[112] See, Department of Economic Affairs, Ministry of Finance, *Report of Committee to Draft Code on Resolution of Financial Firms*.

[113] See, Section 10 and Section 18 of the *Payment and Settlement Systems Act, 2007*.

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terms of contract. The guidelines have set out the responsibilities and liabilities of the consumers. Furthermore, the guidelines require payment system providers to put consumer redressal forums and fraud prevention mechanism in place and to maintain confidentiality of customer accounts. Banks and service provider providing PPIs are mandated to adhere to consumer protection norms as stipulated in Box 12. Additionally, section 23A of the *Payment and Settlement Systems Act, 2007* has been incorporated in order to protect the funds collected from customers by the system provider of designated payment system. This provision empowers the RBI in the public interest to direct the system provider of designated payment system to deposit amounts collected by the system provider in a scheduled commercial banks and maintain liquid assets as specified from time to time.[114]

With respect to the security of the payment system, cyber security framework has been put in place by the RBI. In pursuance to this, the RBI issued instructions to banks to prepare a cyber crisis management place and place a board-approved cyber security policy, prepare a cyber crisis management plan.[115] The present framework on cyber security also requires banks to share unusual cyber security incidents with RBI.[116] Apart from this, various guidelines have issued for ATM and White Label ATM to adhere to the security measures have been highlighted in Box 13.

With respect to data protection, the *Payment and Settlement Systems Act, 2007* does not contain any provision related to protection of personal information. India has privacy laws contained in its Information Technology Act of 2000. Under *Information Technology Act*, Section 43A stipulates that if a body corporate which is dealing or handling any sensitive personal data or information and is negligent in implementing and maintaining reasonable security practices, thereby causing loss to any person is held liable to pay damages to that person.[117] Under section 73A of the *Information Technology Act* is a penal provision for disclosure of information in breach of lawful contract. The *Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules* 2000 stipulates rules pertaining to collection of sensitive data, processing and retention of personal data, purpose of collection and disclosure and security practices. Box 14 sets out the rules stipulated in

[114] See, section 23A of the *Payment and Settlement Systems Act, 2007*.
[115] See, *Cyber Security Frameworks in Banks*.
[116] See, *Cyber Security Frameworks in Banks*.
[117] See, section 43A of the Ministry of Law, Justice and Company Affairs, *Information Technology Act*.

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Box 12

Mobile Banking Transactions[a]

- Bilateral contracts drawn up between the payee and payees bank, defining the rights and obligations of each party.
- Banks are required to make mandatory disclosures of risks, responsibilities and liabilities of the customers on their websites and/or through printed material.
- Banks are required to maintain secrecy and confidentiality of customers' accounts.
- Customers complaints / grievances arising out of mobile banking facility would be covered under the Banking Ombudsman Scheme.

Pre-paid Payment Instruments[b]

- Pre-paid payment instrument issuers shall disclose all important terms and conditions in clear and simple language comprehensible to the holders while issuing the instruments.
- The non-bank PPI issuer shall put in place an effective mechanism for redressal of customer complaints along with escalation matrix and publicise the same for the benefit of customers.
- The pre-paid payment instrument issuers shall put in place adequate information and data security infrastructure and systems for prevention and detection of frauds.

[a] See, Reserve Bank of India, *Master Circulars Mobile Banking transactions in India Operative Guidelines for Banks*.

[b] See, Reserve Bank of India, *Policy Guidelines on Issuance and Operations of Pre-paid Payment Instruements in India*.

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Box 13: *Security Measures at ATM*[a]

- Caretakers at off-site ATM and sensitive locations to discourage attempts to tamper with the ATMs.
- Arrangements with local police authorities for regular beats in case of ATM located in sensitive areas.
- Analysis of complaints to identify complaint prone ATM and monitoring transaction at these ATMs.
- Systems are in place to provide smooth access to grievance redressal mechanism for ATM related complaints. The grievance redressal procedure is displayed in the ATM premises.

[a]See, *ATM Operations of Banks*.

Information Technology Act in detail.

The present framework on data protection allows the recipients to use personal data or sensitive information for the purposes under which the information has been collected. This could limit the use of the data by the recipients to process the information to detect fraud and money laundering.

6.2.3. Global best practices and emerging direction

6.2.3.1. Oversight of payment and settlement systems

Report of the task force on Payment System principles and practices

In May 1988, Committee on Payment and Settlement Systems (CPSS) of central banks of the Group of Ten countries, set up a Task Force on Payment System Principles and Practices to recommend the Core Principles for SIPS. The Task Force recommended that payment systems that are systemically important should be differentiated from those that are not systemically important. The underlying principle to determine systemically important payment systems is whether the systems can cause or transfer liquidity and solvency problems between participants within the payment system, to the country's wider financial

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Box 14: *Data protection norms under* Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules

- A Body Corporate must have a privacy policy for handling of and dealing in personal information including sensitive personal data.[a]
- A Body Corporate shall obtain consent in writing or by fax or e-mail from the provider regarding the purpose of usage before collection of such data.[b]
- A Body Corporate shall not collect any personal information or sensitive data unless and until it is for a lawful purpose connected with a function and the collection is necessary for that purpose.
- A Body Corporate shall inform the provider of collection of information, its purpose, its intended recipients and the agencies that are collecting and retaining the information.
- A Body Corporate shall not retain the information for longer than is required for the purposes for which information is collected.
- The provider shall be given an option to the provider to amend and withdraw his consent to the collection at any later stage.
- A Body Corporate shall seek the consent of the concerned provider before disclosing the sensitive data to a third party, unless such disclosure was agreed by the parties through any contract.

[a] See, Rule 4 of the Ministry of Communication and Information Technology, *Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules*.

[b] See, Rule 5 of the Ministry of Communication and Information Technology, *Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules*.

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system or even abroad. While determining whether a payment system is a SIPS or not, the size or nature of individual payments which they handle or aggregate value of the payments processed need to be taken into account.[118] The criteria for determining if a payment system is a SIPS is in Box 15.

Box 15: *Criteria to determine SIPS as prescribed by CPSS*[a]

- It is the only payment system in the country or it is the most important system with regard to the aggregate value of payments processed.
- The payment system primarily processes high-value payments.
- The payment system is used to settle transactions on financial markets or to settle the positions of participants from other payment systems.

[a]Committee on Payment and Settlement Systems, *Report of the Task Force on Payment System Principles and Practices*.

United Kingdom

With respect to payment system, in UK, prudential aspects of the inter-bank payment systems are regulated by the Bank of England under the *Banking Act, 2009* whereas market conduct of the designated payment systems are regulated by the PSR established under FCA under *Financial Services (Banking Reforms) Act, 2013*. The primary objective of the BoE is to oversee inter-bank payment system. Inter-bank payment system has been defined under *Banking Act, 2009* as "arrangements designed to facilitate or control the transfer of money between financial institutions who participate in the arrangements".[119] The bank's oversight approach is proportionate to its assessment of the systemic or system-wide risks posed by a system. The BoE oversight is broadly on the principles drawn up by CPSS for SIPS.

Under the *Banking Act, 2009*, if the treasury specifies any "inter-bank payment system" as a recognised payment system on the basis of recognition criteria stipulated under the *Banking Act, 2009*, the same will be supervised by Bank of England. Box 16 highlights the factors which are taken into consideration while recognising a payment system under *Banking Act, 2009* as SIPS.

[118]See, Committee on Payment and Settlement Systems, *Report of the Task Force on Payment System Principles and Practices*.

[119]See, section 182(1) of the *Banking Act, 2009*.

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Box 16: *Recognition criteria for SIPS under* Banking Act, 2009

- The number and value of the transactions that the system presently processes or is likely to process in the future.
- The nature of the transactions that the system processes.
- Whether those transactions or their equivalent could be handled by other systems.
- The relationship between the system and other systems.
- Whether the system is used by the Bank of England in the course of its role as a monetary authority.

Under the *Banking Act, 2009*, the BoE oversight power under the Act apply to the payment system operators recognised by the Treasury. The *Banking Act, 2009* empowers the BoE to publish principles, codes of practices for the recognised payment system operators, to establish or change the rules of the payment systems and to inspect and disqualify in case of non-compliance. The *Banking Act, 2009* also empowers the BoE to impose penalties and give warning to the recognised payment systems. The Box 17 highlights the powers of BoE under *Banking Act, 2009*.

Australia

The PSB is responsible for administering the RBA's responsibilities under the *PSR Act*, the *PSN Act* and the *Corporations Act*. The *PSR Act* empowers the PSB to "designate" a payment system in the public interest by considering the fact whether it is causing or contributing to increased risk to the financial system. One of the objectives of the Payment System Board is to ensure compliance with financial stability and reduction of systemic risks. PSB follows the principle laid down by the CPSS for SIPS. The PSB has been empowered under the *PSR Act* to determine the rules for participation in a payment system and to set standards for safety and efficiency. Additionally, it resolves the disputes between members over access, financial safety and competitiveness. Box 18 highlights the powers of PSB under *PSR Act*.

Canada

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Box 17: *Power of BoE under* Banking Act, 2009

- To publish principles and codes of practice to be followed by the recognised payment system operators and ensuring the compliance of the same.[a]
- To establish or change the rules of the payment systems in a specified way.[b] and a general power to give directions.[c].
- To require the operator to appoint an expert to provide report on the operation of the system.[d]
- To inspect premises[e], disqualify or close the system in case of non-compliance of the provisions of the Act.[f]
- To give warnings, impose financial penalties[g] etc.

[a]See, section 188 and 189 of the *Banking Act, 2009*.
[b]See, section 190 of the *Banking Act, 2009*.
[c]See, section 191 of the *Banking Act, 2009*.
[d]See, section 195 of the *Banking Act, 2009*.
[e]See, section 194 of the *Banking Act, 2009*.
[f]See, section 199 of the *Banking Act, 2009*.
[g]See, section 199 of the *Banking Act, 2009*.

Box 18: *Power of PSB under* PSR Act

- Determine rules for participation in a payment system, including rules on access for new participants.
- Set standards for safety and efficiency for any payment system. These may deal with issues such as technical requirements, procedures and performance benchmarks.
- Arbitrate on disputes in that system over matters relating to access, financial safety, competitiveness and systemic risk, if the parties concerned so wish.
- Approve multilateral netting arrangements under the *PSN Act* Act.
- Providing for financial stability standards applicable on clearing and settlements systems under the Corporations Act.

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Regulatory responsibility for payments in Canada is shared by the Bank of Canada (BoC) and the Ministry of Finance. The BoC has responsibility for oversight of payment and other clearing and settlement systems for the purpose of controlling systemic risk.[120] The Minister of Finance has oversight powers with respect to the Canadian Payments Association as well as payment, clearing and settlement systems that it designates for oversight.[121]

Box 19: *Designation Criteria under* Payment Clearing and Settlement Act, 1996 [a]

- The size of the transactions cleared or settled by the payment system;
- The degree to which the payment system plays a critical role in supporting Canadian financial markets and the Canadian economy.
- The size of obligations that Canadian participants can incur through participation in the payment system.

[a] See, *Guideline Related to Bank of Canada Oversight Activities under the Payment Clearing and Settlement Act*.

The *Canadian Payments Act, 1985* establishes the role of the Canadian Payment Association (CPA) and the Minister of Finance in the Canadian payment system. The Act gives certain oversight powers to the Minister of Finance respecting the payment systems and the CPA. The *Payment Clearing and Settlement Act, 1996* 1996 empowers the Bank of Canada to oversee payment and other clearing and settlement systems for the purpose of controlling systemic risk. The Bank designates only which have the potential to create systemic risk as being subject to the *Canadian Payments Act, 1985*. The Bank of Canada oversees designated systems on a continuing basis for the appropriate control of systemic risk. The *Payment Clearing and Settlement Act, 1996* provides the Bank of Canada to conduct audits of a designated payment system, to prevent such designated payment systems from taking any action that results in systemic risk. The Bank of Canada requires the designated payment system to take provide notice to the bank before making any changes in the system. The powers given to the Bank of Canada under *Payment Clearing and Settlement Act, 1996* have been highlighted in Box 20.

[120] See, Committee on Payment and Settlement Systems, Bank for International Settlements, *Payment, clearing and settlement systems in Canada*.

[121] See, Committee on Payment and Settlement Systems, Bank for International Settlements, *Payment, clearing and settlement systems in Canada*.

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Box 20: *Powers under Bank of Canada under* Payment Clearing and Settlement Act, 1996

[a]

- Empowers the Bank to conduct audits of a designated payment system.
- Empowers the Governor to issue a written directive to a designated payment system to refrain from an action that is likely to result in systemic risk being inadequately controlled or to take action to remedy a situation in which systemic risk is likely being inadequately controlled.
- Requires designated FMIs to provide the Bank with reasonable notice in advance of any change to be made that is of a significant nature in relation to the designated FMI, which enables the Bank to consider the implications of such changes for systemic risk.
- Render the settlement rules of designated FMIs immune to legal stays or other legal challenges, even in cases in which a participant in one of these systems fails. This increases the certainty that the legal arrangements governing the operations of a designated clearing and settlement system will produce the expected outcome in periods of financial stress.

[a]See, *Payment Clearing and Settlement Act, 1996*.

6.2.3.2. Consumer Protection for users

European Union

The Payment System Directive (PSD) provides the legal foundation for the creation of an EU-wide single market for payments.[122] The PSD aims at establishing a modern and comprehensive set of rules applicable to all payment services in the European Union.[123] The PSD requires fair disclosure of terms and contract to the user and disclsoure information before execution of payment to the user.[124] It also sets the obligation of users and PSPs and liabilities of users and PSPs for unauthorised payment transactions. Box 21 covers the provision specified in PSD in detail.

United Kingdom

[122]See, Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[123]See, Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[124]See, Parliament and Council of the European Union, *Payment Service Directive, 2015*.

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Box 21: *Consumer Protection norms under PSD*

- A description of the main characteristics of the payment service to be provided.[a]
- All charges payable by the payment service user to the payment system provider and breakdown of the amounts of charges.[b]
- Information before execution of individual payment transactions.[c]
- Information for the payee on individual payment transactions.[d]
- Obligations of the payment service user and payment service provider in relation to payment instruments.[e]
- Payment service provider's liability for unauthorised payment transactions.[f]
- Payer's liability for unauthorised payment transactions.[g].

[a] See, Article 42 of the Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[b] See, Article 42 of the Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[c] See, Article 46 of the Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[d] See, Article 48 of the Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[e] See, Article 56 and 57 of the Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[f] See, Article 60 of the Parliament and Council of the European Union, *Payment Service Directive, 2015*.
[g] See, Article 61 of the Parliament and Council of the European Union, *Payment Service Directive, 2015*.

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One of the objectives of the FCA as down in the *Financial Services Act 2012* is to secure an appropriate degree of protection of consumers.[125] In considering what degree of protection for consumers may be appropriate, the FCA must have regard to have been highlighted in Box 22

Box 22: *Degree of protection for consumer under* Financial Services Act 2012[a]

- The differing degrees of risk involved in different kinds of investment or other transaction;
- The differing degrees of experience and expertise that different consumers may have;
- The needs that consumers may have for the timely provision of information and advice that is accurate and fit for purpose.
- The differing expectations that consumers may have in relation to different kinds of investment or other transaction.
- The general principle that those providing regulated financial services should be expected to provide consumers with a level of care that is appropriate having regard to the degree of risk involved in relation to the investment or other transaction and the capabilities of the consumers in question;
- The general principle that consumers should take responsibility for their decisions

[a]See, *Financial Services Act 2012*.

With respect to the payments, the *Payment Service Directive, 2007* which is a payments-related legislations in Europe was implemented in the UK through the *Payment Services Regulations, 2009*. The Payment System Regulations, 2009 (PSRs) came into force on 1 November 2009, monitored and enforced by the FCA. *Payment Services Regulations, 2009* requires a service provider to discharge obligations more or less as provided in the PSD.

With respect to data protection, the *General Data Protection Regulation* contains strict privacy rules including a right to be forgotten, which requires the deletion of data upon request by a citizen. The *Payment Service Directive, 2015* contains an importance exception to the *General Data Protection Regulation* as well as national data protection regulations that might impact payments systems and payment service providers. The *Payment Service Directive, 2015* states that payment systems may process personal data when, necessary to safeguard the prevention, investigation and detection of payment fraud.[126]

[125]See, section 1(C) of the *Financial Services Act 2012*.

[126]See, Article 94 of the Parliament and Council of the European Union, *Payment Service Directive, 2015*, Article 94 states that Member States shall permit processing of personal

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Australia

The Australian Securities & Investments Commission (ASIC) has responsibility for market integrity and consumer protection across the financial system, including payment transactions. Recently, *ePayments Code* has been published by the ASIC and has come into effect from 29 March, 2016. Users of electronic payment facilities in Australia are protected by the *ePayments Code*. The objectives of the *ePayments Code* is to provide quality consumer protection and promote consumer confidence in electronic banking and payment systems. The code mandates effective disclosure of information, clear and fair rules for allocating liability for unauthorised transactions and effective procedure for resolving complaints. Box 23 highlights the provisions under e-payment code in detail.

Box 23: *Consumer Protection under* ePayments Code

- The Code requires service provider to disclose terms and conditions, information about changes to terms and conditions such as fee increase, information about ATM fees etc.
- The Code explains the rules for allocating liability for losses arising from authorised transactions, and system or equipment malfunction.
- The Code explains the procedure for dealing with mistaken internet payments.
- The Code requires service provider to maintain internal dispute resolution procedures, imposes a limitation for complaints and time-frames for resolving complaints, set out procedure for dealing with complaints.

6.2.4. Options before the Committee

The Commission has been tasked with the mandate of reviewing payment framework. In this section, after substantive deliberations and interactions with various stake-holders, the Committee has analysed the existing framework and addressed the market failures as outlined in 6.2.1. With respect to the

data by payment systems and payment service providers when necessary to safeguard the prevention, investigation and detection of payment fraud. The provision of information to individuals about the processing of personal data and the processing of such personal data and any other processing of personal data for the purposes of this Directive shall be carried out in accordance with Directive 95/46/EC, the national rules which transpose Directive 95/46/EC and with Regulation (EC) No 45/2001.

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market failures, the Committee has outlined the broad contours of the proposed payment sector framework.

