



भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA

Payment Systems in India

The Continuing Agenda

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Disclaimer: The views expressed here are those of the presenter and do not reflect the official views of the Reserve Bank. The presenter also reserves the right to withdraw some impromptu comments / observations made during the course of discussions.

Why are CBs concerned about Payment Systems ?

- Strengthens confidence in the financial system
- Contributes to effective functioning of fin. markets

**FINANCIAL
STABILITY**

**Payment
Systems**

**MONETARY
STABILITY**

- Reduces transn. costs
- Promotes efficient use of fin. resources

**ECONOMIC
EFFICIENCY**

- Helps in efficient transmission of monetary policy
- Facilitates credit intermediation

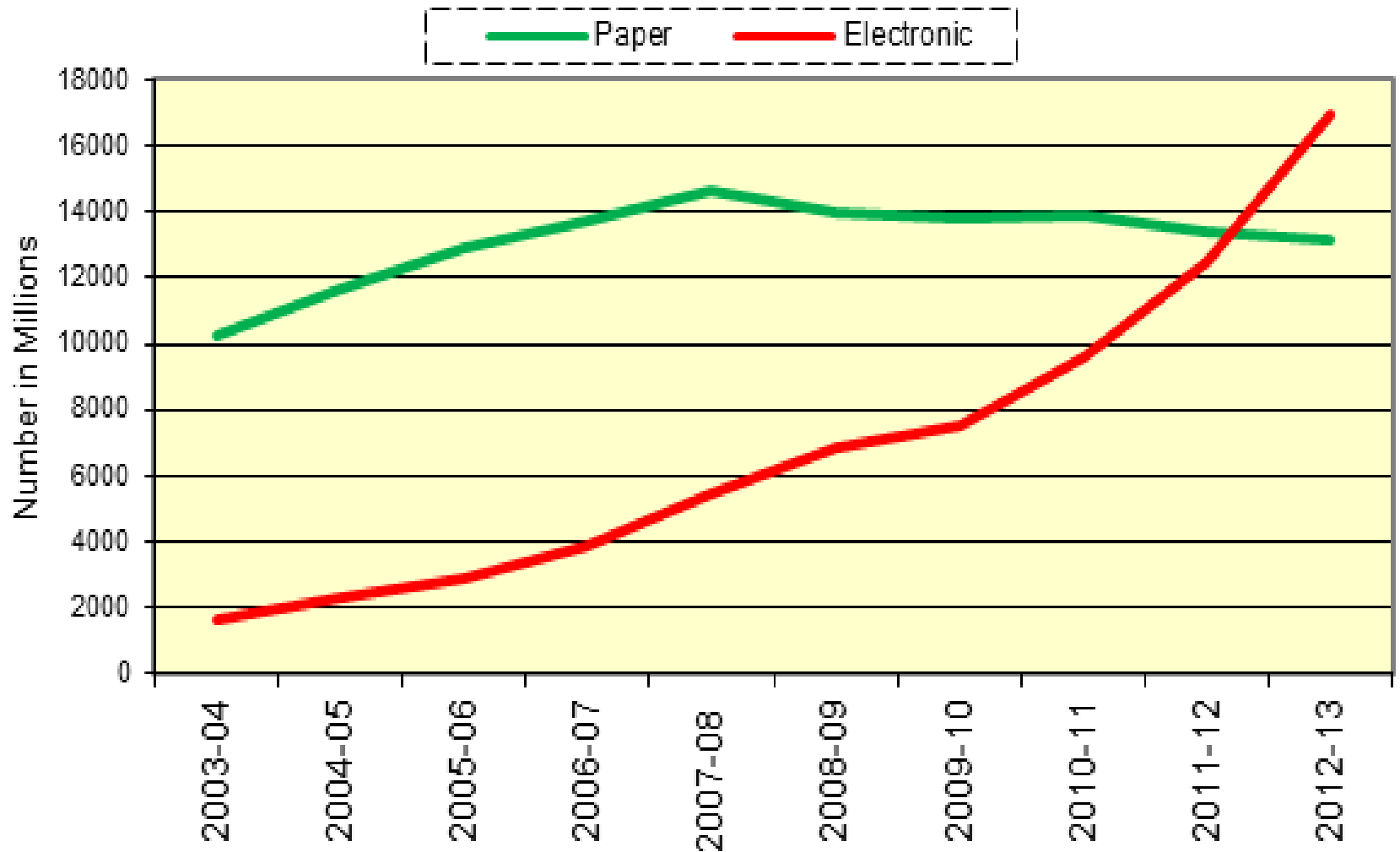
RBI's evolving role in PS

Phase	Phase-I 1980s- 2006	Phase-II 2007-2011	Phase-III 2012 onwards
Role	<ul style="list-style-type: none"> •Operator •Catalyst •Limited Oversight 	<ul style="list-style-type: none"> •Operator •Catalyst •Full fledged •Oversight 	<ul style="list-style-type: none"> •Operator of RPS ????? •Operator of LVPS •Catalyst •Overseer