6.2.4.1. Oversight of the payment and settlement systems

The *Payment and Settlement Systems Act, 2007* which is a regulatory framework for payment systems was enacted earlier in 2007. At present, the *Payment and Settlement Systems Act, 2007* does not make a distinction between SIPS and non-SIPS in terms of regulations. Furthermore, there is no clear demarcation criteria in the *Payment and Settlement Systems Act, 2007* to determine SIPS and non-SIPS. The Committee observed that some of the payment system are systemically important as their failure may disrupt the financial system. Therefore, such payment systems must be subjected to higher level of regulations. On the other hand, some payment systems does not require the same standard of scrutiny and should not be burdened with heavy micro-prudential regulatory standards.

The Committee reviewed the best practices across advanced common law jurisdictions. In most advanced jurisdictions, there is a clear statutory framework for SIPS like UK, Australia and Canada. Furthermore, payment framework facilitates some payment system to grow without any regulatory interventions and once they cross the threshold limit and become systemically important to the economy, the same are designated and are supervised by the central banks.

As discussed in 6.2.2.1, the RBI Vision 2018 contemplates a framework which is proportionate to the risks posed by a payment system or operator or participants.*Payment and Settlement Systems in India: Vision-2018* In furtherance to this, the FSLRC working Group has also recommended "a system of 'proportionate regulation' would be helpful, allowing nascent businesses to adapt technology solutions without undue regulatory intervention, while requiring systemically important businesses to submit to stronger regulatory oversight."[127] It was also recommended that the "start-up business should of course be bound by a minimalist set of regulatory rules and standards need to be relaxed so that new players can enter the business."[128]

[127]See, FSLRC, *Report of the Working Group on Payments*.
[128]See, FSLRC, *Report of the Working Group on Payments*.

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In this regard, the Committee is of the view that stringent regulations should kick in only when the payment system crosses a minimum threshold scale. It is absolutely critical to have a clear legal framework for designating and de-designating SIPS. Further, there should be absolute legal clarity on the level of regulatory oversight to which a SIPS would be subjected to. The Committee noted that pursuant to the Budget Speech of 2016-17, the Ministry of Finance and RBI have been working towards drafting a new statutory law on resolution corporation. This law will also cover the resolution of SIPS. In addition, adequate statutory provisions for regulation of SIPSs (other than resolution) needs to be provided.

The Committee proposes that regulatory framework should demarcate between the SIPS and non-SIPS in terms of the risks they pose to the financial stability. The Committee is of the view that the Central Government in consultation with the RBI should specify criteria for designating a payment system as systemically important. The Committee is of the view that all systemically important inter-bank payment system should be regulated by the RBI and payment systems which are not systemically important should be regulated by the board. The Committee proposes the following criteria outlined in Box 24 to be taken into consideration while designating the payment system as systemically important payment systems.

Box 24: *Criteria for designation to be specified under the payment legislation*

Following criteria should be taken into consideration by the Central Government while designating a payment system as systemically important:

- Number and value of the transactions that the system process,
- Nature of the transactions that the system processes,
- Relationship of the system with other systems.
- Complexity involved in the system

Additionally, the Committee has noticed that the *Payment and Settlement Systems Act, 2007* has a singular and broad definition of payment systems. The payment system has been defined as "a system that enables payment to be effected between a payer and a beneficiary involving clearing, payment or settlement, but does not include a stock exchange". The Committee observed that the present framework fails to classify the players participating in the payment market. Additionally, the Committee observed that the above definition

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covers every possible market participants in the payments eco-system., thus fails to classify the players participating in the payment market. For instance, in the present framework, white label ATM operators which provide facility to customers of banks to dispense cash is taken as a payment operators. The lack of proper classification creates confusion amongst the market participants in determining what piece of regulation is applied on them. In this regard, the Committee observed that in UK participants in payment systems have been well defined in the *Financial Services (Banking Reforms) Act, 2013*. Box 25 highlights how participants in UK payment systems have been classified.

Box 25: *Participants in Payment Systems in UK*[a]

- **Operator of the Payment System**: Any person with responsibility under the system for managing or operating it; and any reference to the operation of a payment system includes a reference to its management.
- **Infrastructure Provider**: Any person who provides or controls any part of the infrastructure used for the purposes of operating the payment system.
- **Payment Service Provider**: Any person who provides services to persons who are not participants in the system for the purposes of enabling the transfer of funds using the payment system

[a] *Financial Services (Banking Reforms) Act, 2013*.

It has been submitted to the Committee that clarity in definition will enable the market participants to understand where they fall on the regulatory spectrum and how there service will be defined.[129] In this regard, the Committee recommends that proper classification should be done on the basis of service provided by each participant in the payment systems and the same should be defined in the primary legislation.

[129] See, Submission dated 10-10-2016 by PayPal

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6.2.4.2. Consumer protection for users

In the present regime, consumer protection norms with respect to electronic transactions are fragmented which has resulted in legal uncertainity, potential security risks in the payment chain and lack of consumer protection in certain areas. Unlike other jurisdictions, the present framework does not mandate consumer protection as statutory objectives, however from time to time, RBI has issued guidelines specifying norms in order to safeguard the consumers. The existing guidelines have been issued by using the general power given under section 18 read with read 10(2) of the *Payment and Settlement Systems Act, 2007*. However, there is no specific consumer protection framework within *Payment and Settlement Systems Act, 2007* Recently, as discussed 6.2.2.2, section 23A has been incorporated in the *Payment and Settlement Systems Act, 2007* to protect the funds collected from customers. This manifests that some positive changes have been made in the space of consumer protection, but the Committee is of the view that further strong legal protection for consumers are needed to be incorporated in the primary legislation to facilitate consumer protection.

The Committee believes that broad principles on consumer protection should be incorporated in the primary legislation as it will provide more legal clarity. The Committee is of the view that necessary and sufficient information should be given to the consumers with regard to the payment service contract and before initiation of payment instructions. A provision should be specified for allocation of losses in the case of unauthorised payment transactions. Additionally, it is essential for consumers to know the real costs and charges of payments services in order to make their choice. The Committee proposes that security and safety measures to be adhered by the service providers to boost the confidence of the consumer in the payment system and safeguard the interest of the consumer should be in consonance with the broad objectives as outline in the given below box.

Additionally the Committee is of the view that the present privacy regulations do not clearly enable the payment service providers to process information to monitor fraud. The Committee is of the opinion that if privacy laws limit the use of that data, then fraud and money laundering rates may well rise. In this regard, the Committee recommends that payment service provider should be allowed to process data to improve fraud monitoring and anti-money laundering services. For this, the Committee recommends that enabling provision should

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Box 26: *Consumer Protection Principles*

The Regulator should take following principles into consideration while making regulations on consumer protection:

- degree of risk involved in the payment system;
- degree of experience and expertise of the consumers;
- adequate disclosure of information to enable consumers to taken an informed decision.
- take into account consumer expectation in relation to transactions.

be specified in the present payments law to enable payment service providers to process data only for the purpose of preventing, investigating and detecting payment fraud.

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6.3. Access, Adoption and Usage

6.3.1. Introduction

Ensuring adequate acceptance infrastructure, making adoption and usage of payment products seamless are the driving forces in the promotion of digital payments and financial inclusion. It's difficult to envisage a transition from cash-based society to less-cash society without streamlining the interaction and relationship between the payment service providers and users.

One of the unique features of the payment market is that it is a two sided market. A two-sided platform acts as an intermediary which provides goods or services simultaneously to two distinct customers who need each other in some way. In our case, payment systems act as intermediaries between two distinct groups of users, consumers on the one hand, and merchants on the other.[130] In the payment network[131], the number of consumers is directly proportional to the number of merchants equipped to accept payments. Thus one half of the network effect comes from the consumers adoption and usage, while the other half comes from the merchants willingness to accept such payments. If the payment acceptance market remains underpenetrated then the same will have an impact over the usage of accounts.[132] Two-sided platforms, such as payment systems, typically treat one side of the market as a "profit center" and treat the other side of the market as a "loss leader", leading to adoption or usage externalities, i.e. the side of the market which is charged for using the platform, is disincentivised from adopting or using the platform. While adoption or usage may still be driven by other incentives such as convenience, pricing practices of multi-sided platforms may lead to inefficient results for the market as a whole.

The challenge is to foster progress on both sides of the eco-system without disrupting the balance. In order to address the above mentioned issues, there

[130] See, Marianne Verdier, "Retail Payment Systems: What can we Learn from Two-Sided Markets".

[131] Network effect comes into picture when the value of a good or service to a potential consumer increases when the other consumers start using the same product or services. For example, any form of social networking becomes more valuable to the user when other start accessing the same. See, Joanna Stavins, "Network Externalities in the Market for Electronic Check Payments".

[132] See, Reserve Bank of India, *Payment and Settlement Systems in India: Vision-2018*.

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can be two kind of policies. One is to have laissez-faire policies - leaving the system to the market forces to design its course and the second is to have state-interventions such as policies with respect to pricing mechanism or government subsidies to help expand payment infrastructure.[133]

6.3.2. Domestic scenario

6.3.2.1. The current status of payments in India

At present, there are varied options available through which a payment can be made. Those channels are paper based instruments, digital instruments such as PPI, mobile banking, ATM based, Point of Sale (POS) terminals and online transactions. Various studies reveal that today only 20% of the total transactions[134] and 5% of Personal Consumption Expenditure are happening digitally.[135] The current statistics suggest that Indian economy by and large operates on cash today.

Before moving to the specific issues which are giving rise to concern, it is worth taking stock of the facts pertaining to the current status of the payment system in India. The Committee observed that cheques continue to be preferred, constituting 54 percent in terms of volume and 82 percent in terms of value with retail electronic payments.[136] With respect to cards, as reflected in Table 6.3, debit and credit cards have been expending at a growth rate of 67% and 37% respectively.

[133] See, Gautam Gowrisankaran, Joanna Stavins, "Network Externalities and Technology Adoption: Lessons from Electronic Payments".

[134] See, Boston Consultancy Group and Google, *Digital Payments 2020: The Making of a $500 Billion Ecosystem in India*.

[135] See, VISA, *Accelerating the Growth of Digital Payments in India*, Total digital transactions includes electronic payments direct/ACH, mobile based payments etc. and Personal Consumption Transactions do not include RTGS, Net-Banking and ACH.

[136] See, Reserve Bank of India, *Payment System Vision Document - Vision 2012-15*.

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Table 6.3.: *Growth in Card Issuance**

No. of Credit Cards (in mn) as on			No. of Debit Cards (in mn) as on		
Aug'14	Aug'15	Aug'16	Aug'14	Aug'15	Aug'16
19.77	22.25	26.37	424.16	598.50	712.46

*Source: RBI

Interestingly, in terms of usage, currently debit cards are mostly used at ATMs for cash withdrawal while a very few transactions are happening at POS. As per the existing data as reflected in Table 6.4, the usage of debit cards at ATMs continue to account for around 85% of the total volume and around 92% of total value of debit card transactions. Usage of debit cards at POS machines accounts for only around 14% of total volume and 7-8% of total value of debit card transactions.

Table 6.4.: *Debit Card Usage**

Debit Card Usage	July 2016		August 2016	
	Volume (Actual)	Value (mn)	Volume (Actual)	Value (mn)
Debit Card Usage at ATMs	752133454	2191650.70	756738440	2196575.02
% of total debit card usage	85.35%	92%	85.28%	92.28%
Debit Card usage at PoS	129069978	170919.23	130529004	183704.93
% of total debit card usage	14.65%	8%	14.72%	7.72%

*Source: RBI

Credit card usage at ATMs accounted for around 0.75% of volume and 1.18% of value of total credit card transactions. As reflected in Table 6.5, use of credit cards for POS transactions accounted for 99.25% of volume and 98.84% of value of total credit card transactions in the country.

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Table 6.5.: *Credit card usage**

Debit Card Usage	July 2016		August 2016	
	Volume (Actual)	Value (mn)	Volume (Actual)	Value (mn)
Credit Card Usage at ATMs	606314	2922.41	646950	3042.74
% of total credit card usage at ATMs	0.75%	1.18%	0.76%	1.16%
Credit Card usage at PoS	79440734	243414.15	83954292	257485.55
% of total credit card usage at PoS	99.25%	98.82%	99.24%	98.84%

*Source: RBI

With respect to PPI, 748 million transactions were recorded valued at 488 billion as compared to 314 million transactions valued at 212 billion in the previous year. Mobile banking service growth surged by 126.6 per cent in terms of volume and 290.3 per cent in terms of value, handling 389 million transactions valued at 4 trillion during the year.[137]

With respect to acceptance infrastructure, as reflected in Table 6.8, POS terminals have been increasing steadily. As reflected in Table 6.8 and 6.7, India has one of the lowest numbers of ATM and POS terminals per million population. The penetration of ATMs is 165 per million population and that of POS terminals is 1080 per million population.

Table 6.6.: *No. of Cards, ATMs and PoS terminals per million of population**

Population	Per Mn of Population		
	Cards	ATM	PoS
2012-13	0.29	95	695
2013-14	0.34	133	865
2014-15	0.45	152	889
2015-16	0.53	163	1066

*Source: Submission dated 21-11-2016 by NPCI

[137] Reserve Bank of India, *Reserve Bank of India Annual Report 2015-16*.

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Table 6.7.: *ATMs/PoS terminals per million population**

Country	ATMs per million population (2015)	PoS terminals per milllion population (2015)
Australia	1329	40,130
Brazil	892	25,421
Canada	1,854	36,326
India	165	1,080
Mexico	382	7,189
Russia	1,413	10,176
Singapore	507	31,096
South Africa	533	7,267
United Kingdom	1,079	30,078

*Source: Bank of International Settlement statistics on payment, clearing and settlement systems in the CPMI countries

Table 6.8.: *Growth in Card Acceptance Infrastructure**

No. of ATM as on			No. of PoS machine as on		
Aug'14	Aug'15	Aug'16	Aug'14	Aug'15	Aug'16
170473	189189	202801	1018264	1191311	1461972

*Source: RBI

6.3.2.2. Issues in the existing framework

The above mentioned facts suggest that access to and usage of digital payments have been growing steadily but at a very slow pace. There are various elements which are acting as barriers to the adoption and usage of digital payments. Some of those are inadequate infrastructure, regulatory impediments and inadequate value proposition for merchants and users. The traditional approach to financial inclusion has been to bank the unbanked. The Committee believe it is time to broaden the approach and include the excluded through every other means of financial access, over and above banks.

With respect to adoption and usages, the Committee is of the view that people do not use payment services as most of them do not find any incentives in using

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the same. The Committee has observed that issues like annual fees for cards, surcharge/service charge or convenience fee levied on card based payments are inhibiting greater adoption and usages of card payments. For an example, transaction charges of Rs. 10/- is imposed for booking an online railway ticket. The same does not apply while buying it cash.

With respect to payment infrastructure, several measures have been taken by the RBI in order increase payment infrastructure. On such was setting up of Acceptance Deployment Fund. An Acceptance Deployment Fund is a corpus funded by card issuers to expand acceptance infrastructure in the country. The Committee observed that there are problems at the ground level which are inhibiting the growth of acceptance infrastructure. The Committee observed that inability of small merchants to provide specific documents like proof of business activity, tax related document etc. to get a POS[138] machine and cost of a POS machine discourage merchants from receiving payment digitally. The Committee is of the view that presently, Aadhaar, which has already been recognised as a sufficient Know Your Customer (KYC), has not been leveraged properly yet. The Committee finds that Central KYC Registry (CKYCR) which is a central repository is working on paper based format, thus the same is putting extra burden on the service providers in terms of cost and efficiency. Further, the Committee observed that every time the user of the financial product has to fill the KYC requirements as there is no existing mechanism which allows the service providers to share the KYC information with each other.

The Committee observed that Government departments/agencies are not well equipped to receive payments digitally. Further, most usage of the debit cards are happening at ATMs for cash withdrawal. The same needs to be brought down in order to push people to transact digitally. The Committee observed that reasons for less deployment of POS terminals are imposition of higher import duties on POS machines and capping of MDR, [139] as both of them are making the business of the acquirer side unviable.

The Committee engaged in various consultations and received several suggestions pertaining to the existing issues in the present framework. The issues have been highlighted in Box 27.

[138] A POS terminal is a machine installed at Merchant Establishments which enables the merchants to accept payments through payment cards (credit cards, debit cards, gift cards etc.

[139] A commission charged by an acquiring bank which issues POS machine to the merchant

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Box 27: *Issues with respect to Access, Adoption and Usages*

- Collection of traffic challan, toll charges, property registration charges continue to be cash based and Government agencies are not equipped to receive payments digitally.
- No incentives for the acquirers to deploy POS terminals as the MDR has been capped on debit transactions.
- RTGS is not operating 24*7.
- Lack of clarity on submission of documents digitally with the CKYCR.
- Inability of merchants to discern the benefits of electronic payments.
- KYC requirements like proof of business activity etc to obtain a POS terminal are discouraging small merchants.
- PAN or Form 60/61 is required to open a bank account.
- Currently service tax is paid on MDR by the acquiring bank while the issuing bank pays service tax on interchange which is a part of same transactions. Acquirer banks find difficult in raising input credit for service tax because of rigid procedural requirements.
- Need to accelerate deployment of Aadhaar enabled acceptance network.
- Currently AEPS is supporting only fingerprints based authentication.
- High failure rate of USSD services.
- No mechanism in place to obtain consent to use Aadhaar for KYC purposes on the basis of One-Time-Password (OTP).
- No disincentives for making large value payments in cash and cash withdrawals at ATMs.
- Unlike private enterprise, most Government or quasi Government entities surcharge the customer for making digital payments; e.g. utility & tax payments.
- Irrespective of the value of transactions, two factor authentication is mandatory to be followed.

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6.3.3. Global best practices and emerging direction

The Committee has identified some of the global best practices followed by some countries in order to promote digital payments.

Tax Incentives for digital payments

The Key Advisory Group on the Payment Systems in India published a report which examined some of the steps taken by the Latin American countries with respect to tax incentives for electronic payment.[140] Some of the global best practices as reflected in the report have been highlighted in Box 28.

Box 28: *Global best practices on tax incentives on digital payments*[a]

- **Argentina** - Since 2002, consumer who purchases goofs and services using credit and debit cards receive a monthly refund of three and five percentage points, respectively, off the standard rate of Value Added Tax (VAT) tax of 21%
- **Columbia** - Since 2004, Consumers who purchase goods and services using credit and debit cards receive a refund of 2 percentage points off the VAT tax of 10-16 percent.
- **Mexico** - Since 2003, there has been high profile lottery (El Boletazo) and associated TV game show. Entry to both draw and game show is driven by use of credit and debit cards at the POS.

[a]See, Department of Financial Services, Ministry of Finance, Government of India, *Report of the Key Advisory Group on the Payment Systems in India*.

The Committee also studied some other global best practices followed by the countries in length with respect to tax incentives.

- **Uruguay**- The Government provides tax rebates/abatement to both consumers and merchants for using electronic transactions. If goods or products are purchased through credit or debit cards, consumers get a 2% reduction in the VAT rate. VAT is totally exempted for the consumers when purchases are made with debit cards from the conditional cash transfer programme, Uruguay Social, or the family allowance programme

[140]See, Department of Financial Services, Ministry of Finance, Government of India, *Report of the Key Advisory Group on the Payment Systems in India*.

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(AFAM-BPS).[141] Merchants receive a tax credit if they use electronic payment equipment. Additionally, if the store's equipment is programmed to work with family allowance and Uruguay social debit cards, an additional tax credit is given for investments made on the electronic payment equipment and software updates (from January 2012 to June 2013).[142]

- **South Korea**

  As per Article 32-2 of the Value-Added Tax Act[143], in 1994, *credit card sales tax relief* scheme was launched which involves a deduction of prescribed amount from the taxes payable by applying a rate of tax credit when the business owner accepted a credit card while providing VAT-applicable goods or services.[144] Additionally in 1999, the Government introduced the *credit card tax income deduction* scheme which was to encourage buyers (credit card users) to use their credit cards as a payment means and in lieu of that, tax cuts is provided to them. Furthermore, in 2001, the Government introduced the *Credit Card Slip Lottery* program which includes debit card slips also to induce low-income earners to use cards for purchases by offering a lottery prize of up to 100 million won.[145] Paying national taxes using credit cards: Tax payers are allowed to pay national taxes using credit cards. The allowed tax amount is limited to 2 million won or less. The credit card payment fee (around 1% of transaction) is paid by taxpayers.[146]

[141] See, OECD, *OECD Developmennt Pathways - Multi-dimensional Review of Uruguay*.
[142] See, OECD, *OECD Developmennt Pathways - Multi-dimensional Review of Uruguay*.
[143] See, *Value-Added Tax Act*.
[144] See, Korea Institute of Public Finance, *Fight against Underground Economy: Credit Card and cash receipt income deduction policy*.
[145] See, Korea Institute of Public Finance, *Fight against Underground Economy: Credit Card and cash receipt income deduction policy*.
[146] See, Ministry of Strategy and Finance, Republic of Korea, *Korean Taxation*.

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Disincentives on cash transactions

The Committee observed that some countries have put a cap on cash transactions in order to promote digital payments. Measures which were taken by some countries have been highlighted in Box 29.

Box 29: *Limits for cash payments in EU*[a]

- **France** - Cash payments more than 3000 euro for fiscal residents and 15000 euro for the non residents acting as a consumer are not allowed.
- **Portugal** - The cash payments of goods and services between consumers and traders are limited by the law. The law requires that the payment of invoices or similar documents on the amount of more than euro 1000, should be made to traders bank account by a bank transfer, bank debit or by a nominative check.[b]
- **Spain** - Since November 19th, 2012, the limit is 2500 euro (for Spain residents) and 15 000 euro (for non residents). If the amount is higher than these (in each case), the payment should be done by transfer bank. The fine for failing to carry out this precept could be about 25% of the total transferred amount.
- **Bulgaria** - Limit up to 10 000 lev (approximately 5112 euro). If the transaction is over that limit then the consumer should pay through a bank.
- **Belgium** - The Belgian law from 29 March 2012 limits the cash payments from 15.000 euro to 5.000 euro since 16 April 2012. Fines on offenders from 250 euro to 225.000 euro can be imposed by the Belgian authorities.
- **Greece** - Cash payments (including VAT) for the purchase of products and services are permissible up to 1500 euros. Beyond that limit, payments should be done via bank accounts, cheques or credit/debit cards.

[a] See, The European Consumer Center France, *Limit for cash payments in EU*.
[b] Article 63-C of the decree law no. 398/98, of December, 12 (General Tax Law), amended by the law no. 20/2012, of May, 14 (amending 2012 State Budget)

Ubiquitous Payment System

The Committee examined how the use of single pre-paid cards in some jurisdictions brought changes in the adoption of digital payments. Box 30 provides details about Octopus Card and T-Money pre-paid cards prevailing in Hongkong and South Korea respectively.

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Box 30

Octopus Card Payment System in Hongkong[a]

The Hong Kong Mass Transit Railway's Octopus card was launched in 1997. It was launched as an automatic fare collected scheme for mass payment for public transportation. Initially, it was used to pay for public transportation. In 1999, retail industry started using it as a payment means. Now it is being used at convenience stores, fast food restaurants, vending machines, cinemas, swimming pools, supermarkets, photo booths and other retail outlets. Furthermore, in 2009, the Government started using the Octopus payment systems by for parking payment system. Presently, Octopus card is one of the world's highest acceptance commercial smart card system covering 99% of the Hong Kong population. Over 32 million cards are in circulation with over 14 million transaction a day valued at over HK$180 million. It has covered a wide range of sectors - more than 19,000 retail outlets from over 8,000 service providers representing a wide range of sectors.[b]

T-Money in South Korea

T-Money was first launched in 2004 in South Korea to improve public transportation ticketing services. T-Money has been installed and operated by Korea Smart Card Co. (KSCC), a joint venture of Seoul Metropolitan City Government, LG groups, credit card issuers, and other financial investors.[c] It was introduced with the main purpose of facilitating fare transfers. Now, T-money can be used for commercial transactions in convenience and fast food stores, movie theatres, theme parks, museums, bookstores, universities, and theatres and at public facilities, including public parking garages, toll booths, and amusement or theme parks. Citizens can also use T-money to pay taxes and fines or to pay for other civic services. It is also used for other purposes including toll gate fee payment.[d]

[a] See, Asia Pacific Smart CArd Association, *Contactless Smart Card Schemes in the Asia Pacific Region*.

[b] See, Octopus Card, *Company's profile*.

[c] See, SiLu Liu, Yue Zhuo, "The Consumer Implication of the Use of Electronic and Mobile Payment Systems".

[d] See, The Information Technology and Innovation Foundation, "Contactless Mobile Payments".

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Ways for leveraging Unique Identification Number

In USA, the Social Security Number (SSN), a nine-digit number, was issued to U.S citizen as an identifier for individuals. This was first introduced as a device for keeping account of contribution to the Social Security System. Through the years, however, the use of this identifying number has been expanded by the government entities and the private sector to keep track of many other government and private sector records. Today, SSN is required to be furnished to obtain a driver's license, public assistance, donate blood, or take out a loan. Additionally it is used for filing tax returns in place of Tax Identification Number (TIN).[147] The provision which enables the use of SSN by the Government departments/agencies has been highlighted in Box 31

Box 31: *Section 205(c)(2) of the Social Security Act*[a]

It is the policy of the United States that any State (or political subdivision thereof) may, in the administration of any tax, general public assistance, drivers license, or motor vehicle registration law within its jurisdiction, utilise the social security account numbers issued by the Secretary for the purpose of establishing the identification of individuals affected by such law, and may require any individual who is or appears to be so affected to furnish to such state (or political subdivision thereof) or any agency thereof having administrative responsibility for the law involved, the social security account number (or numbers, if he has more than one such number) issued to him by the Secretary.

[a]See, Congressional Research Service, *The Social Security Number: Legal Developments Affecting Its Collection, Disclosure and Confidentiality*.

6.3.4. Options before the Committee

1. **Make Aadhaar as the first and primary ID for KYC for banking transactions for natural persons who do not have or is not required to obtain PAN**

   The RBI has issued consolidated directions on KYC for banking trans-

[147]See, Congressional Research Service, *The Social Security Number: Legal Developments Affecting Its Collection, Disclosure and Confidentiality*.

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actions.[148] As per KYC norms, PAN number is required for banking transactions.[149] When someone does not have a PAN number, then a Form 60 is required to be filled in.[150]

Rule 114B of the Income tax Rules requires a person to quote his PAN for the transactions specified under that rule. For example, with the exception of JAN Dhan Accounts, a person is required to quote his/her PAN or in the absence of PAN, Form 60, for opening a savings or current account. The Committee had a detailed discussion on this issue. The Committee observes that total number of individuals holding PAN card in the country is less than 25 Crores (Crs), whereas today more than 108 Crs people have been issued Aadhaar.[151]

The Committee recommends that mandatory quoting of PAN in respect of transactions referred to in Rule 114B of the Income Tax Rules, 1962 should continue in respect of all category of persons having PAN. However, in case of natural persons who do not have PAN or are not required to obtain as per provisions of section 139A of Income Tax Act, 1961 quoting of Aadhaar in respect of transactions specified in Rule 114B may be mandated by amending the said rule. Moreover, opinion of Attorney General may be obtained before carrying out the proposed amendment.

2. **eKYC with Aadhaar registered mobile number and OTP authentication to be allowed in addition to biometric based authentication**

The existing KYC norms have accepted e-KYC service as a valid mode of KYC verification under Prevention of Money Laundering (Maintenance of Records) Rules, 2005. This allows consumers to use Aadhaar for KYC purposes. In this regard, a customer is required to authorise the UIDAI to share the details with service providers. The present law prescribes that such authorisation can only be provided biometrically to UIDAI. It

[148] See, Reserve Bank of India, *Master Direction - Know Your Customer (KYC) Direction, 2016*.

[149] Direction 67 states that PAN of customers shall be obtained and verified while undertaking transactions as per the provisions of Income Tax Rule 114B applicable to banks, as amended from time to time. Form 60 shall be obtained from persons who do not have PAN. See, Reserve Bank of India, *Master Direction - Know Your Customer (KYC) Direction, 2016*.

[150] See, Submission dated 07-11-2016 by UIDAI

[151] See, Submission dated 03-10-2016 and 07-11-2016 by CUTS International and UIDAI.

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was pointed out that biometric based verification requires availability of internet and high quality machine capable of capturing biometric details of customers, thus the technical requirement make it contingent. The submission made in this regard has been highlighted in Box 32

Box 32: *Submission on OTP based e-KYC*

The UIDAI has in-built processes to take express customer consent through OTP sent on registered mobile number of Aadhaar card holder. This facility is allowed by other financial regulators (Securities and Exchange Board of India, Pension Fund Regulatory and Development Authority) and they do not necessarily require in person verification for small value transactions. Similar relaxations can be provided for opening of small value accounts by RBI, such as accounts with payments banks, which have end of day limit of Rs. 100,000.[a]

[a]See, Submission dated 03-10-2016 by CUTS International

The Committee examined the above mentioned issue and problems pertaining to it. The UIDAI has been equipped to authenticate the identity using a OTP sent to the registered mobile number or e-mail address.[152] In this regard, the Committee recommends that customer consent should be allowed through OTP route in electronic KYC with certain safeguard clauses including transaction limits.

3. **Consider allowing Aadhaar to be used for filing tax returns by natural persons who do not have PAN**

The present regime requires quoting of PAN while filing tax returns. It was brought before the Committee's notice that in USA, tax returns can be filed with Social Security numbers alone without quoting TIN number. In 1962, US amended its Income Tax laws to allow Social Security number to be used in place of Tax Identification Number.[153]

The Committee considered the suggestion that CBDT and UIDAI jointly as an initial step develop a consultation paper to discuss mechanism for enabling this. This might be useful to evaluate if people could file income tax returns on the basis of Aadhaar number alone. However

[152]See, Unique Identification Authority of India, *Aadhaar E-KYC Service*.
[153]See, Submission dated 07-11-2016 by UIDAI

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CBDT submitted that the same may not be practical as currently there are only 5 Cr tax assesses even though nearly 25 Cr PAN have been issued. Further, the case for someone having an Aadhaar but not having a PAN requiring to file an income tax return is unlikely. Moreover, enabling this would require building of further data requirement over Aadhaar as the information based on Aadhaar be insufficient for tax purposes. Accordingly, the Committee decided against making any recommendation on this point. Additionally, the Committee is of the view that further detailed deliberations are required so as to bring out optimal strategy on this issue.

However, the Committee recommended that in respect of natural persons Aadhaar may be required to be compulsorily quoted while furnishing Income Tax returns. However, opinion of Attorney General may be obtained before carrying out the proposed amendment.

4. **Limit the information in CKYCR template to customer identity and address**

   The present framework requires service providers to record the customer details in template prescribed by the CKYCR, a central repository of customer records. The template requires submission of unverifiable details like names of both spouses and occupation of the customer. This requirement increase inconvenience and cost for consumers.[154]

   The Committee looked into these issues and is of the opinion that requirements which do not have any substantial impact and puts extra burden on the customers while authenticating their identities should be relaxed. The Committee is of the view that it should be left to the service providers to decide whether the particular information is of any importance to authenticate the identity of the customer. If the service provider thinks so, then they should be empowered to require additional details from the customers. Thus the Committee recommends this will require amendment to CKYCR template.

5. **Allow submission of KYC documents by customers to service providers through digital modes**

[154] See, Submission dated 03-10-2016 by CUTS International

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As per the CKYCR Operating Guidelines 2016, service providers are required to scan and submit relevant proofs, photographs and signature specimen of customers with the CKYCR.[155] As a result, the service providers insist the customers to submit physical documents and two photographs.[156]

The Committee finds that this requirement increases customer acquisition cost which indirectly affects the prices of the services offered by the service provider. In this regard, the Committee recommends that this requires amendments to clause IV(B) of CKYCR Operating Guidelines, 2016.

6. **Acquisition of small merchants**

The issue with respect to enabling small merchants to receive payments digitally was brought to the notice of the Committee. In the present framework, a merchant is required to open a current account to obtain a POS machine. In order to open a current account, the current KYC norms require furnishing of proof of identity and address of an individual representative of the business along with relevant registration/ tax related documents with respect to such business. Owing to their informal nature, most small merchants do not possess business related documents. Unavailability of such business documents impedes ability of small merchants to benefit from formal financial system, despite service providers having the capability to monitor account activity and track transactions, thus reducing the potential risks involved. Consequently, small merchants must be allowed to open small value current accounts, such as current accounts offered by payments banks, on basis of individual KYC.[157]

The Committee took cognisance of this issue and is of the view that small merchants face a problem in opening a current account in the absence of valid KYC documents. The Committee is of the view that small merchants find difficult to get the papers to meet the KYC requirements which are a prerequisite for accepting digital payments. The Committee believes that the need for flexible KYC requirements is especially acute for informal

[155] Clause IV(B) of the CKYCR operating guidelines states that the data captured as per the common KYC template is to be uploaded on the Central KYC portal along with the scanned copy of the supporting documents (PoI/PoA). For an individual record, the signature and photograph is to be cropped separately and uploaded.
[156] See, Submission dated 03-10-2016 by CUTs International
[157] See, Submission dated 03-10-2016 by CUTs International

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merchants to access formal financial services.

The Committee recommends that like payment banks, small merchants should be allowed to open small value current accounts on the basis of individual KYC. This will require amendment to RBI Master Direction on KYC and RBI guidelines on payments banks.

7. **Accelerate deployment of Aadhaar enabled acceptance network**

In the light of substantial increase in number of Aadhaar card holders, in 2013, the RBI advised all the banks to deploy Aadhaar enabled acceptance infrastructure.[158] In 2016, another circular was issued advising banks to deploy all acceptance infrastructure to be Aadhaar enabled from January 1, 2017[159] which has been further extended till June 30,2017[160]. It has come to the Committee's notice that over 33 Cr Aadhaars have been linked to unique bank accounts on NPCI mapper and therefor holders of these Aadhaar numbers can do banking transactions through Aadhaar enabled acceptance network.[161] It has been submitted that Aadhaar based Micro-ATM working with a fully interoperable AEPS or UPI system at the back can dramatically change the way people pay at the merchants, shops, and various Government touch points. RBI has already done studies and Government of AP has already conducted pilots for people to pay at the PDS shops using Aadhaar enabled PoS/Micro-ATMs.[162] In this regard, the Committee is of the view that deployment of Aadhaar POS/Micro-ATM devices should be accelerated as it would enable a large population with Aadhaar to transact digitally.

8. **Full OFF-US and authentication modes support within AEPS**

AEPS is emerging a truly inclusive system over the last few years. AEPS allows a bank customer to use Aadhaar as an identity to access his/ her respective Aadhaar enabled bank account and perform basic banking transactions like balance enquiry, cash deposit, cash withdrawal, remittances

[158] See, Reserve Bank of India, *Security and Risk Mitigation Measures for Card Present Transactions*.
[159] See, Reserve Bank of India, *Aadhaar-based Authentication for Card Present Transactions*.
[160] See, Reserve Bank of India, *Aadhaar-based Authentication for Card Present Transactions*.
[161] See, Submission dated 21-11-2016 by UIDAI
[162] See, Submission dated 21-11-2016 by UIDAI

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through a Business Correspondent[163].[164]

It has been brought in the Committee's notice that till recently, more than 60% of OFF-US AEPS transactions [165] were failing, whereas in OFF-US ATM transactions, failure rates are only in the range of only 10%. Apart from this, currently AEPS supports only fingerprints based authentication. [166]

In this regard, the Committee is of the view that a reliable OFF-US AEPS system is necessary for business correspondents to deliver services at the last mile. The Committee recommends that in order to fully leverage its potential, AEPS system need to support all modes of Aadhaar authentication including iris and OTP and also support full OFF-US transactions across all players. The Committee recommends that the RBI should mandate that NPCI, banks, e-wallets providers enable this as early as possible.

9. **Promote USSD based payments**

USSD based mobile banking service enables a customer to access financial, non-financial and value added services by dialling from his/her mobile registered with the bank. This service enables a customer to transfer fund from person to person, person to Account etc. and to check balance of the bank account, generate mini statement etc. Recently, the TRAI issued a circular bringing down the charges per USSD session for mobile banking and payment service from earlier rate of Rs 1.50 to Rs. 0.50 per USSD session.[167] Presently, customer is charged for the service irrespective of the fact whether a person is able to complete his transaction or not. Currently, the failure rates for these USSD service are as high as 50 percent. This issue was addressed in the recent notification passed by the TRAI wherein it was decided that deciding on the "attributability" is difficult and complex as a USSD based session has many points of failures which

[163] Business Correspondent (BC) is an approved Bank Agent providing basic banking service using a MicroATM (terminal) to any bank customer wishing to avail their bank BC service.
[164] See, Submission dated 21-11-2016 by UIDAI.
[165] An OFF-US transaction is one where there is movement of funds from one bank to another necessitating an interbank settlement. Customer can approach other Bank terminals for availing AEPS Service.
[166] See, Submission dated 21-11-2016 by UIDAI.
[167] See, Telecom Regulatory Authority of India, *The Telecommunication Tariff (Sixty First Amendment) Order, 2016*.