Focus	<ul style="list-style-type: none"> •Technology •New products •Institution building •Consolidation 	<ul style="list-style-type: none"> •New innovative products •New Delivery channels •Safety, security , efficiency, accessibility 	<ul style="list-style-type: none"> •Financial inclusion •Non-cash economy •Convergence of products and channels •Government payments •Integration of payment systems
Achievement/ Goal	<ul style="list-style-type: none"> •From manual to technology driven modern payment system •Move towards centralised clearing •Institution building 	<ul style="list-style-type: none"> •Sound legal framework •Adherence to international standards •Orderly market growth •All SIPS settle in CB money 	<ul style="list-style-type: none"> •Retail - Ubiquitous, safe, efficient, accessible, affordable, inclusive payment and settlement system; •Wholesale: safe and efficient FIMs •International coop

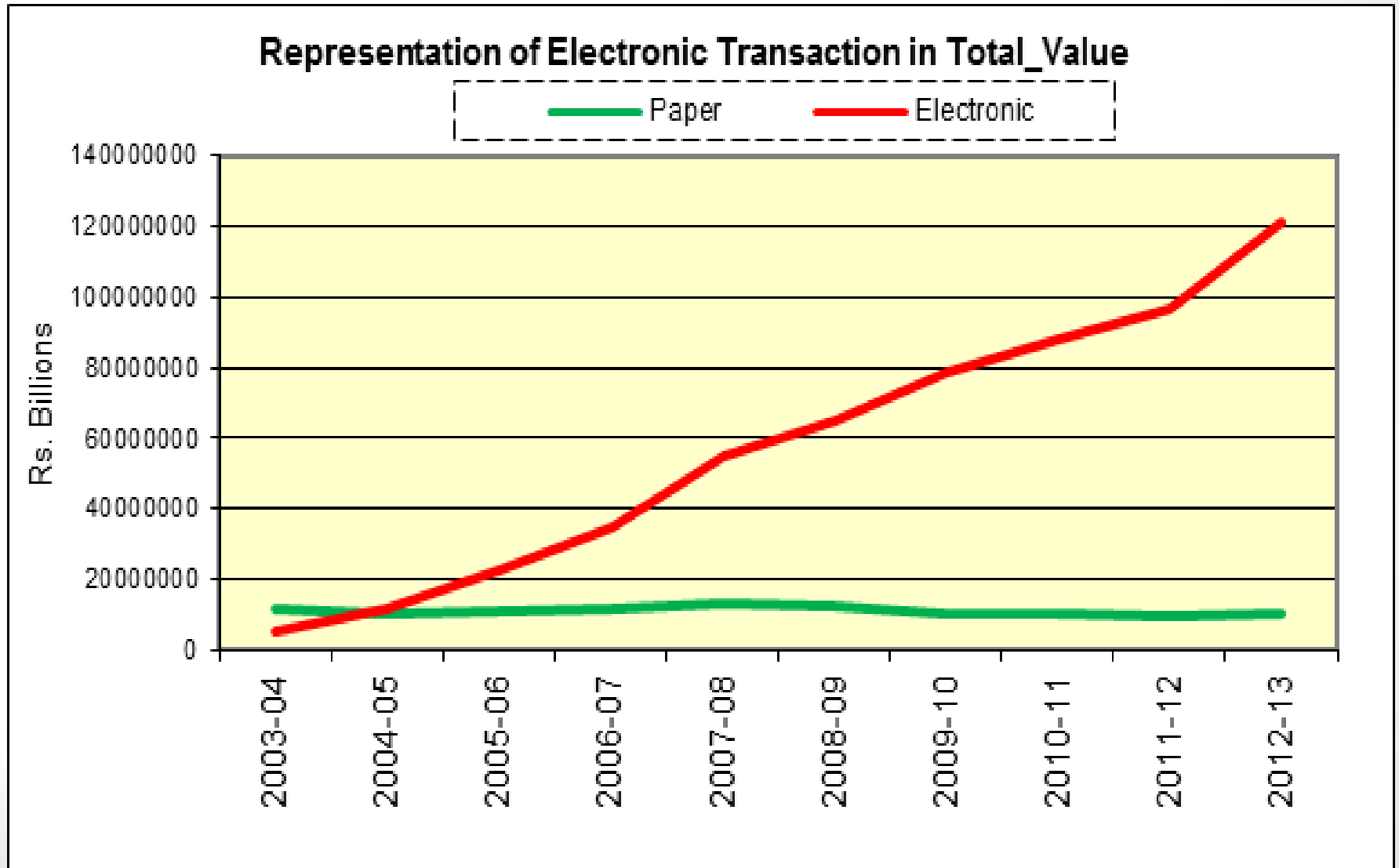
To proactively encourage electronic payment systems for ushering in a less-cash society in India.