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are beyond the telecom network or control of telecom service providers and in many cases, the telecom service providers does not have information about the failures caused at the bank/NPCI level.[168]

In this regard, the Committee is of the view that USSD can be used by consumers who do no have smart phones and internet access for various digital services. The Committee is of the view that low income segment be encouraged to adopt USSD based financial services. With respect to failure rates, the Committee recommends that RBI and TRAI should jointly set up a mechanism to ensure that the failures rates on such transactions are brought down to acceptable level and responsibility for such failures to be affixed.

10. **Eliminate import duties for POS terminals**

The issue with respect to import duties levied on POS terminals were placed before the Committee. The issue has been highlighted in Box 33

Box 33: *Submission on elimination of import duties on POS terminals*

The current import duty leads to a 17.6% additional cost to POS terminals landed costs. A submission was made that an incentivised import duty structure has the potential to generate acquirer savings which can be utilised for acceptance development. It has also been submitted that this will lead to additional 2% growth in terminals every year lifting the total market growth rate to 17% from 15% currently.[a]

[a]See, Submission dated 11-10-2016 by MasterCard

The Committee recognises the fact that India has one of the lowest number of POS terminal per million people in the world as reflected in Box 6.7. In this backdrop, the Committee is of the view that reduction in import duty will make terminals affordable for the acquiring banks. The Committee take cognisance of the fact that there are other problems which act as barriers in deployment of acceptance infrastructure but this small step will help in bring down the expenditure incurred by the acquiring banks in building acceptance infrastructure.

[168]See, Telecom Regulatory Authority of India, *The Telecommunication Tariff (Sixty First Amendment) Order, 2016*.

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11. **Nominal tax and Surcharges for cash**

The issue of disincentivising the cash transaction was put forth before the Committee. It has been submitted that high value transactions in cash should be charged with a nominal tax. Charging such a levy would act as a disincentive for use of cash and push people towards cash-less medium.[169] Additionally, there should be a monthly or quaterly or yearly cash limit on the cash transactions and nominal charge should be levied if cash transactions go beyond the limit.[170]

The Committee looked into this issue in detail. The Committee recommends that cash transaction should be disincentivised by imposing nominal charges after a certain limit. Additionally, the Committee suggests that consumer payments to Government department/utilities can be a good starting point for such handling charges.

12. **Two factor authentication optional for card not present transactions**

It has been observed that for everyday payments of consumers that are of smaller transaction value, cash continues to dominate due to its ease of use. In 2015, the RBI relaxed the two-factor authentication process for small transactions valued under Rs. 2000/-. However, this relaxation is only for cases where the card is present. The suggestion was placed before the committee that relaxation should be extended to for card not present transaction upto a transaction value of Rs. 2000/-.[171]. In this regard the Committee received a submission which has been highlighted in Box 34.

With respect to the issue mentioned above, the Committee has observed that recently the RBI has issued a circular wherein additional factor for authentication for card not present transactions has been relaxed for payments upto Rs. 2000/-.[172] The Committee believes that this move

[169] See, Indian Post Payments Bank, *Comments for the Committee on Digital Payments to consider from the India Post Payments Bank (IPPB)*.

[170] See, Indian Banks Association, *Suggestions to Committee on Digital Payments*.

[171] See, Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*.

[172] See, Reserve Bank of India, *Card Not Present transactions - Relaxation in Additional Factor of Authentication for payments upto 2000/- for card network provided authentication solutions*.

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Box 34: *Submission on two factor authentication*[a]

- For single transaction: Relax second factor authentication for card not present transactions.
- For recurring transactions: First transaction through 2FA and subsequent transactions exempt from 2FA subject to consumer consent and periodic or risk bases re-authentication.

[a]Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*.

will make small value digital transactions convenient. The Committee is of the opinion that authentication framework should be designed keeping value of transactions into account.

13. **Roll-out of DCB facilities**

It was placed before the Committee whether telecom entities be permitted to roll out the DCB payment model? The concept of DCB and legal impediments in rolling it out have already been pointed and discussed in section 6.1.2.3, but in short, DCB allows anyone with a mobile phone to buy goods and services using only their cell phone number, with the purchase costs being added to their cell phone bill. The present legislation does not permit DCB payment model.

As of August 2016, there were 931 million active mobile subscriptions in India, which is over 74% of India's population, whereas 52.8% of the population had access to accounts in financial institutions as of 2014.[173] On the basis of this fact, the Committee believes that mobile accounts have a potential to provide a platform for all possible financial transactions. The Committee is of the opinion that mobile can be a platform for those who do not have bank or credit accounts. The Committee noted that

[173]See, Telecom Regulatory Authority of India, *Press Release - Highlights of Telecom Subscription Data as on 31st August 2016*, The TRAI data on telecom subscriptions as on 31st August 2016, indicates 1028.88 million wireless telephone subscriptions, out of which 931 million were active. This translates to 82% mobile penetration, which however does not account for instances of multiple subscriptions held by one person. *World Bank International Findex Data (2014)*.

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earlier the concept of carrier was limited to the purchase of ringtones and wallpapers etc., but now it has a reached a phase where it allows a consumer to purchase goods and services by using mobile phones in a smooth and user-friendly manner. Additionally, DCB can help in financial inclusion by reaching the unbanked and underbanked.[174]

DCB is usually aimed at low-value micro-payments and is offered to account customers as an alternative to a credit card.[175] It is also offered as an alternative to credit and debit card payments for online purchases in some markets. This has the advantage of convenience for users by adding the charge to the phone bill, and by removing the need to register a credit card on the site for what may be a onetime purchase.[176] The Committee recommends that telecom companies be permitted to roll out DCB payment model for low value payments.

14. **Government Payments**

The Government stands out as a service provider in as much it is the public's necessity to interact with it. The approach taken by private service providers is to undertake a constant process of development to increase their productivity and efficiency. However, the Government entities mostly function in the traditional way. The Committee is of the view that there exists numerous forms of Government transactions that still subscribe to the traditional method of accepting payments. The majority of the consumer market is unaware of the online method that exists. Further, additional fees attached to such online transactions make them an expensive alternative for the common man. The traditional method of receiving and disbursing payments consume far greater time and resources to be processed and completed. On the other hand, digital payment remains to be a faster option that leads to a substantial saving in costs over the long run. The Committee is of the view that despite the Government's existing efforts to address the needs of digitally engaged citizens, there exists sufficient room for improvement on many unexplored areas. Developing the system of digital payments can be a way for the Government to realise this untapped potential. Undertaking the same will improve transparency, accountability and traceability in the

[174] See, Juniper Research, "mPay, mShop, mTransfer".
[175] See, Juniper Research, "mPay, mShop, mTransfer".
[176] See, Juniper Research, "mPay, mShop, mTransfer".

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Government payment system. Even taking into account the cost aspect, the said method will be much more cheaper than the traditional forms of transactions.

To leverage existing e-Payment mechanism to collect non-tax receipts

The Committee noted that some measures have already been taken in terms of government payments. The Committee observed that PAYGOV is a common infrastructure that can be used by Centre/State/Departments to offer various services through their national/state portals with a facility to make online payment using net banking, credit cards and debit cards. Till date, 64 departments/agencies are associated with transaction worth Rs. 2620.04 Cr.[177] In addition to this, BharatKosh, an Non-Tax Receipts Portal is the initiative of CGA, Ministry of Finance to provide one stop services to deposit any fees/fines/other money into the Government Account.[178]

Non-Tax Receipt Portal (NTRP) is being rolled out in various ministries and as of now (till 10 th November 2016) Rs. 77394 crores have been collected for 18 ministries/departments via online mode through NTRP in current financial year (FY 16-17). This is nearly 41% of the total Non-tax revenue collected so far in FY 16-17 (188467 crores). [179] In furtherance to this, e-Kuber is a core banking solution of RBI. e-Kuber provides the provision of a single current account for each bank across the country, with decentralised access to this account from anywhere-anytime using portal based services in a safe manner.[180]

It was submitted that the complete roll out of any of the applications/modules is dependent on the role played by different key stakeholders. The Committee observed that although instructions have been issued by Budget Division regarding complete roll out of NTRP, very few ministries/departments have completed the background work necessary at their end for collecting NTR receipts in online mode. Consequently, even though NTRP is tech-

[177] For details, see http://meity.gov.in/content/faq-paygov-india
[178] For details, see https://bharatkosh.gov.in/static/FAQ.aspx
[179] See, Submission dated 10-11-2016 by Public Financial Management System, Controller General of Accounts
[180] For details, see https://www.rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=14283

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nologically ready to receive online NTRs for all ministries/departments, the actual footprint in this regard is small.[181]

In this backdrop, the Committee is of the view that the facilities provided by PAYGOV and BharatKosh appear to be overlapping as both seems to accept non-tax receipts. Therefore, the Committee recommends that mechanism should be developed wherein any payment with respect to Non-Tax Receipts should be directed to the BharatKosh portal. The Committee recommends that broad instruction and deadline for integration should be given to all the ministries collecting non tax receipts and all the departments should be given the deadline to enable e-payment mechanism.

Government to bear cost of online transaction while acting as a merchant

The Committee is of the view that the Government needs to actively place measures that contribute towards creating a conducive and enabling environment across the country for digital transactions. The Government needs to incorporate the system of electronic payments by enabling acceptance infrastructure at Government departments and agencies. These institutions should be able to receive payments that are made to the Government in different forms and disburse social benefits to the receivers' accounts digitally. As an additional measure, the Committee recommends that cash payments to the Government above a specified threshold should be disallowed. Further, the surcharge or convenience fee that is charged in online transactions should be done away with.

Government departments/agencies to enable at least one alternative digital payment mode

With respect to usage of cheques, the Committee is of the view that cheques are a very expensive instrument, yet Government departments/agencies uses cheques for a range of reasons. In this regard, the Committee is of the view that Government departments/agencies should not insist on cheques and allow for at-least one alternative digital payment system. In addition to this, the cost of cheques should be unbundled, should not be absorbed

[181] See, Submission dated 10-11-2016 by Public Financial Management System, Controller General of Accounts

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in the system, and should be visible and comparable against the cost of electronic transactions. It was submitted before the Committee that currently, taxes can only be paid using net banking due to the manner in which payment systems are designed. In this regard, the Committee is of the view that consumers should be given facility to pay taxes and other payments using debit cards and digital wallets, in addition to net-banking.

Receipts and payments of Government

The Committee observed that recently the Government instructed Directorate General of Supplies and Disposal (DGS&D) to create a one stop Government e-Marketplace (GeM) to facilitate online procurement of common use Goods and Services required by various Government departments/organisations/PSUs. The Committee is of the view that in order to bring about cash-less economy and encourage digital receipt and payment, it is important to start with receipt and payment of Government. This will not only make procurement transparent and efficient, it will also reduce costs to Government substantially. Box 35 highlights issues with respect to receipt of Government based on the submission given by DGS&D

Based on the submission, the Committee believes that registration receipt which is a Non-Tax Revenue, may be realised through electronic receipt from the stake holders. Provision may be made for payment by vendors/stake holders through internet banking or other digital means. The Committee noted that DGS&D/GeM has already made it mandatory for supplier to make payment of their registration fee through electronic mode. For this purpose, DGS&D has integrated DGS&D/GeM portal with SBI Multi Option Payment System wherein a prospective supplier can make registration fee through SB MOPS using its internet banking/NEFT/debit card/credit card.

Additionally, at present, receipt of e-performance bank guarantee may not be possible because for each bank guarantee, State Government charges some stamp duty which varies from State to State. Moreover, unless State Government. has made itself ready for receipt of electronic stamp duty against bank guarantee, issue of e-bank guarantee may not be feasible. The Committee believes that for digitisation of Earnest Money Deposit, Government departments/DGS&D should use the Applications Supported

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Box 35: *Issues with respect to receipt of Government*[a]

- **Registration of Vendors**: Generally, for procurement of goods and services including works, Government departments enter into the contract only with the registered vendors/suppliers/contractors etc. For registration, Government takes fee from the suppliers/contractors which is called Registration Fee. This registration fee at present is taken in the form of demand draft payable to Government account.
- **Sale of Tender**: Currently, tenders are invited through electronic mode and suppliers are paying a e-bidding fee through non refundable demand draft.
- **Performance Bank Guarantee**: As per Rule 158 of *General Financial Rules, 2005*, Performance Security (5-10% of the contract value) in the form of demand draft/FD/Bank Guarantee is to be obtained from the successful bidder to ensure due performance of the contract and to safeguard buyer interest in all respect. Performance security should remain valid for a period of 60 days (from the date of completion of all contractual obligations of the supplier including warranty obligation).
- **Earnest Monet Deposit**: All the tenderers at present have to deposit earnest money along with their quotation as security money for tender. Currently, in most of the cases EMD is received in the form of bank draft/FDR.

[a]Directorate General of Supplies and Disposal, *Note on Digital payment from procurement/GeM perspective*.

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by Blocked Amount (ASBA) mechanism for collecting Earnest Money Deposit.[182] The Committee recommends that for all tenders, supplier should pay Tender Fee through electronic mode. For this, e-tendering portal should have integration with the banker for realising the payment.

With respect to payment by the Government, it was submitted to the Committee that currently, all head of the office/Head of the Departments are maintaining some imprest amount in cash form as per provision of the Rules. This imprest amount is kept by the HOD/HOO in cash with cashier of the organisation. Based on the submission received by DGS&D, the Committee is of the view that for digitisation of imprest amount, HOD may be allowed to avail the facility of corporate card. Corporate card has the following features:

- Simplifies high volume, low value transactions, greatly reducing processing time and paperwork and environmental impact.

- Meets prompt payment requirement with suppliers being paid instantly/within set time line. The Government buyers can meet the supplier payment deadline without losing interest on deposits (Treasury savings).

- Management reports for visibility, transparency and accountability. Cards Co. online tools will enable the buyer the track purchasing activity through customized reports. Extract data about who is spending what, where and with whom.

- Multi-Layer Spend control functionality provides safeguards of restricted merchant categories usage, differentiated purchasing authority to staff, monthly credit limits.

[182] ASBA (Applications Supported by Blocked Amount) is a process developed by the India's Stock Market Regulator SEBI for applying to IPO. In ASBA, an IPO applicant's account doesn't get debited until shares are allotted to them. ASBA is an application containing an authorization to block the application money in the bank account, for subscribing to an issue. If an investor is applying through ASBA, his application money shall be debited from the bank account only if his/her application is selected for allotment after the basis of allotment is finalized, or the issue is withdrawn/failed. ASBA is stipulated by SEBI, and available from most of the banks operating in India. This allows the investors money to remain with the bank till the shares are allotted after the IPO. Only then does the money transfer out of the investors account to the company. This eliminates the need for refunds on shares not being allotted.

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- Reduced cost & time of processing invoices.

Box 36: *Process Flow of Card Payment System*[a]

- Card Co will issue the Government Procurement Credit cards to the Departments.
- The Government officer will go online/ physical shops and purchase goods and services as per his requirement.
- Cards co. make payment to the suppliers on buyers behalf. The buyer then makes a single payment to Card co at the agreed time.
- Card co will also offer the government buyer the credit period and rebate or a combination of rebate and credit period

[a]See, Directorate General of Supplies and Disposal, *Note on Digital payment from procurement/GeM perspective*.

It has been submitted to the Committee that above model (See Box 36) is already available in Government Procurement model in United States of America General Service Agency (GSA). The GSA programme was established in the year, 1949 to streamline the administrative work of the federal government By 1980, the programme was facing challenges with regard to delay in supplier payments. A new law was enacted, which made it mandatory for all government buyers to make payment within 30 days. In 1984, the federal government allowed the use of Procurement Cards to ensure timely payments are processed to the suppliers Today, the GSA Smart Pay programme has more than 3 million card holders. The procurement cards were primarily introduced to ensure that the buyers are able to meet the requirement of processing supplier payments in a time bound manner. The government buyer also get interest free credit period and rebate from the card issuing bank.[183]

Based on the submission, the Committee is of the view that once the HOD is provided with corporate card (prepaid/post paid) with prescribed limit , then HOD can further delegate authority of expenditure of imprest amount to various Divisions/Directorates for making payment of their respective petty expenses to supplier of snacks/lunch/stationery etc through e-Wallet.

[183]See, Directorate General of Supplies and Disposal, *Note on Digital payment from procurement/GeM perspective*.

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Based on the submission, the Committee believes that to achieve complete of digitisation, General Financial Rules has to be amended in terms of payment mode. Wherever the payment mode is mentioned in term of cheque/demand draft/postal order/FD and NSC etc. including paper bank guarantee same is to be replaced with e- payment mode which may be in form of INB/NEFT/Cards/e-Wallet, UPI, etc . Similarly, in *Central Government Account (Receipts and Payments) Rules, 1983* provision is to be inserted for issuing corporate card to HOD for charging of e-wallet of end user. It is to be recalled that imprest amount is generally used for payment of petty expenses and bills are settled in OE and other Heads. A simple modification in *Central Government Account (Receipts and Payments) Rules, 1983* and *General Financial Rules, 2005* will make this payment process effective, efficient and transparent. Moreover, once this is implemented it will reduce expenditure substantially owing to instant payment to suppliers. Amendment to *Central Government Account (Receipts and Payments) Rules, 1983* also needs to be done to ensure payment based on digitally/e signed documents instead of ink-signed documents required presently

Digital payment for small value transactions

The Committee believes that digital payment for small ticket transactions should be encouraged as it touches the lives of people everyday. In this regard, the Committee observed that government departments/agencies contract out with private service providers in relation to provision of various goods and services that include service contracts, concessions etc. These contract could be pertaining to parking facility, toll facility across the country or health services at government hospitals/health centers. The Committee believes that enabling an option of digital payment at these facilities would make small ticket transactions convenient to consumers and would bring behavioural change as well. The Committee is of the opinion that framework should be focussing on recurring transactions instead of bigger value transactions. In this regard, the Committee recommends that all Government department/agencies, while contracting out, should require vendors to provide a convenient digital payment options to consumers.

Additionally, the Committee observed that there is a lack of a measurable target for tracking progress on digital payments in India. There is an acute lack of reliable data relating to digital payments and a lack of definitional

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clarity on what constitutes digital payment. The Committee is of the view that a comprehensive metric to quantitatively measure and monitor the enhancement of digital payment service in India should be developed. This would entail categorically defining the scope of digital payment services, and identifying the various strategies required to objectively improve the digital payments ecosystem.

15. **Incentives**

It has been placed before the Committee that in order to encourage adoption and usages, some kind of incentives should be provided to the merchants as well as to the card-holders. The Committee received various submission on this issue and the same has been highlighted in the box

Box 37: *Submissions received on incentives issue*

- Merchants
  - Provide frequently transacting merchants with exclusive gifts and rewards to encourage card acceptance among merchants/Commercial establishments.[a]
  - Incentive in the form of lucky draw, free insurance may be given by the government to merchant in lieu of savings from less cash printing in the economy and any other funding that the government provides for this purpose.
  - These benefits could either be in the form of reduction/exemption of service tax, value added tax or tax-free holidays.
  - Additional taxes or levies collected on cash transactions.
- Customers
  - For every transaction through electronic mode, loyalty points/vouchers can be given as an incentive to the customer. The customer can redeem these vouchers at select merchants.
  - The income tax rebates can be provided in case the amount of expenditure spent via electronic mode in a financial year exceeds a certain amount of consumers total income.
- Merchant acquirers
  - Provide tax rebates to acquirers /manufacturers on capex for merchant terminalization. Special direct tax benefits & reduction of import duty on POS to all players engaged in PoS acquiring/deployment business to encourage increasing merchants accepting the digital payments can be considered.

[a]See, Centre for Digital Financial Inclusion, *CDFI Recommendations for Watal Committee on Digital Payments*; Indian Banks Association, *Suggestions to Committee on Digital Payments*; Master Card, *Incentives to Create a Less Cash Economy*.

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The Committee had a detailed discussion on the submissions received and global best practices followed by the various countries in order to incentivise adoption and usages. The Committee is of the opinion that there can be two kinds of incentives; monetary incentives and non-monetary incentives which the Government can provide to incentivise digital transactions. The Committee is of the view that currently, the cost of cash transactions are being borne by the Government. If the payment transactions are digitalized, Government would benefit from the same. Hence the Government should use a small portion of the cost, which it would have incurred upon itself had it been a cash transaction, to subsidise the digital transactions. The Committee is of the view that the Government should incentivise higher usage of digital payments among financial and socially excluded group. This could be done by incentivising extension and greater usage of Jan Dhan Accounts for digital payments, above certain threshold levels, by more vulnerable communities/individuals.

Additionally, any kind of subsidy in the form of incentives should flow directly from the Government as the Government is going to be the largest beneficiary in this system. Instead of providing tax benefits, the Committee is of the view that incentive should be in the form of cash back or a discount on price be provided on purchases which are made at a Government run cooperative store or a fair price ship or a Government run public utility.

The Committee take cognisance of the fact that the eco-system for digital payment and the spectrum of consumer is very extensive, segmented and diverse. In this regard, the Committee is of the view that a ranking framework may be developed across key institutions to recognise their performance and motivate them to do better. Box 38 explains the recommendations for strengthening inclusion in detail. Additionally, if any district or a state ensures higher threshold digital payments, the same should be recognised. In addition, Government agencies and departments should audit their processes and quantify the implicit costs that they incur (manpower, logistics, etc.) in dealing with cash. They should devise processes to capture the savings in costs when their processes are migrated to digital payments. It is quite possible that the net costs might turn into net benefit or at-least be a worthwhile investment in terms of efficiency gains and convenience.

16. **Access to non-traditional data**

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Box 38: *Recommendation for Consideration for Strengthening Inclusion*[a]

Creation of a Digital Payments Incentive Fund

In the upcoming Union Budget 2017-18, a new Digital Payments Incentive Fund should be created resourced from the savings generated by the Central Government from the movement towards less cash. This may be called DIPAYAN or Digital Payments Action Network, also meaning light of a lamp. Using the trinity of JAM (Jan Dhan, Aadhaar, Mobile) it will link financial inclusion with social protection, contributing to improved social and financial security and inclusion of vulnerable groups/communities. The fund would be used to-

- Promote public education and acceptance of digital payments
- Incentivise higher usage of digital payments among financially and socially excluded groups.
- Incentives may also be considered for Women's Self Help Groups (Under National Rural Livelihoods Mission), women reached through MGNREGA and for women functionaries at grass roots level which include women school teachers, women health activists and functionaries and ICDS anganwadi workers, helpers and supervisors.

Ranking Framework and Digital Payment Awards

In the upcoming Union Budget 2017-18, awards for promoting digital payments may be instituted as outlined below:

- **Government Payments**: Awards could be instituted across key institutions and within key institutions making effective transition to "less-cash" or more digital payments. Institutions include for instance the railways.
- Awards may be designed for the best performing state, or the best performing district, within the state, in terms of ensuring higher threshold levels of digital payments with higher outreach to and participation of disadvantaged community groups.

[a]See, Deepika Srivastava, *Recommendations for Consideration for Stengthening Inclusion*.

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Non-traditional data refers to any data relating to a consumer or a commercial entity which captures the behavioural and payment patterns and could reside within credit institutions, public database or other companies.[184] The existing framework defines type of information generally be collected by a Credit Information Company (CIC). Current regulations allows CICs to collect information pertaining to loans and advances, nature of security taken by the credit institutions, overdraft, credit cards etc. The information is usually used by insurance companies, telecom companies, asset reconstruction companies etc. In the present framework, CICs do not have access to alternate data. The current regulations do not allow CICs to use non-traditional credit data in preparation of a credit report. This limits their ability to analyse the behavioral pattern and payment capacity of any individual.

Table 6.9.: *Traditional and Non-Traditional Data*

Traditional Data	**Non-Traditional Data**
Credit Cards	Electricity Bill
Personal Loan	Water Supply Bill
Micro-Lending	Telecom Bill
Overdraft	Insurance

In this regard, Credit Information Bureau (India) Limited shared its view on the above mentioned issue that the inclusion of these data sources will provide information on behaviour of people who are not part of the formal credit or financial system but have built a pattern of transactions on these utility payments. This information will enable the government and financial institutions to know these "unbanked" consumers better and channel access to finance to the deserving consumers thereby driving financial inclusion. The inclusion of these data sources will provide a complete consumer-centric view to enable individuals and companies (not limited to credit institutions) complete access to information to make faster and efficient decisions.[185]

The Committee is of the view that non-traditional credit data can play a

[184] See, Credit Information Bureau (India) Limited, *Impact of CIBIL on Financial Inclusion, Steps for Enlarging the Scope of Function of Credit Information Companies*.

[185] See, Credit Information Bureau (India) Limited, *Impact of CIBIL on Financial Inclusion, Steps for Enlarging the Scope of Function of Credit Information Companies*.

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vital role in digital lending in the future. The Committee believes that non-traditional data i.e. electricity payments, mobile recharge payments etc will help analyse the behavioral pattern and payment capacity of any individual. Furthermore, this will help in taking instant decision whether to provide credit to a person or not. In the light of the fact that low-income families at times, have no credit file or thin credit, the Committee is of the opinion that access to non-traditional data will largely help in serving the credit facility to low-income families. Additionally, this would benefit lenders to analyse and to extend the credit to those who were previously viewed as too risky. The Committee is of the opinion that recommends that the existing framework did not envisage the role of non-traditional credit data in preparation of a credit report at the time of enactment but now the need has arisen where non-traditional credit data can play a vital role.

17. **Electronic Transaction Charges**

In the present card eco-system, there are various stakeholders- cardholder, issuing bank, merchant, Acquirer and card scheme. Issuing banks issue cards to their customers for making payments. The acquirer banks provides POS terminals to the merchants to accept cards. The card scheme provides the interconnect between issuing banks and acquiring banks, so that a merchant can accept a payment from any cardholder. The fee charged by the acquirer to the merchants is called the MDR. The fee paid by the acquirer bank to the card issuer bank is called interchange fee. The fee paid to the card scheme which facilitate payments is called scheme fee.

One of the major issues placed before the Committee was to examine the existing MDR regime. In this context, two issues were raised before the Committee; one was to further reduce the current MDR and the other was, to regulate the interchange fees as the current MDR favours the issuing banks and making the business of the acquiring unviable.

In the present framework, the MDR cannot exceed 0.75% for transactions amount for value up to Rs. 2000 and 1% for transactions amount for value above Rs. 2000/-.[186] The present statistics suggest that capping of MDR has slowed the growth of deployment of POS terminals.

[186]See, Reserve Bank of India, *Concept Paper on Card Acceptance Infrastructure*.

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It was placed before the Committee that the merchants and the acquirers do not have a feasible and highly scalable model to support the digital payments due to high interchange fees. It was pointed out the fee distribution of MDR is in favour of issuing banks in case of debit and credit cards which is impacting the viability of acquiring business and indirectly leading to sub-optimal outcome in growing the payment acceptance.[187] Box 39 explains breakup of acquirer gross margin.

Table 6.10.: *Breakup of acquirer gross margins**

Type of transaction	**% of transactions value by value**	**MDR charged to merchants**	**Issuer interchange fees**	**Scheme fees**	**Acquirer gross margin**
Debit Regular $\lesssim$ INR 2,000	20%	0.75%	0.50%	0.07%	01.8%
Debit Premium $\lesssim$ INR 2,000	15%	0.75%	0.65%	0.07%	0.03%
Debit Regular $>$ INR 2,000	10%	1.00%	0.75%	0.07%	0.18%
Debit Premium $>$ INR 2,000	10%	1.00%	0.90%	0.07%	0.03%
Prepaid	5%	1.00%	1.85%	0.07%	0.92%
Credit Regular	10%	1.30%	1.10%	0.07%	0.13%
Credit Premium	25%	1.90%	1.80%	0.70%	0.03%
Credit Corporate	5%	1.90%	2.00%	0.07%	0.17%

*Source: See, submission dated 28-10-2016 by Payment Council of India

The Committee had a detailed discussion on the above mentioned issues. The Committee believes that more merchants would accept cards if more customers would insist on paying by cards and more customers would

[187] See, Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*.

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Box 39: *Recommendations on MDR issue*[a]

- Deregulate MDR and regulate interchange.
- Eliminate the higher differential MDR for card not present transactions and bring it at par with card present transactions.
- Rationalisation of interchange rates for debit cards and credit cards take the issuing bank-acquiring bank network into consideration, and provide for a solution that enables acquiring banks to recover their capital and operating expenditures.
- Institute a differentiated MDR regime for government entities which provide essential and subsidised goods to the public like, Government sponsored educational institutes and public distribution systems and also for some key transaction segments, such as utility payments and railway ticketing.

[a]See, Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*.

prefer to pay using cards if they could be certain that merchants accept them. Merchants who are monopoly and have sticky customer have ability to resist card payments. For example, utilities like railways or power. These are mostly government run. Therefore, it is possible for government to take a decision and ensure that these merchants accept digital payments and bear the cost of the same, as they would do have done, had they been in a competitive market. In addition, Government agencies/departments should audit their processes and quantity the implicit costs that they incur (manpower, logistics etc) in dealing with cash. They should devise processes to capture the savings in costs when the processes are migrated to digital payments. It is quite possible that the net costs might turn into net benefit or at-least be worthwhile investment for the efficiency gains and convenience.

The Committee is of the view that a market driven MDR is an important element in the business of card infrastructure, including setting up and running the terminals. Capping the MDR reduces this incentive. Reducing MDR will increase the disincentive to the business and have the opposite effect of slowing down the growth. There is no evidence that the rationalisation has resulted in increase in POS infrastructure. Thus, the Committee believes that there is no merit in further rationalisation.

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The Committee is of the opinion that the existing MDR should only be restricted to merchant which are utilities or monopoly in nature. Here the merchants might not have the same incentive as other merchants to bear the MDR. The cap for all other business should be done away with. Additionally, the Committee is of the view that RBI should specify a differentiated approach to MDR with a higher minimum share of aquirer fee for POS based transactions. This may be done only for a specified time and reviewed annually.

18. **Accelerate 24x7 availability of payment systems**

Payment systems form a vital part of any financial system they underpin the services that enable funds to be transferred between people and institutions.

The strategic objectives of payments systems include the ability for users to make real-time payments; send more complete remittance information with payments; address payments in a relatively simple way; and make and receive payments outside normal business hours.

RBI has articulated a similar objective "to facilitate provision of a payment system for the future that combines the much-valued attributes of safety, security and universal reach with technological solutions which enable faster processing, enhanced convenience, and the extraction and use of valuable information that accompanies payments."

The pursuit of these objectives requires effective management of risks and associated costs. One of the major risks in a clearing and settlement environment is that one of the parties may default. When settlement takes place on a real-time gross basis then the effect of a default is limited to the single transaction being processed. However if the default takes place in a netting arrangement then all of the parties in that arrangement - potentially hundreds or thousands - may also be at risk, and so may their counter-parties in other transactions taking place at the same time and so on throughout the system. This is an example of systemic risk. The risk in real time settlement is lower than risk in a netting arrangement.

India has essentially three major payment systems:

a) RTGS system, mainly for large-value payments, which settles both

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inter-bank and customer transactions in real time on an instruction by instruction basis,

b) NEFT system, that operates on a Deferred Net Settlement (DNS) basis which settles transactions in batches, hence is not real time. Also, the transactions can be done only during the working hours of RTGS system.

c) IMPS system, that offers an instant, 24X7, inter-bank electronic fund transfer service through mobile phones and net banking.

Today, India is considered a leader in Information Technology (IT) and it runs world class financial systems best exemplified in its stock exchanges and faster payment systems. However, the key payment systems (RTGS system and NEFT system) function in a restricted time window, closer to regular office timings and switch off over week ends. IMPS which runs on a 24x7 basis is restricted to low value transactions.

The Committee believes that payment system should address the expectation of a new generation of consumers and businesses. The rapid pace of the business calls for immediacy in the transactions. To satisfy immediacy, the underlying payment system would have to provide[188]:

a) Instant and irrevocable debiting of payers' accounts and crediting of payees' accounts.

b) Immediate confirmation of both parties that the funds have been transferred, and can be re-used immediately.

c) Service availability on a 24/7/365.

The availability of payment system around the clock will accelerate economic growth - if a business gets an opportunity to transfer funds at anytime, it will be able to speed up its cash conversion cycle, generate necessary working capital, and reduce its need for expensive short-term financing.[189] Additionally, availability of fund transfer will be a value

[188]See, SWIFT, *The Global Adoption of Real-Time Retail Payments Systems*.
[189]See, SWIFT, *The Global Adoption of Real-Time Retail Payments Systems*.

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proposition for P2P and B2B as this will help in optimising the working capital.[190]

Service level of some CPSS countries have been improving with longer operating hours. Swiss Interbank Clearing payment system has the longest operating hours-23 hours and 15 minutesapproaching a twenty-four-hour settlement cycle.[191] Federal Reserve Wire Network (FEDWIRE) which is a real time gross settlement funds transfer system in U.S operates 21.5 hours a day and LVTS which is a real time large value transfer system in Canada operates 17.5 hours a day.[192]

The RBI has the capability to run RTGS round the clock but the same will come up with on-going cost to operate the system 24*7. In addition, the Committee considered the view that there might not a demand which requires an RTGS to be available 24*7. The Committee also took cognisance of the view that once payment systems are available 24*7, demand will automatically come. In this regard, Sh. H.R. Khan submitted that cost and benefit analysis needs to be done before making operation of RTGS 24*7. Additionally, the RBI is of the view that timings for RTGS and NEFT can be progressively increased depending upon usage and demand and in due course systems could become 24x7 after due public consultation and cost benefit analysis. In this regard the Committee is of the view that operating hours should be extended in a staggered manner and each phase should be properly reviewed in terms of costs and benefits as it is difficult to imagine what innovation and productive use the economy will put the systems to. There is merit in building the payments highway with the future in mind, as envisioned by the RBI, a longer settlement day would enable market participants to undertake some funding and investment decision later in the day. This will help in reducing the duration or size of unsettled obligations and hence settlement risk. In the light of the above mentioned discussion, the Committee recommends that RBI should take appropriate steps to extend the operating hours of RTGS in a staggered manner, observe the trends and use the market feedback to pace the journey to a 24x7 availability of RTGS and NEFT systems.

[190] See, SWIFT, *The Global Adoption of Real-Time Retail Payments Systems*.

[191] See, Morten L. Bech, Christine Preisig, and Kimmo Soramaki, "Global Trends in Large-Value Payments".

[192] See, Morten L. Bech, Christine Preisig, and Kimmo Soramaki, "Global Trends in Large-Value Payments".

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19. **Double taxation on service tax**

Currently service tax is paid on MDR by the acquiring bank while the issuing bank pays service tax on interchange fee which is a part of the same transactions. It has been placed before the Committee that double taxation of service tax on interchange fees charged by card issuing bank for card transactions done at a merchant outlet increases burden of interchange costs for the acquirer.[193] See box 40 highlights an illustration for service tax payable on the card transactions.

Table 6.11.: *Illustration for service tax payable on the card transaction*

Particulars	Amount
Transaction Amount	10,000
MDR charged to merchant @2%	200
Service tax on MDR charged @15%	30
Issuer interchange charged to acquirer @1.5%	150
Service tax on Interchange @15%	23
Total charge to the acquirer (Interchange fees + Service tax)	173

Source: Submission dated 28-10-2016 by Payment Council of India

In the above illustration, out of the total MDR income charged to the merchant of Rs. 200, service tax is paid to the Government twice on Rs. 150 - once by acquirer and the second time by card issuer. Hence, service tax is Rs. 23 is paid twice.

The Committee had a detailed discussion on the above mentioned issue. The Committee looked into proviso to Rule 4A of the Service Tax Rules, 1994. The concerned proviso has been highlighted in Box 41

In this backdrop, the Committee is of the view that in order to facilitate service tax input credit of digital transactions, Central Board of Excise and Customs (CBEC) to review the existing procedural framework and issue necessary instructions.

[193]See, Submission dated 28-10-2016 by Payment Council of India

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Box 40: *Submission on double taxation on service tax*[a]

The acquirer here is unable to take input credit for the service tax paid by the card issuer of Rs. 23 since it does not have a legible document with all details of service tax paid by issuer on the interchange fees. Rule 4A of the service tax rules provides that for taking input credit the acquirer should have the document as per below criteria

- A document with name, address and registration number of card issuer
- Description and value of taxable service provided and
- the service tax paid/payable.