Progress of PS - Volume

Representation of Electronic Transactions in Total_Volume

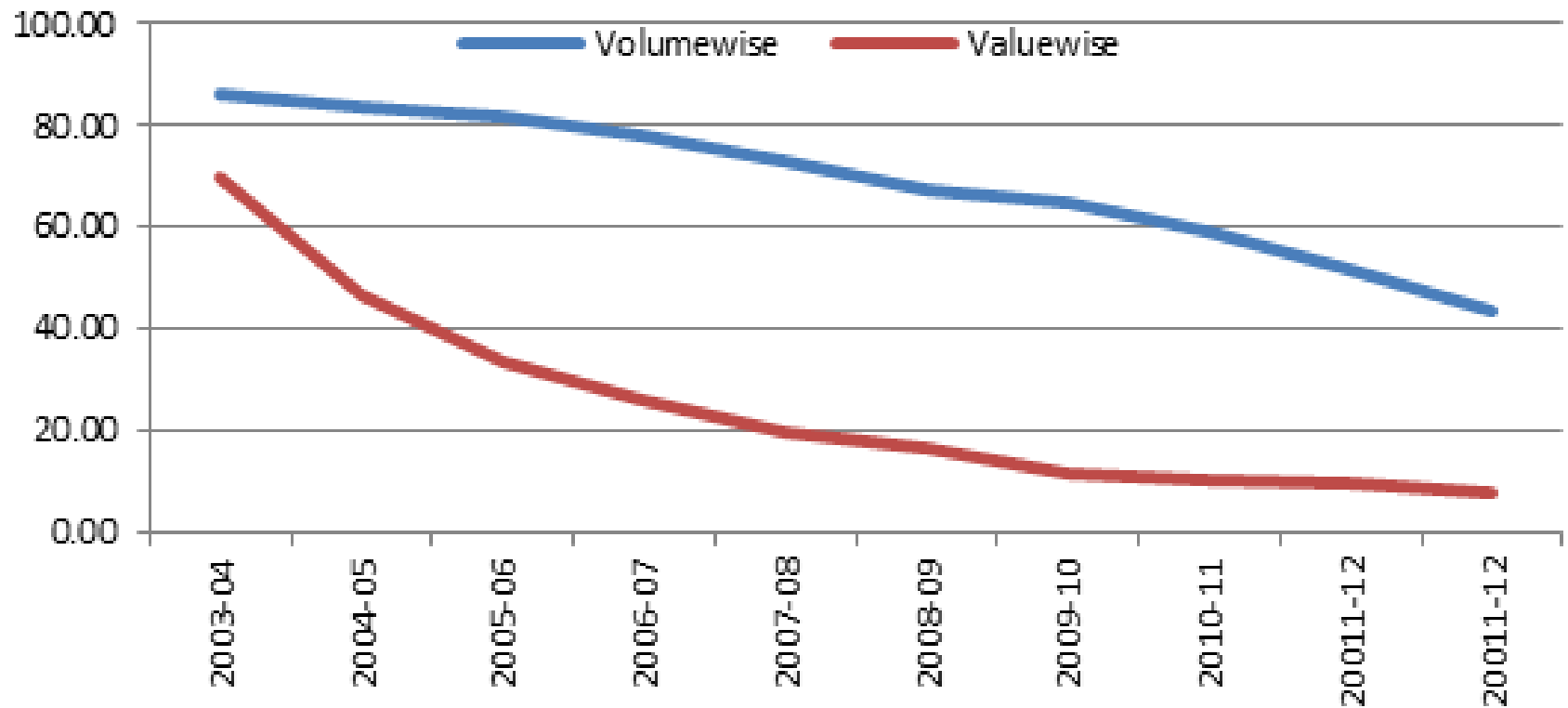


Progress of PS - Value



Percentage of paper

% share of paper over total payment transactions



Cheque Volume: 42%; Value: 8%

Cash is still King

	Number of non-cash transaction per inhabitant (in a year)				
	2007	2008	2009	2010	2011
Brazil	63	70	96	100	112
China	3	3	4	5	6
INDIA	3	4	5	6	6
Japan	58	61	88	nav	nav
Korea	178	197	216	244	271
Russia	22	25	26	34	39
Saudi Arabia	33	42	44	50	57
South Africa	nav	nav	39	44	47
CPSS ¹	56	59	63	66	71

Challenge:

- Huge potential to tap
- Changing payment habits and creation of eco system for electronic payments

Concerns - Indian reality

- Predominantly a **cash based** economy
- **Electronic transactions** growing, but
- **Acceptance infrastructure** like ATMs and PoS are growing but...
- **Non banks** payment system operators yet to make an impact
- **Domestic remittances**- huge informal corridors but formal channels yet to meet the huge potential
- **Merchants** - acceptance of e-payments not picking
- **Government payments** to electronic mode – in slow motion

WE NEED to quickly move up the

“Fit for the current purpose” payment system infrastructure into a state of “ready for future challenges” system.

Various products to combat cash

- ECCS and CTS
- ECS suite and ACH (of NPCI)
- NEFT
- RTGS and Nxt Gen RTGS
- Card Payments – Bank/Non Bank issued
- Mobile Banking
- Internet

❖ **Security issues – 2FA**

Payments Pyramid in India

**Broad use
of
banking
services**

**Unbanked or
under banked
(minimal use of
banking services)**

- Use of credit and debit cards, cheques, money transfers, direct debit and direct credits
 - Use of smart phones for mobile banking.
 - Use of Internet banking
-
- Low income and rural, semi-urban areas
 - Financially excluded
 - Extensive use of cash.
 - Beneficiaries of social benefit schemes

Payment Systems Vision 2012-15

Mission Statement: To ensure payment and settlement systems in the country are safe, efficient, interoperable, authorised, accessible, inclusive and compliant with international standards.

Focus areas

- **Promote inclusion** through easy access to affordable payment products
- **Promoting a less cash / less paper society** - the “green” initiative
- **Promote innovation** - bouquet of cost efficient modern electronic payment products
- **Build dexterity** of payment systems through standardisation, interoperability, common infrastructure creation
- Compliance with **international standards** as a G-20 country

Vision 2012-15: Salient features

- **Efficiency enhancement in the payment systems**
- **Standardisation, portability and interoperability**
- **Development of infrastructure and integrated payment system**
- **Managing risks in payment systems**
- **Promote access and inclusion**

Payment Infrastructure

- **Infrastructure deployment in rural and semi-urban areas**

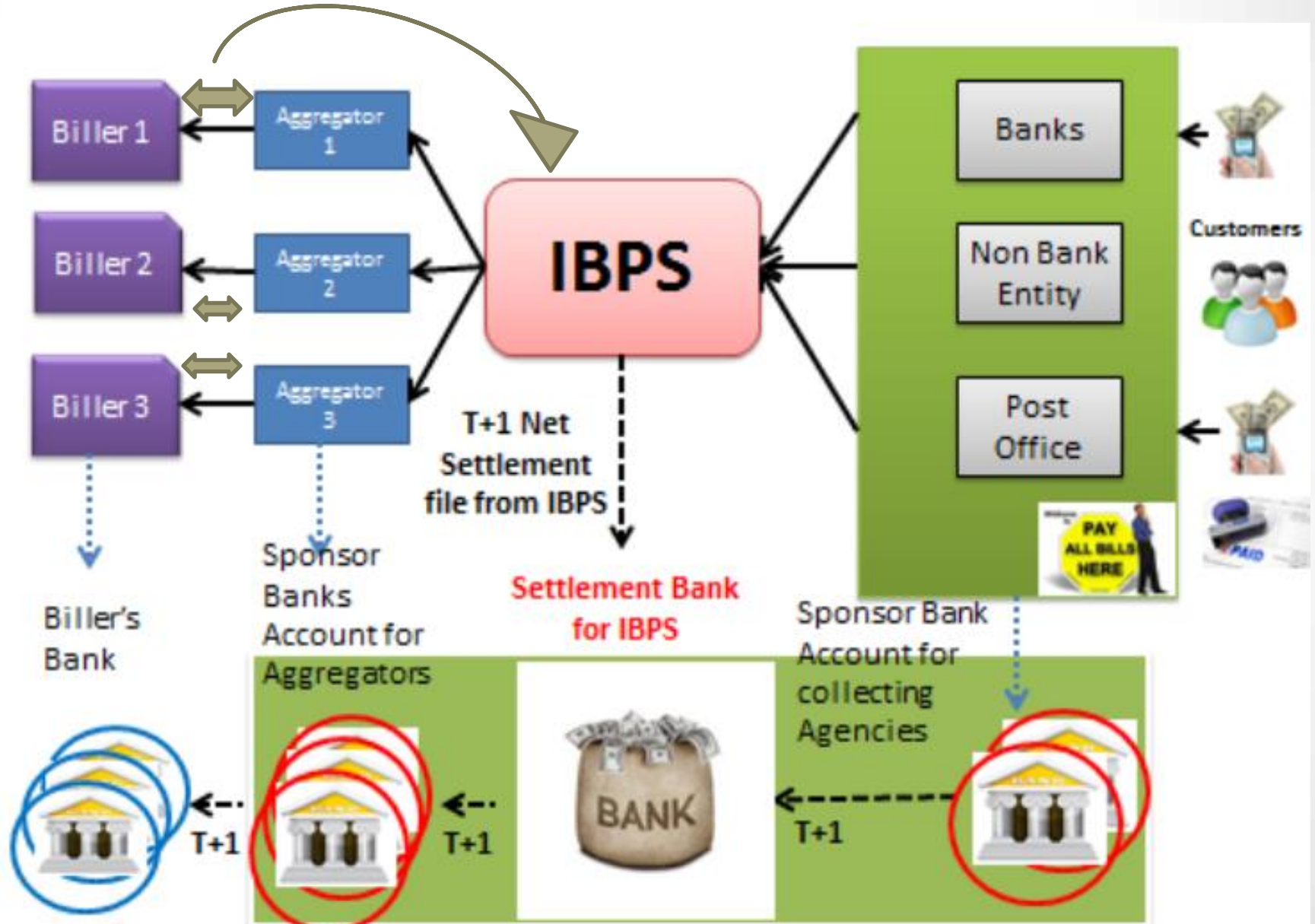
Policy initiatives

- Non-banks permitted to install WLAs (1 auth. + 12 in-prin'le.)
- Non-banks PPI issuers permitted to link to IMPS
- Access criteria to NFS and IMPS rationalised to permit RRBs, UCBs and co-operative banks to participate in these systems
- BCs interoperability and microATMs standardisation

In the pipeline

- White label PoS
- GIRO system for bill payments
- Linking non-bank payment systems to bank payment systems- creating a level playing field

GIRO Payment



Identity and authentication

❖ ID/address and AML/CFT requirements

Policy initiatives

- Aadhaar letter as proof of address and identity
- Aadhaar verification and authentication is already permitted for Aadhaar Based Payment Systems (ABPS) and Aadhaar Enabled Payment System (AEPS) respectively.
- E-KYC is permitted for banks and could be permitted for non bank payment system operators
- RBI is also examining the feasibility of using Aadhaar as second factor of authentication for card present transactions.