The only way that the double taxation can be avoided here is by enabling the acquirer to take input credit for the service tax paid by the issuer of Rs. 23 input credit for service tax on Interchange fees based on the statement received from card schemes i.e. VISA/Master/Rupay for the interchange fees charged by the respective issuers. Once the acquirer is able to take credit for the service tax paid by the issuer, the Interchange cost will reduce from Rs. 173 to Rs. 150.

The Rule as mentioned above for the requirement of the details in the document needs to be amended in lines with the proviso for rule 4 A for services provided by a banking and non banking financial institutions, which exempts certain requirements to be included in the document for availing the input credit of service tax.

[a]See, Payments Council of India, *Feedback on Terms of Reference of the Committee Formed to Review the Payment Systems in India and to Recommend Appropriate Measures to Encourage Digital Payments*.

Box 41: *Proviso to Rule 4A of the Service Tax Rules, 1994*

Provided that in case the provider of taxable service is a banking company or a financial institution including a non-banking financial company, or any other body corporate or any other person, providing service to any person an invoice, bill or, as the case may be, challan shall include any document, by whatever name called, whether or not serially numbered, and whether or not containing address of the person receiving taxable service but containing other information in such documents as required under this sub-rule

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7.Recommendations

The Committee has classified its recommendations with a focus on their implementation. These are accordingly presented under:

1. Measures which require changes in primary legislation;

2. Measures which require changes in regulations or may be implemented through executive decisions or regulations.

The measures under (2) above are further sub-classified according to the institution which needs to take a lead in implementing them i.e GOI or RBI.

The Committee recommends that the GOI and RBI consider these holistically and not in isolation of each other.

7.1. Measures involving changes to primary legislation

The Committee observed that the existing Payment and Settlement Systems Act, 2007, suffers from major drawbacks which have restricted the reach of digital payments in India, compelling the vast majority of Indians to rely on cash transactions.

First, the law does not specify what exactly should be the purpose of regulating the payments market. For instance, the law does not impose any obligation on the regulator to promote competition and innovation in the payments market. Neither does it focus the regulatory attention on the need for consumer protection in digital payments.[1] The Payment and Settlement Systems Act, 2007, needs to be updated to clarify that the regulator's statutory objectives

[1]The law originally enacted did not provide for any explicit provision on consumer protection. It was only in 2015, that one provision was inserted to protect funds collected from customers. See section 23A, *Payment and Settlement Systems Act, 2007*.

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is to enhance competition, innovation and consumer protection in payments market.

Second, the law provides for a Board to be constituted by RBI for regulating payments. This Board is a sub-committee of the RBI and is not independent of the central banking functions of RBI. However, banking as an activity is separate from payments, which is more of a technology business. Microprudential regulation of banks may not by itself improve competition in payments market. The Committee noted that in major common law jurisdictions, the competition and innovation objective in payments is kept separate from the central banking and micro-prudential objective. The current Indian statute failed to achieve this separation between payments regulation and central banking, thereby inhibiting competition and innovation in digital payments.

Third, the law does not provide for a comprehensive consumer protection framework. RBI has on its own endeavour issued regulations to address consumer protection concerns but the statute is absolutely silent on this. With the rising number of users of digital payment services, it is absolutely necessary to develop consumer confidence on digital payments. Therefore, it is essential to have legislative safeguards to protect such consumers in-built into the primary law.

Fourth, the current law does not impose any obligation on authorised payment systems to provide open access to all PSPs. This has led to a situation where access to payment systems by new non-banks PSPs like fintech firms have been unduly restricted. Most of them can access payment systems only through the banks, which are also their competitors in the payments service industry. This legislative distortion has restricted fast-paced expansion of digital payments in India by hindering competition from technology firms.

Fifth, it is crucial for India to allow dynamic innovations in payments and harness these innovations to propel financial inclusion. World-over, authorities are using regulatory sandboxes to test new business models and innovations. Even RBI has from time to time allowed pilots. But the current law does not provide a clear explicit framework to apply for regulatory sandbox permits.

Sixth, the current law does not provide a framework to deal with systemically important payment systems, whose disruption could lead to financial instability.

Seventh, the present law is silent on data protection issues, which are becoming

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more relevant with more consumers being on-boarded onto digital payments platforms across the country.

To address these drawbacks in the current law, the Committee recommends that the Payment and Settlement Systems Act, 2007 be replaced by an updated legislation - Payment and Settlement Systems Act, 2017.

- The Government should:

R- 1 **Make regulation of payments independent from the function of central banking**

a) The law must ensure that payments regulation is independent of central banking.

b) The Committee recommends that the payments function should be independent of the central banking function of the RBI. This can be achieved by making the BPSS more independent by introducing members from outside RBI. For clarity, this new independent board is referred to as PRB in the recommendations.

c) If there is any conflict between the payments policies or regulations of the PRB and the micro-prudential or central banking policies or regulations of the Central Board of RBI, the latter's decision will prevail.

R- 2 **Update the current *Payment and Settlement Act, 2007*** to include explicit mandate for principles enumerated below:

– **Competition and innovation**

a) The primary objectives of the PRB must include promotion of competition and innovation in the payments market.

b) Every regulation made by the PRB must be preceded by a competition impact assessment.

c) Every regulation made by the PRB must be preceded by a cost benefit analysis such that:

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i. lesser the risk imposed by a class of PSPs, lesser should be the regulation on them, where the risks identified must be specific risks like settlement risk, operational risk, business risk;

ii. all PSPs facing similar risks must be treated similarly;

iii. regulation of PSPs must be ownership neutral and cannot be based on bank *versus* non-bank classification.

d) Every year the PRB will publish an annual performance report on how its activities have facilitated its competition and innovation objectives.

– **Consumer protection and graded penalties**:

a) The primary objectives of the PRB include promotion of consumer protection in the payments market.

b) The PRB must issue regulations in this regard and also promote public awareness of matters relating to payment services.

c) All PSPs must effectively disclose to their consumers the terms and conditions of their service and also give regular statements of account to the consumers for free.

d) Consumers should not be liable for losses arising out of unauthorised transactions or system malfunction.

e) Every PSP must have an internal dispute resolution mechanism to resolve consumer complaints.

f) Any consumer not satisfied with the internal dispute resolution process or outcome will have right to approach the PRB.

g) Decision of PRB is subject to appeal before SAT.

– **Open access**

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a) A payment system must provide access to authorised PSPs in an objective, non-discriminatory and proportionate manner.

b) A direct PSP must not discriminate between authorised indirect PSPs[2] of the same category in providing access.

c) Terms of accessing one payment system cannot restrict an authorised PSPs from accessing another payment system.

d) Access to payment systems, including RTGS should be opened up to non-bank PSPs subject to proportionate restrictions.

– **Regulating systemic risk**

a) The Central Government must issue rules on the criteria for designating a payment system as systemically important.

b) The Central Government may designate any payment system as systemically important through a reasoned order.

c) All systemically important payment systems will be regulated by the RBI.

– **Regulatory governance**

a) All regulations must be approved by the PRB.

b) Regulations must be made in a trasparent manner stating the objectives of the regulation, how the regulation achieves its intended purpose, a study of its costs and benefits, competition impact assessment and public consultation.

c) The PRB must consider comments received from the public and publish the comments along with a general account of response.

[2]Indirect PSPs are those who do not have direct access to a payment systems and may access it through a PSP who does have such an access. For example, non-bank digital wallets is an example of an indirect PSPs.

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d) The law must create an accountable regulator with specific performance reporting obligations;

e) The law must ensure regulatory responsiveness and ensure that innovative business models are permitted without jeopardising consumer protection and financial stability;

f) Any person aggrieved with any regulatory action should have a right to appeal to an independent tribunal (SAT).

– **Data protection and security**:

a) The law shall provide for protection of personal payments data by the payments systems as well as the PSPs.

b) PSPs may access personal data based only on explicit consent basis.

c) PSPs may process personal data for fraud detection purposes.

The drafting instructions have been discussed in section *7.3 on Page 170* below.

7.2. Measures involving regulatory changes or executive decisions

The Government may:

R- 3 **Promote digital payments within Government**: Government has a significant role in promoting digital payments in its role as one of the key transacting entity. The Committee recommends that the government should implement the following measures in the upcoming Union Budget 2017-18:

a) Adopt digital payments for all its payments needs. Requisite infrastructure and mechanisms should be created in terms of

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facility for online payments by customers and installation of POS or mobile based acceptance infrastructure.

b) Withdraw convenience fee / service charge / surcharge presently being levied by some departments / agencies (utility service providers, petrol pumps, railways, airlines, contributions to Relief Funds etc.) on customers for making electronic payments (C2G payments).

c) Bear cost of electronic transactions. The Committee recommends that when government acts as a merchant, it should bear the cost of electronic payments and not pass them on to consumers (eg. merchant fees on card payments or mobile payments like UPI). The Committee suggests that Government, being a very large merchant, should negotiate the electronic transaction charges with banks and card schemes, instead of imposing a regulation on the market. This should be done for all government payments together so that the benefit of scale can be achieved. States should also be included in this initiative.

d) Implement facility for consumers to pay taxes and other government payments using debit cards and digital wallets, in addition to net banking. For example, currently, taxes can only be paid using net banking due to the manner in which the payment systems are designed. CBDT and CBEC should develop an e-commerce based model where their web portals generate the tax challans and accept payments from all electronic modes.

e) Promote digital payments for low value transactions. The low value routine transactions need special attention. These are payments that touch the lives of people every day. These could be parking charges, toll charges across the country or health services at government hospitals/ health centers. In many of these cases, the contracts are awarded by government agencies. The Committee recommends that all government agencies should consider the feasibility of such contracts requiring the vendors to provide a convenient digital payment option to consumers. This would encourage people to transact digitally.

f) Mandate use of Trade Receivable Discounting System (TReDS)

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by Public Sector Undertakings (PSUs) and Government Departments

g) Mandate that government agencies and organisations should not insist upon cheques including post-dated cheques and instead allow for at least one alternative digital payment mode, including for advance payment. Further awareness should be spread about the legal equivalence of ECS bank mandate with post-dated cheque.

h) Reduce customs and excise duties on imported equipment which form a part of retail payment system infrastructure Micro ATMs used by Business Correspondents; Fingerprint readers and biometric readers either as spare parts or as integrated Electronic Data Capture (EDC) machines / POS terminals; EMV chip and Personal Identification Number (PIN) card.

i) Facilitate Service Tax input credit on price of digital transactions. CBEC to review the procedural requirement and issue necessary instructions.

j) Require utility bills and payments to Government above a certain threshold to be in digital mode only. Sufficient time should be provided for the government services and utilities to gear up for this.

k) Amend the General Financial Rules, 2005 and Central Government Account (Receipt and Payment) Rules, 1983 to include digital modes of payment over and above other modes of payment.

R- 4 **Create a fund from savings generated from cash-less transactions**: In the upcoming Union Budget 2017-18, a new Digital Payments Incentive Fund should be created, resourced from the savings generated by the Central Government from the movement towards less cash.

a) This may be called DIPAYAN or Digital Payments Action Network, also meaning light of a lamp. Using the trinity of JAM (Jan Dhan, Adhaar, Mobile) it will link financial inclusion with

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social protection, contributing to improved Social and Financial Security and Inclusion of vulnerable groups/ communities. This fund could be used to target public education about digital payments, incentivise higher usage of digital payments among socially and financially excluded, and help improve equitable outreach to women through women's self-help groups, MGNREGA, outreach through women teachers, women ICDS and NHM functionaries, digital coupons in government co-operative store or fair price shops, extending additional seed capital to women's self help groups, priority digital cards for skill development etc.

b) The Government should set in place a mechanism, both at national and state level, to regularly track the cost of handling cash and the cost of transitioning into digital payments. Accordingly, it should regularly quantify the savings that will accrue by fully transitioning into digital payments and consider providing subsidy for such transitioning accordingly.

c) It would be in existence over the medium term, for a period of 3 years. The Fund would be used to -

   i. Promote public education and acceptance of digital payments, as well as changing expenditure related habits.

   ii. This could be by incentivising extension and greater usage of Jan Dhan Yojana Accounts for digital payments, above certain threshold levels, by more vulnerable communities/ individuals. These would include those living below the poverty line, SC, ST, minorities, people with disabilities, people living in remote areas with no banking access, areas with connectivity problems, areas affected by natural calamities etc.

   iii. Government payments and receipts: An incentive in the form of cash back or a discount on price, funded by the above fund may be introduced for payment of government services and public utilities through digital means.

   iv. Support POS based acceptance in certain sectors. The Government may evaluate the feasibility of supporting growth of

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this infrastructure for promoting digital payments in sectors like health services.

v. Different states are at different threshold levels of digital payments, with a differing spread and mix of vulnerable groups. The overall monitorable target should be specified at national level and State level.

vi. In addition, the fund should be used for funding innovative solutions to adopt digital payments. This should be available to all market participants.

R- 5 **Create a ranking and reward framework**: The Committee recommends that in the upcoming Union Budget 2017-18, promotion of Digital Payment Awards should be instituted as outlined below.

a) Government Payments: Awards could be instituted across key institutions and within key institutions making effective transitions to less cash or more digital payments. Institutions include for instance the Railways.

b) Awards may be designed for the best performing state, or the best performing district, within the state, in terms of ensuring higher threshold levels of digital payments with higher outreach to and participation of disadvantaged community groups.

R- 6 **Other measures**:

a) **Promote eKYC and paperless authentication**. The Committee recommends the following measures:

a) Aadhaar eKYC and eSign should be a replacement for paper based, costly, and shared central KYC registries: The Committee recommends that a reporting entity under Central eKYC should be allowed to upload the Aadhaar number of the client onto the Central Registry, if it is available and the client permits usage of the same. Appropriate notification may be issued to allow use of Aadhaar based eKYC and eSign to override any existing Central eKYC processes involving physical forms, wet signature, physical photos, and

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any other processes. This should cover all Financial Service Providers (FSPs).

b) Promote Aadhaar based KYC where PAN has not been obtained: The Committee recommends that a natural person with an Aadhaar should be allowed to complete KYC in such transactions by quoting his Aadhar number if PAN has not been obtained or is not required to be obtained as per provisions of section 139A of Income Tax Act. This will enable Government to reduce the threshold value for cash transaction without any KYC and provide Department of Revenue with improved tracking of transactions. It would also help identify people who should have obtained PAN but have not done so. It is recommended that the Department of Revenue and UIDAI jointly develop a mechanism to use the Aadhaar number for authentication of the transaction instead of taking a paper based filing of Form 60 from natural persons. Rule 114B of the Income Tax Rules, 1962 should to be amended to provide that where PAN has not been obtained by a person, Aadhaar may be used as a primary KYC. However, opinion of Attorney General may be obtained before carrying out the proposed amendment.

c) Consider quoting Aadhhar compulsory in income tax return for natural persons: It is recommended that in respect of natural persons Aadhaar may be required to be compulsorily quoted while furnishing Income Tax returns. However, opinion of Attorney General may be obtained before carrying out the proposed amendment.

d) Promote Aadhaar as the primary ID for general KYC purpose: The Committee recommends that Aadhaar should be made the primary identification for KYC with the option of using other IDs for people who have not yet obtained Aadhaar. This should foster growth of digital payment ecosystem with full KYC compliance. It is clarified that this recommendation is for situations where people are required to provide KYC from a list of many options. In such a situation, a person should first use Aadhaar and use alternative IDs only if Aadhaar has not been obtained.

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b) **Implement disincentives for usage of cash**

a) Permit merchants including government agencies to levy a cash handling charge for payments in cash above a certain threshold. The cash handling charge so collected should be exclusively used fund new infrastructure for acceptance of digital payments (like POS devices).

b) Gradually reduce threshold for quoting of PAN for cash transaction in banking from Rs 50,000 and for similarly for merchant/other transactions where the current threshold is Rs 200,000. Include quoting of Aadhaar as an alternate (over other KYC) for natural persons not having PAN or who are not required to obtain PAN as per provisions of section 139A of the Income Tax Act, 1961.

c) **Create awareness and transparency**

a) Today, the scale of implicit cost of transacting in cash is not understood. In fact, most people assume that there is no cost in most cash transactions. The Committee recommends that the regulator and Government should release data on cost of cash handling at a periodic interval. Large merchants including government agencies should account and disclose the cost of cash collection and cash payments incurred by them periodically. For instance, ATMs, could display the cost of cash withdrawals.

b) In addition, the Committee recommends that measures should be introduced to create awareness about the implicit cost of cash transactions. A separate study may be commissioned to recommend specific action.

d) **Create parity between cash and digital payments**

a) For the purpose of KYC cash often has relaxed compliance requirements as against digital transactions. The Committee recommends that eKYC requirements in digital payments should be in consonance with KYC requirements in transacting in physical cash. Transactions which are permitted

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in cash without KYC should also be permitted on prepaid wallets without KYC.

b) Today, most merchants do not accept digital payments. The Committee recommends that the Government should seize the initiative and require all government agencies and merchants where contracts are awarded by the government to provide at-least one suitable digital payment option to its consumers and vendors (Discussed in Section: *Government Payments and Receipts*).

e) **Promote USSD based payments**: USSD can be used to provide various digital services to consumers who do not have smart phones and internet access. For example, they can avail of basic banking services and information requests. RBI and TRAI should jointly set up a mechanism to ensure that the failure rates on such transactions are brought down to acceptable level and responsibility for such failures to be affixed. In addition, suitable redress mechanism should be put in place to encourage consumers, specially those from the low income segment to adopt usage of USSD based financial services.

The RBI should immediately initiate steps to:

R- 7 **Consider outsourcing the function of operation of payment systems** like RTGS and NEFT. While moving RTGS to a separate operator is not envisaged for now – it can be considered at an appropriate time after doing a cost benefit analysis, due public consultation on the merits and demerits of the RTGS being outside the central bank and the international experience in this regard. A cost benefit analysis may be initiated as an initial step. Multiple payment system operators should be encouraged and payment systems should be operated by market entities.

R- 8 **Upgrade payment systems like RTGS and NEFT to operate on 24x7 basis in due course of time**: The RBI should take appropriate steps to extend the operating hours of RTGS in a staggered manner, observe the trends and use the market feedback to pace the journey to a *24x7* availability of RTGS and NEFT. In case of IMPS, the Committee recommends that the transaction limit

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should be reviewed periodically and increased subject to appropriate risk management.

R- 9 **Allow non-bank PSPs to directly access payment systems**: The Committee recommends that RBI should issue regulations imposing legal obligation on all authorised payment systems to provide open access to all PSPs subject to objective and non-discriminatory restrictions. Similarly, legal obligations must be imposed on all direct PSPs not to unfairly discriminate between authorised indirect PSPs in providing access.

R- 10 **Require shareholding and goverance of important retail payment organisations to be improved**: The Committee recommends that RBI should issue regulations which require important retail payment organisations to have a time bound plan to move towards diffused shareholding where no individual shareholder along with persons acting in concert can hold more than 5% of the equity share capital. Further, the shareholding should be broad-based to include all classes of PSPs. Moreover, their board should have majority 'public interest directors' - independent directors, representing the interests of consumers in payments markets and who do not have any association, directly or indirectly, which in the opinion of the regulator, is in conflict with their role. For example, NPCI is an important payments organisation running some of the key payment systems in the country. It could potentially be classified as a SIFI by GOI. RBI should require NPCI to develop short term plan to move towards diffused shareholding structure and have majority public interest directors.

R- 11 **Enable payments to be inter-operable between bank and non-banks as well as within non-banks**: The Committee recommends that RBI should issue necesssary regulations for retail payment organisations, which would require NPCI to implement full interoperability between bank and non-bank PSPs and also inter se non-bank PSPs. One way this may be implemented is by mapping of digital wallet accounts to mobile phone numbers and Aadhaar (similar to the manner in which the bank accounts are mapped). This should enable almost all of adult population to transact money digitally on their phones using their Aadhaar or phone number. This would enable open loop non-bank wallets. The Committee has

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separately recommended the GOI to enable seeding of non-bank PSPdigital wallet accounts to Aadhaar in a manner similar to seeding of bank account numbers and mobile numbers to Aadhaar. In order to create a comprehensive ecosystem which encourages digital payments around this intitiative, the following additional measures are recommended to be implemented by RBI:

a) Enable a standardised interconnect regime for Over-The-Top (OTT) services: The Committee recommends that the RBI may issue suitable regulations to provide for a standardised regime for banks and non-banks to provide consent based access of customer account to each other for OTT services (Interconnect). This shall provide for a principle based open access regime between banks and non-banks, and enable value added services for consumers.

b) Study the feasibility of allowing the DCB model by telecoms for all low value transactions through light touch regulations.

c) Explore potential options of making USSD based transactions more convenient for consumers with feature phones.

d) Accelerate deployment of Aadhaar enabled acceptance network: The committee recommends that RBI should accelerate deployment of Aadhaar enabled POS and micro ATMs to enable a large population with Aadhaar to transact digitally.

e) Enable presence-less Aadhaar-based transactions: The Committee recommends that OTP based Aadhaar KYC be permitted for banks and wallets. RBI to issue necessary notification.

f) AEPS should support all modes of Aadhaar authentication and OFF–US transactions: The Committee recommends that AEPS should support all modes of Aadhaar authentication including iris and OTP and also support full OFF–US transactions across all players. RBI should mandate that NPCI, banks, e-wallet providers enable this as early as possible.

R- 12 **Create a formal mechanism to allow innovations and new business models**:

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a) The Committee recommends that the regulator should enable a formal framework for a regulatory sandbox. A *regulatory sandbox* can be used to carve out a safe and conducive space to experiment with FinTech solutions, and where the consequences of failure can be contained.

b) The Committee recommends that telecom companies be permitted to roll out DCB Payment model within the telecom entity for all low value payments. The thresh hold may be defined by RBI in consultation with TRAI and reviewed periodically.

c) The Committee recommends evaluating possibility of RBI issued digital currency and testing a proof of concept.

R- 13 **Other measures**:

d) **Publish regulations on SIPS and SIFIs**: The Committee recommends that the RBI publish (i) regulations on SIPS and (ii) regulations on SIFIs.

e) **Support POS, Card based and Other Digital Transactions**: RBI should unbundle the MDR charges by making it obligatory for the card schemes to publicly disclose the charges for aquirer banks and issuer banks including network fees. This should be done for all digital transaction and not just card based ones. In addition, RBI should specify a differentiated approach to MDR with a higher minimum share of aquirer fee for POS based transactions. This may be done only for a specified time and reviewed annually. In addition, it may evaluate an option whereby, (i) issuers should have a role in expanding the acceptance infrastructure without having to get in the business of managing it and (ii) the acquirers should have the incentive to grow the business beyond the top cities and (iii) the merchants should have the incentive to install and operate the terminals. One such approach has been discussed in the Section: *Access, Adoption and Usage*.

f) **Enable faster and cheaper credit**: The Committee recommends that CICs be allowed access to alternate data from like non-financial sources like telecom and utility bill payments etc.

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This can be enabled by RBI. Similarly, RBI can issue regulations to include 'other person or institution' for the purpose of obtaining credit information. Therefore, the Committee recommends that the RBI may expand the scope of persons who can be specified users of credit information from the CIC.

g) **Develop Metric for Digital Payment**: The Committee observed that there is a lack of a measurable target for tracking progress on digital payments in India. There is an accute lack of reliable data relating to digital payments and a lack of definitional clarity on what constitutes digital payment. Accordingly, the Committee recommends that the RBI should within 2 weeks of releasing this Report, develop a comprehensive metric to quantitatively measure and monitor the enhancement of digital payment services in India. This would entail categorically defining the scope of digital payment services, and identifying the various strategies required to objectively improve the digital payments ecosystem.

h) **Promote cross-border payments**: The Committee recommends that non bank PSPs be permitted to bring inward remittance without the need to depend on a bank. RBI should allow non-bank players to act as Indian agents under the Money Transfer Service Scheme (MTSS) and issue PPIs to approved Overseas Agents. This may be enabled by creating a new limited *Authorised Dealer* license for non-bank players only for inward remittance purposes. This can be done by RBI through regulations under section 10 of the Foreign Exchange Management Act, 1999.

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7.3. Drafting instructions: Payments and Settlement Systems Act

1. **Statutory objectives**

   a) The PRB must advance one or more of its payment system objectives. The payment system objectives of the regulator includes (i) the consumer objective; (ii) the competition objective; and (iii) the innovation objective.

   b) The consumer objective is to ensure that payment systems are operated and developed in a way that takes account of and promotes the interests of existing and future consumers of payment systems and PSPs.

   c) The competition objective is to promote effective competition among operators and infrastructure providers of payment systems and among PSPs, in the interests of existing and future consumers of payment systems and PSPs.

   d) The innovation objective is to promote the development of, and innovation in, payment systems and PSPs in the interests of existing and future consumers of payment systems and PSPs.

2. **Regulatory governance**

   a) All regulations issued by the PRB must follow a transparent process and must be approved by the PRB itself. The PRB must approve and publish a draft of the proposed regulations along with:

      i. objectives of the proposed regulations;

      ii. the exact problem that the regulations seek to address;

      iii. how solving this problem is consistent with the statutory objectives of the Regulator;

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iv. the manner in which the proposed regulations will address this problem;

v. the manner in which the proposed regulations comply with the law;

vi. an analysis of the costs and benefits of the proposed regulations a competition assessment of the impact of the proposed regulations on the choice and information available to consumers of payment services; number or range of payments services providers, incentives and ability of PSPs to compete efficiently in the market;

vii. the process by which any person can make a representation in relation to the proposed regulations.

b) Every proposed regulation must be released for public comments for a period of not less than 21 days.

c) All representations made during the public comments stage must be considered by the PRB and necessary changes should be made to the proposed regulations.

d) The final regulations must be issued after the PRB approves the proposed regulations.

e) Along with the final regulations, the regulator must publish all representations received during the public comments stage and a general account of the response of the Regulator to such representations.

f) The PRB must review every regulation after every three years of their issuance.

g) Any person can make a representation anytime to the PRB for amending of an existing regulation or issuance of a new regulation to facilitate any new innovative technology. The PRB must publish such a representation on its website and may either accept or reject the proposal made in such representation. If the PRB chooses to reject such proposal it has to give specific reasons

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and publish the same on its website. The PRB must frame regulations to handle this regulation-making petition process.

h) Every year the PRB will publish an annual performance report on how its activities have facilitated its statutory objectives.

3. **Consumer protection**

a) The PRB must issue regulations to:

i. protect and promote the interests of consumers of payment services;

ii. promote public awareness of matters relating to payment services.

b) The PRB must taken into account the following principles while making regulations for consumer protection:

i. degree of risk involved in the payment system;

ii. degree of experience and expertise of the consumers;

iii. adequate disclosure of information to enable consumers to take an informed decision.

iv. Take into account consumer expectation in relation to transactions.

c) The PRB must issue regulations to promote consumer confidence in payments including requiring PSPs to effectively disclose to their consumers:

i. the terms and conditions of their services including fees and charges;

ii. any change to the terms and conditions of their services;

iii. free statements of transactions undertaken.

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d) The holder of any payment account shall not be liable for losses arising out of unauthorized transactions or system malfunction except in circumstances as may be specified by the Regulator through regulations.

e) PSPs must provide an internal dispute resolution mechanism to resolve consumer complaints within such time and in such manner as may be specified by the regulator through regulations.

4. **Open access**

a) Payments systems shall not impose on any PSP, user or other payments system any of the following requirements:

i. restrictive rule on effective participation in other payment systems;

ii. rule which discriminates between authorised PSP in relation to rights, obligations and entitlements of participants.

b) A PSP, which chooses to have indirect access to a payments system through a banks payment account services, must have such access on an objective, non-discriminatory and proportionate basis such that the PSP can provide payment services in an unhindered and efficient manner.

c) The PRB shall specify the regulations on access of PSP to a payments system.

d) The regulations on access made must:

i. be objective, non-discriminatory and proportionate;

ii. not inhibit access more than is necessary to safeguard against specific risks such as settlement risk, operational risk and business risk and to protect the financial and operational stability of the payments system;

iii. take into consideration the interests of the current participants in the system; and,

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iv. take into consideration the interests of people who, in the future, may want to access the payments system.

e) The process that a person should follow to apply to a payment system for access must be specified by the Regulator.

f) A payment system may reject access to a person only through issuance of a reasoned order.

g) Any person aggrieved by such a rejection order will have a right to appeal to the Regulator.

h) Any person aggrieved by such an order of the Regulator to grant or deny access to a payment system will have a right to appeal to the Competition Appellate Tribunal.

5. **Innovation**

a) The PRB must issue regulation on regulatory sandbox to promote innovation in the payments market without compromising on consumer protection and overall systemic risk.

b) Such regulations must include:

i. the eligibility criteria for applying for a regulatory sandbox;

ii. the process for applying for a regulatory sandbox authorisation.

c) The PRB may reject an application for regulatory sandbox authorization only through issuance of a reasoned order.

d) Any person aggrieved by such a rejection order will have a right to appeal to the SAT.

6. **Systemic risk**

a) The Central Government must, in consultation with RBI and the Regulator, issue rules on the criteria for designating a payment system as systemically important.

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b) The Central Government may taken following criterias into account while designating a payment system as systemically important:

i. Number and value of the transactions that the system process presently.

ii. Nature of the transactions that the system processes.

iii. Relationship of the system with other systems.

iv. Complexity involved in the system.

c) The Central Government may designate any payment system as systemically important through a reasoned order.

d) A payment system may challenge a designation order to the SAT.

e) All systemically important payment systems will be regulated by the RBI.

7. **Data protection**

a) PSPs shall only access, process and retain personal data necessary for the provision of their payment services, with explicit consent of the payment service user.

b) The Regulator may by regulations allow processing of personal data in certain circumstances to safeguard the prevention, investigation and detection of fraud or cyber crime.

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7.4. Timelines for Implementation of Recommendations

Table 7.1.: *Implementation Roadmap*

Category of Recommendation	Recommendation	Implementing Institution	Timeline
Legislative	R1: Make regulation of payments independent from the function of central banking	Ministry of Finance	1 Month
Legislative	R2: Update current *Payment and Settlement Systems Act, 2007* to provide for (i) competition and innovation; (ii) consumer protection including graded penalties and independent appeal mechanisms; (iv) open access (v) regulations on systemic risks; (vi) transparent and smart regulatory governance; and (vii) data protection and security	Ministry of Finance	1 Month
Executive	R3: Promote digital payments within Government - POS and mobile based acceptance infrastructure	Ministry of Finance, Ministry of Agriculture, Ministry of Corporate Affairs, Ministry of Urban Development, State Governments	1 Month
Executive	R3: Promote digital payments within Government - Withdraw charges/ fees/ surcharges, etc.	Ministry of Finance, State Governments	1 Month
Executive	R3: Promote digital payments within Government - Bear cost of electronic transactions	Ministry of Finance, State Governments	1 Month
Executive	R3: Promote digital payments within Government - Facility for online payments using cards and wallets	Ministry of Finance, State Governments	1 Month
Executive	R3: Promote digital payments within Government - Mandating use of TReDS	Ministry of Finance	1 Month
Executive	R3: Promote digital payments within Government - Provide digital alternatives to cheques	Ministry of Finance, State Governments	1 Month
Executive	R3: Promote digital payments within Government - Remove customs and excise duties	Ministry of Finance	1 Month

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Category of Recommendation	Recommendation	Implementing Institution	Timeline
Executive	R3: Promote digital payments within Government - Service tax input credit for digital transactions	Ministry of Finance	1 Month
Executive	R3: Promote digital payments within Government - Utility bills and payments to Government through digital mode	Ministry of Finance	1 Month
Executive	R4: Create a fund from savings generated from cashless transactions - Create and utilise Digital Payments Action Network (DIPAYAN)	Ministry of Finance, Ministry of Social Justice, Ministry of Tribal Affairs and DONER	2 Months
Executive	R4: Create a fund from savings generated from cashless transactions - Mechanism to track cash handling and transitioning to digital payments	Ministry of Finance	2 Months
Executive	R5: Create a ranking and reward framework	NITI Aayog, State Governments	2-3 Months
Executive & Regulatory	R6: Other Measures - Promote eKYC and paperless authentication	Ministry of Finance, RBI, UIDAI	3 Months
Executive	R6: Other Measures - Implement disincentives for usage of cash	Ministry of Finance	3 Months
Executive & Regulatory	R6: Other Measures - Create awareness and transparency	Ministry of Finance, NITI Aayog, RBI, Ministry of HRD, DoPT	3 Months
Executive & Regulatory	R6: Other Measures - Create parity between cash and digital payments	Ministry of Finance, RBI, UIDAI	3 Months
Executive & Regulatory	R6: Other Measures - Promote USSD based payments	Ministry of Finance, RBI, TRAI, DoT	3 Months
Regulatory	R7: Consider outsourcing of payment systems	RBI	6 Months
Regulatory	R8: Consider updating payment systems to operate on 24*7 basis	RBI	3 Months
Regulatory	R9: Allow non-bank PSPs direct access to payment systems	RBI	2 Months
Regulatory	R10: Improve shareholding and governance of retail payment organisations	RBI	2 Months

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Category of Recommendation	Recommendation	Implementing Institution	Timeline
Exective & Regulatory	R11: Enable interoperability	RBI, NPCI	2 Months
Regulatory	R12: Create formal mechanism to allow innovations and new business models	RBI, NITI Aayog	3-4 Months
Regulatory	R13: Other Measures - Regulations on SIPS and SIFI	RBI	6 Months
Regulatory	R13: Other Measures - Support POS, card based and other digital transactions	RBI	2 Months
Regulatory	R13: Other Measures - Enable faster and cheaper credit	RBI	2 Months
Regulatory	R13: Other Measures - Develop metric for digital payments	RBI	2 Weeks
Regulatory	R13: Other Measures - Promote cross-border payments	RBI	2 Months

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A. Government order establishing the Committee

File No 1/6/2016 CY-II
Government of India
Ministry of Finance
Department of Economic Affairs
Currency & Coinage Division

North Block, New Delhi,
Dated 23rd August, 2016

ORDER

Subject: Constitution of a Committee to review the framework related to digital payments

In compliance to the decision taken by the Cabinet in its meeting held on 24.2.2016, a Committee is constituted to review the payments system in the country and to recommend appropriate measures for encouraging digital payments.

2. **The Terms of Reference** of the Committee shall include:

i. To study and recommend need for charges, if any, in the regulatory mechanism under the Payments and Settlement System (PSS) Act, 2007, RBI Act, 1934, Banking Regulation Act, 1949, Information Technology Act, 2000, Telecom Regulatory Authority of India Act, 1997, Prevention of Money Laundering Act, Income Tax Act, 1961 and any other legislation, relevant for the purpose of promotion of payments by digital modes;

ii. To study and recommend ways for leveraging Unique Identification Number or any other proof of identity for authentication of card/ digital transactions and setting up to of a Centralised KYC Registry;

iii. To study introduction of single window system of Payment Gateway to accept all types of Cards/ Digital Payments of Government receipts and enable settlements between consumer and merchants via NPCI or other agencies within specified timelines and to study the scope of integration of all the Government system like Public Finance Management System (PFMS), PayGov, Bharatkosh, eKuber;

iv. To study feasibility and framing rules for creating a payments history of all card/ digital payments and ensure that merchants/ consumers can leverage their credit history to access instant, low-cost micro-credit through digital means and create necessary linkage between payments transaction history and credit information;

v. To study and recommend various measures to incentivize transactions through cards and digital means, e.g., through tax rebates/ incentives, introduction of cash back/ lottery etc;

Cont. P : 2

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F.No-01/06/2016-Cy.II
Government of India Ministry of Finance
Department of Economic Affairs
Currency & Coinage Division

North Block, New Delhi.
Dated the 01.09.2016

ORDER

Subject: Constitution of a Committee to Review the framework related to digital payments

The first paragraph of this Department's Order of even number dated 26.8.2016, is substituted by "In compliance to the decision taken by the Cabinet in its meeting held on 24.02.2016 and as suggested by the Task Force headed by Secretary, DIPAM, which was constituted by the Cabinet Secretariat for implementation of the Cabinet decision (vide DIPAM letter number 13/10/2016-Admn. dated 19th April, 2016), a Committee is hereby constituted to formulate and monitor the medium term measures for strengthening the ecosystem and to recommend appropriate methods for encouraging digital payments".

2. In supersession of paragraph 7 of this Department's Order of even number dated 26.8.2016, the Committee shall submit its report within three months from the date of its constitution.

3. This issues with the approval of the Competent Authority.

1.9.16

(Dr. Anil Ranga)
Director (C&C)
Ph. (011) 2309 2225

To

1. Shri Ratan P. Watal, Pr. Advisor, NITI Ayog and Former Finance Secretary
2. Shri H.R. Khan, Former Deputy Governor, Reserve Bank of India
3. Shri Neeraj Kumar Gupta, Secretary, D/o Investment and Public Asset Management
4. Shri R. Chandrashekhar, President, NASSCOM
5. Shri Ashwani Kumar, CMD, Dena Bank and Chairman, Indian Banks association
6. Shri Naveen Surya, MD, Itz Cash and Chairman, Payments Council of India
7. Dr. Shubho Ray, President, Internet and Mobile Association of India
8. Ms. Rani Singh Nair, Chairman, CBDT
9. Dr. A.B.P. Panday, Director General, UIDAI
10. Shri Chandan Sinha, Executive Director, Reserve Bank of India
11. Dr. Saurabh Garg, Joint Secretary (I&C), D/o Economic Affairs

Copy to
Cabinet Secretary/ Secretary (EA)/ AS (Inv.)
Director, National Institute of Public Finance and Policy

1/9/16.

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Annexure

Member H.R Khan submitted certain additional suggestions before the Committee, vide E-Mails dated 23 November 2016 and 4 December 2016. These E-mails have been reproduced below.

E-Mail Dated 23 November 2016 from Mr. H.R. Khan

Dear all,

I presume it is a draft report to be discussed further as no discussions have been held on the general approach and on many of the specific recommendations as contained in this draft. Understandably we are racing against time but given the long term implications the issues need to be flagged after deeper reflections. Illustratively , as indicated in my mail of today, the need for overhauling existing PS legal framework (which many would agree provides necessary flexibility for creation of a modern payment ecosystem balancing development, innovation and competition with stability , responsibility and consumer protection) without identifying the gaps/lacunae has to established.More pragmatic approach would be to build on the existing framework which has helped in engendering whole spectrum of electronic retail and wholesale payment systems (e.g. NEFT, IMPS,UPI now and one of the most advanced RTGS and securities trading and settlement systems in the world). The major focus has to be what incentives/disincentives and facilitating policy/procedure changes need to be considered to leapfrog from a cash dominated to substantially less cash economy by large scale adoption of existing and emerging payment system solutions.The recent example of merchants asking for POS and low ticket consumers seeking to use wallets and cards due to denotification of HDNs proves how disincentive of cash use can accelerate digital payment ecosystem.This opportunity can be leveraged further by providing incentives to fast forward the digital payment systems.

The case for an independent regulator without considering the inherent advantages of the regulatory remit of central bank, as is the case with most central banks globally, has not been made adequately. Further the the idea of segregating retail payments from whole sale/systemically important PS does not jell with the increasing global recognition of importance of retail PS; more so in the Indian context where we would have many first generation users of digital payment products under the JAM framework and market failures here can have system wide implications besides consumer protection related issues. A small point which I mentioned in my earlier mail today: while converting cross border remittances into PPIs under MTSS is desirable why we need to make the PPI issuers limited ADs when the amounts are to be paid to the end customers in INR from out of the INR Vostro account of the overseas principal in an Indian bank requires discussions .

Best, Harun R Khan

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E-Mail Dated 4 December 2016 from Mr. H.R. Khan

Dear all,

In continuation of my earlier comments I would like mention the following general and specific / suggestions keeping in view the order of recommendations contained in chapter 7:

1. Changes in legislative and regulatory framework As mentioned earlier let us not aim to overhaul the PS Act which has enough flexiblity to accommodate emerging changes and different types of players (e.g. nearly 80 nonbank PS players have been authorised under the current framework; anyone can come with a proposal for authoisation with benefits, risks and mitigants therefor) in the payment ecosystem.It would be better to build on the existing framework which have spawned a whole spectrum of retail and whole sale payment system products (does any one send money today by DD because of NEFT/ RTGS/IMPS?).Reasons for slower pace of digitisation of PS space are not legislative hindrances , rather lack of incentives and disncentives and awareness and education. How cost , convenience and confidence factors of digital payments vis a vis cash based system can play important role has been brought out in the recent experience of demonetisation of HDNs. Of course a few changes in the Act along with the ones those received support of the Standing Committtee of the Parliament last year (e.g ease of charge creation on the escrow funds ,settlement of funds leg of exhanges in central bank money, etc.) can be thought of keeping in the dynamics in the PS ecosystem.

There is no need to create confusion by artifically bifurcating payment systems for bringing them under two sets of regulators. As regards BPSS is concerned it can be tweaked to have a structure similarly to Monetary Policy Committee(MPC) with Governor as chair 2 Deputy Governors of RBI and ED and 3 nominees from Governmentside including one of the 2 secretaries in RBI board (secretary DEA or DFS) and experts in the field as members.As envisaged in PS Vision 2018 of RBI the Payment System Advisory Council to advise the BPSS may be constituted immediately with representions from diverse stakeholders(viz. Industry association, fintechs, academia,banks, Government, consumer bodies, etc.)There should be structured protocols regarding subjects and frequency of meeting and public reports of BPSS/ PSAC.(some have been well captured in the draft) As indicated many desired policy and procedural changes can be brought through regulations. The broad features enunciated in the chapter can work as guiding principles for regulation making in future subject to a few caveats as under: a. While non banks certainly play important role in terms of providing innovative products and competition in the PS the the issues relating to less strigent oversight on them including the risks associated with AML/CFT concerns,risks of automatic authorisation(imagine what would happen to the hard earned money of people , more so those who are fist generation digitally included small value customers if Shardha type fly by operatiors are spawned) have to be kept in view.

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b. While adequate prior public consultations are desirable we have to provide for exigencies when the regulations have to made instanataneously, subject to ratification by the BPSS where necessary,(the recent examples of regulatory changes in the wake of denotification of HDNs are cases in point).

c. Appellate oversight over regulatory actions, particularly by non export bodies not responsible for running a safe sound and efficient PS, is best avoided.

2. Data protection Clear and specific rules may be specified in the IT Act in this regard; currently most apps , financial or otherwise, want a lot of details of the users giving enormous scope for data compromise and breach of privacy.

3. Measures invovling regulattory changes/ executive decisions

A. Reseve Bank of India a.Crtical PS infrastructure like RTGS which is a public good and need huge investment a besides needing liquidity support are managed by cental banks in most jurisdictions; hence it should not be divested from RBI.

b. Cost and benefit of 247 operations of RTGS/ NEFT is necessary before suggesting this; the best way is to extending the timings based on need and demand and have built in flexiblity for extended hours during critical situations

c. As regards cross border payments while the idea of allowing issue of PPIs by nonbank agents under MTSS is good there is no need for according the limited Authorised Dealer status under FEMA as the transactions at the agent level would be in INR.

d. RBI this year conducted PS INNOVATION contest along with IDRBT; this may be made a regular feature.

e. RBI has come out with Payment Vision 2018 covering responsive regulation (e.g focussing on emerging areas, payment gateways,PSAC...),robust infrastructue (e.g more NEFT cycles, interoperability,ease of mobile banking registration, electronic toll collections, improving access...), effective supervision(emphazing, e.g. ondata analytics,safety and security, framework for System Wide Important Payment Systems(SWIPS),proportionality of oversight...) and customer centricity (focussing on grievance redressal,customer surveys,fraud and risk management systems, , E Banking Awareness And Training /E-BAAT...) The report may recommend speeder implementation and publication of quarterly/ half yearly updates.(It would be a good idea to include the the box on PS in India: Vision 2018 as a box in the report of the Committee also).

f. During the current phase of people coming to banks in large numbers for cash exchange/ deposits EBAAT programs at the branches could become very attractive and useful. g. RBI and DFS should set and monitor the targets set for different categories

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of banks and financial insittutions including MFIs(the recent examples cash dominated systems of RRBs, Coop Banks and MFIs during the denotification of HDNs brought this poilnt to the fore) for customer transactions through noncash/ nonpaper means; last two Gyan Sangams did recommend this for PSBs.For adoption PSBs acoption of digital banking should be one of the performance evaluation metrics. h. Cash withdrawals from ATMs in terms of quantum and fequencies may disincenivised, more particulaly in metros and cities. i. Cheque clearing should be further disincentivised and cheque issue and collection charges may be enhanced.

B. Government(we should not make it to look like a Central Govt program only)

a. There should be time bound plan for all govt departments/ agencies to move to ereceipts and epayments; the eKuberbased CBS mechanism of RBI used in this regard by many state givernments and GOI departments may be leveraged.RBI may setting up of payment gateway for Govt receipts so that the common citizens can use highly secured and freely available payment portal with STP benefit for the Govt without any concern for Govt to pay for MDR. b.All Govt refunds(in particular IT refunds) should made made electronically.All vendor/ sundry payments also be done electronically with rare cases of small payments being made in cash with the apprroval HOD with monthly reports to Secretary to the Mimnistry/ department. c.In 12 to 18 months time all Govt instituitions, hospitals, educational institutions , etc should move to near 100% collections through digital means;as a means to encourage first time digital payers they may get a small, say 5% discount while paying fisrt 3 consective payments of montly fees digitally. d.Still treasurry manuals and business/ accounting rules are not fully tuned to digital means of payments(e.g non acceptance of image based cheque clearance).The Working Group on BPR on Government Banking Business set up by RBI with represenatives from Governments and C&AG and CGA may quickly come out with the suggestions in this regard for implementation within 12 to 18months e,DIPAYAN should be leveraged along with the Financial Inclusion Fund(managed by NABARD under guidance og DFS / RBI) and the ADF proposed y RBI in its discussion paper on proliferation of POS. e.Under Digital India program annual award programs for adoption of digital payments means by state governments, schemes and agencies and BPR innovations in this regard may be constitued by DEA/MoF or NITI Ayog.The draft para in this reagrd may be tweaked accordingly f.Disincentive for use of cash:Cash deposits (except for small ticket ones , say upto 10 to 15000 Rs per week) should attract charges of ,say, p.5%; it should be as close to MDR as possible to encourage merchants to move to cashless transactions.

Best, Harun R Khan

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Additional Note by RBI - E-Mail Dated 08 December 2016 from Mr. Chandan Sinha

Member Chandan Sinha submitted an additional suggestion before the Committee, vide E-Mail dated 08-12-2016. The suggestion has been reproduced below:

Make regulation of payments independent from the function of central banking:

The recommendation is that RBI will be the regulator for SIPS and a separate board (PRB) for retail payments will be created under RBI. For the PRB, RBI has indicated its preference is for a MPC Style structure where the "outcomes" (policy/regulation/standards) are decided independently of the RBI but the implementation (regulation & supervision of all payment systems) remains with the RBI in the present form. The proposed governance structure of PRB, a body that does not report to the central board of RBI and having external experts also as members serves this purpose and leverages on the capabilities of RBI as the regulator of payment systems. The global experience, by and large, has been that both the SIPS and retail payment systems are under the central bank for a variety of reasons including issues of inter-connectivity between the systems and the role of the central bank as the lender of last resort (LOLR). In this structure, RBI as regulator and supervisor (through DPSS) will operate under the directions of the Central Board of RBI (for SIPS) and PRB (for RPS).

On the composition of the PRB, the RBI has desired equal representation (by inclusion of a DG and another central board director) as is the case with the MPC structure. All the proposed directors of PRB, including the Governor and Deputy Governors are government appointees and hence this should be an acceptable proposition. Moreover, a director of the central board from the IT industry, for example, can add immense value to the PRB. Similarly, by having a Deputy Governor responsible for banking regulation or supervision would be helpful in ensuring that banking regulations per se don't work against the objectives of the payment regulations especially in a scenario where banks remain the dominant player.

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Acronyms

ACCC Australian Competition and Consumer Commission 57

AD Authorised Dealer 66

AEPS Aadhaar Enabled Payment System 31, 75, 117, 127, 128, 167

AISP Account Information Service Provider 58

APC Australian Payments Council 59

APCA Australian Payments Clearing Association 57, 59

API Application Programming Interface 52, 57, 58

APRA Australian Prudential Regulation Authority 54, 78

APTEL Appellate Authority for Electricity 64

ASBA Applications Supported by Blocked Amount 135, 137

ASIC Australian Securities & Investments Commission 105

ASPSP Account Servicing Payment Services Provider 58

ATM Automated Teller Machine 30, 90, 94, 96, 108, 112, 114, 117, 160, 167

BoC Bank of Canada 101

BoE Bank of England 52, 54, 59, 78, 98–100

BPSS Board for Regulation and Supervision of Payment and Settlement Systems 22, 48, 52, 53, 77–79, 81, 84, 85, 155

BSE Bombay Stock Exchange 69

CASA Current Account, Savings Account 20

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CAT Competition Appellate Tribunal 59

CBDT Central Board of Direct Taxation 11, 24, 124, 125, 159

CBEC Central Board of Excise and Customs 150, 159, 160

CEA Central Electricity Authority 64

CIC Credit Information Company 143, 168, 169

CKYCR Central KYC Registry 116, 117, 125, 126

CMA Competition and Market Authority 54, 59

COMPAT Competition Appellate Tribunal 81

CPA Canadian Payment Association 101

CPIC Critical Payment Infrastructure Company 68

CPMI Committee on Payments and Market Infrastructure 73

CPSS Committee on Payment and Settlement Systems 96, 98, 99, 149

Cr Crore 123, 125, 127

DCB Direct Carrier Billing 31, 49, 50, 75, 131, 132, 167, 168

DEA Department of Economic Affairs 11

DGS&D Directorate General of Supplies and Disposal 135, 137

DIPAM Department of Investment and Public Asset Management 11, 33, 47

DNS Deferred Net Settlement 148

DoT Department of Telecommunications 50, 64, 177

DPSS Department of Payment and Settlement Systems 85

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EDC Electronic Data Capture 160

ERC Electricity Regulatory Commission 64

EU European Union 55

FCA Financial Conduct Authority 54, 78, 98, 104

FEDWIRE Federal Reserve Wire Network 149

FMI Financial Market Infrastructure 92, 102

FSA Financial Services Authority 78

FSLRC Financial Sector Legislative Reforms Commission 47, 48, 71, 80, 93, 106

FSP Financial Service Provider 163

GDP Gross Domestic Product 19, 41

GeM Government e-Marketplace 135

GOI Government of India 68, 153, 166, 167

IAMAI Internet and Mobile Association of India 11

IBA Indian Banks Association 11, 22, 65, 78, 83, 84, 86

IFC Indian Financial Code 62

IMPS Immediate Payment Service 45, 46, 69, 73, 148, 165

INR Indian Rupee 66

IPO Initial Public Offering 69

IT Information Technology 148

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ITU International Telecommunication Union 74

KYC Know Your Customer 116, 117, 122–127, 162–165, 167

LVTS Large Value Transfer System 63, 149

MAS Monetary Authority of Singapore 60

MC Master Circular 53

MDR Merchant Discount Rate 76, 77, 116, 117, 144–147, 150, 168

MoF Ministry of Finance 22–24

MPC Monetary Policy Committee 86

MTSS Money Transfer Service Scheme 169

NASSCOM National Association of Software and Services Companies 11

NECS National Electronic Clearing Service 45, 63

NEFT National Electronic Fund Transafer 24, 45, 46, 48, 63, 65, 73, 135, 148, 149, 165

NFC Near Field Communication 83

NFS National Financial Switch 69

NIPFP National Institute of Public Finance and Policy 12

NPCI National Payments Corporation of India 9, 11, 24, 46, 49, 68–70, 127, 128, 166, 167, 178

NSE National Stock Exchange 69

OTP One-Time-Password 117, 124, 167

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OTT Over-The-Top 167

PAN Permanent Account Number 24, 122–125, 163, 164

PCI Payments Council of India 11

PIN Personal Identification Number 160

PISP Payment Initiation Service Provider 58

PMJDY Pradhan Mantri Jan Dhan Yojana 27, 31

POS Point of Sale 112–114, 116–118, 126, 127, 129, 144, 146, 147, 159–161, 164, 167, 168, 176, 178

PPI Prepaid Payment Instrument 45, 50, 51, 53, 65, 66, 72, 74–76, 94, 112, 114, 169

PRA Prudential Regulation Authority 54, 78

PRB Payments Regulatory Board 22, 85–87, 155–157, 170–174

PSAC Payment System Advisory Council 81

PSB Payment Systems Board 54, 55, 57, 59, 99, 100

PSD Payment System Directive 102–104

PSP Payment Service Provider 12, 19, 20, 24, 44, 45, 48, 52–55, 57, 58, 65–67, 71–76, 78, 81, 102, 154, 156–158, 166, 167, 169–173, 175, 177

PSR Payment System Regulator 43, 54, 56, 57, 59, 61, 98

PSRs Payment System Regulations, 2009 104

PSU Public Sector Undertaking 160

RBA Reserve Bank of Australia 54, 99

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RBI Reserve Bank of India 11, 21, 22, 24, 25, 29, 45–48, 50–53, 63, 65, 66, 68, 71, 72, 75, 77–79, 84–87, 90–94, 106, 107, 109, 116, 122, 124, 127–130, 133, 147, 149, 153, 155, 165–169, 177, 178

RTGS Real Time Gross Settlement 24, 45, 46, 48, 63, 65, 73, 92, 117, 147–149, 157, 165

SAT Securities Appellate Tribunal 81, 156, 158, 174, 175

SEB State Electricity Board 64

SEBI Securities and Exchange Board of India 69, 87

SIFI Systemically Important Financial Institution 25, 166, 168, 178

SIPS Systemically Important Payment System 25, 54, 79, 92, 93, 96, 98, 99, 106, 107, 168, 178

SSN Social Security Number 122

TIN Tax Identification Number 122

TRAI Telecom Regulatory Authority of India 24, 31, 49, 50, 64, 128, 129, 131, 165, 168, 177

TReDS Trade Receivable Discounting System 159

UIDAI Unique Identification Authority of India 11, 24, 123, 124, 163, 177

UK United Kingdom 46, 50, 54, 55, 57, 59, 60, 63, 73, 78, 79, 98, 104, 106, 108

UPI Unified Payment Interface 45, 52, 65, 69, 72, 73, 127, 159

USSD Unstructured Supplementary Service Data 31, 49, 117, 128, 129, 165, 167

VAS Value Added Service 50

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VAT Value Added Tax 118

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Submissions

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