Other issues

- **Safety and security of card transactions**
 - Chip and Pin and/or Aadhaar based
 - Current vis-à-vis future need
 - Slow seeding of Aadhaar in bank accounts
 - Uneven progress in Aadhaar enrolment
- **Customer protection** for users of non-bank payment system operators to be streamlined
- **Interoperability**
 - Interoperability of PPIs
 - Interoperability of non-banks and inter-bank payment systems

Domestic remittances

- Despite relaxations, use of PPIs as well as the Domestic Money Transfer (DMT) scheme are not picking up as expected;
- PPIs issued by non-banks cannot be used for P2P remittances due to limitations on cash-out
- None of the payment products are aligned to meet the remittance need of unbanked population as presence of bank account is necessary at one end (either sender or receiver) at the minimum;
- A limited cash out in PPIs issued by non-banks would boost the usage of PPIs for remittance purpose, especially by unbanked / under-banked / migrant population.
- Study has indicated ease of CICO critical for adoption of e-payments
- ***Policy initiatives***
 - Pilot for permitting cash-out by non-bank PPI issuers using Aadhaar
 - Key to success: KYC/AML issues; customer protection; and grievance addressal; and oversight

Mobile Payments

Challenges:

- Lack of co-operation and collaboration amongst the banks and MNOs
- MNOs fear of revenue loss
- Customer adoption of mobile payments
- Mobile payment has also not picked up on account of lack of merchant acceptance infrastructure or a concerted effort to onboarding merchants
- NPCI's USSD platform yet to be endorsed by all MNOs

Way forward

- Growing usage of mobile banking
- Growing usage of IMPS
- IMPS merchant payment module
- NPCI-MNOs co-operate to open USSD channel
- Study group on Encrypted SMS based payments
- Cash-in and cash-out by mobile wallet issuers



Co-ordination between Government and RBI

- Huge opportunity for moving all Government payments including EBTs/ DBTs
- There have been success stories but more can be achieved
- Huge potential to migrate Insurance industry premia; Property dealings and registration of property , Utility companies to provide for online payments; Housing societies, schools, private hospitals, railway ticket counters, could move to electronic modes of payments;
- Deployment of PoS in all government offices for cash, fees, tax etc;
- Point of purchase (PoP) machines and pre-paid cards at procurement centres'; Convenience fees/surcharge collected by public sector undertakings, utility companies could be done away with
- State governments could move to electronic platform for all vendor payments; Migration of government payments to electronic mode (online tax collection, EBT payments, benefit transfers, pension payments etc)
- Integrated urban transport cards including toll plaza. All parking spaces in urban areas could be asked to collect parking fee through cards.
- Merchants with annual turnover Rs. 5 lakh- to necessarily install PoS

Government could consider tax incentives

- Subsidise VAT / Service Tax for the products or services sold to domestic card holders.
- Encourage individuals to spend using Debit Cards by proposing special Income tax rates for the amount spent using debit cards for domestic transactions.
- Exempt import duties (existing structure 12% CVD(Countervailing Duty), 4% SAD (Special Additional Duty), Education and Higher Education Cess) for the import of Card POS terminals and Biometric POS terminals so that cost of such terminals can be reduced by 20%.
- Further deployment of PoS based on the number of cards issued (Government can push PSBs for deployment of PoS)

**Challenges in the
implementation of PFMI :
an oversight perspective**

PFMIs

Overview:

- Principles for Financial Markets Infrastructures (PFMI)
- How should authorities gear up to implement the PFMIs?
- What are the challenges in implementing the responsibilities ?

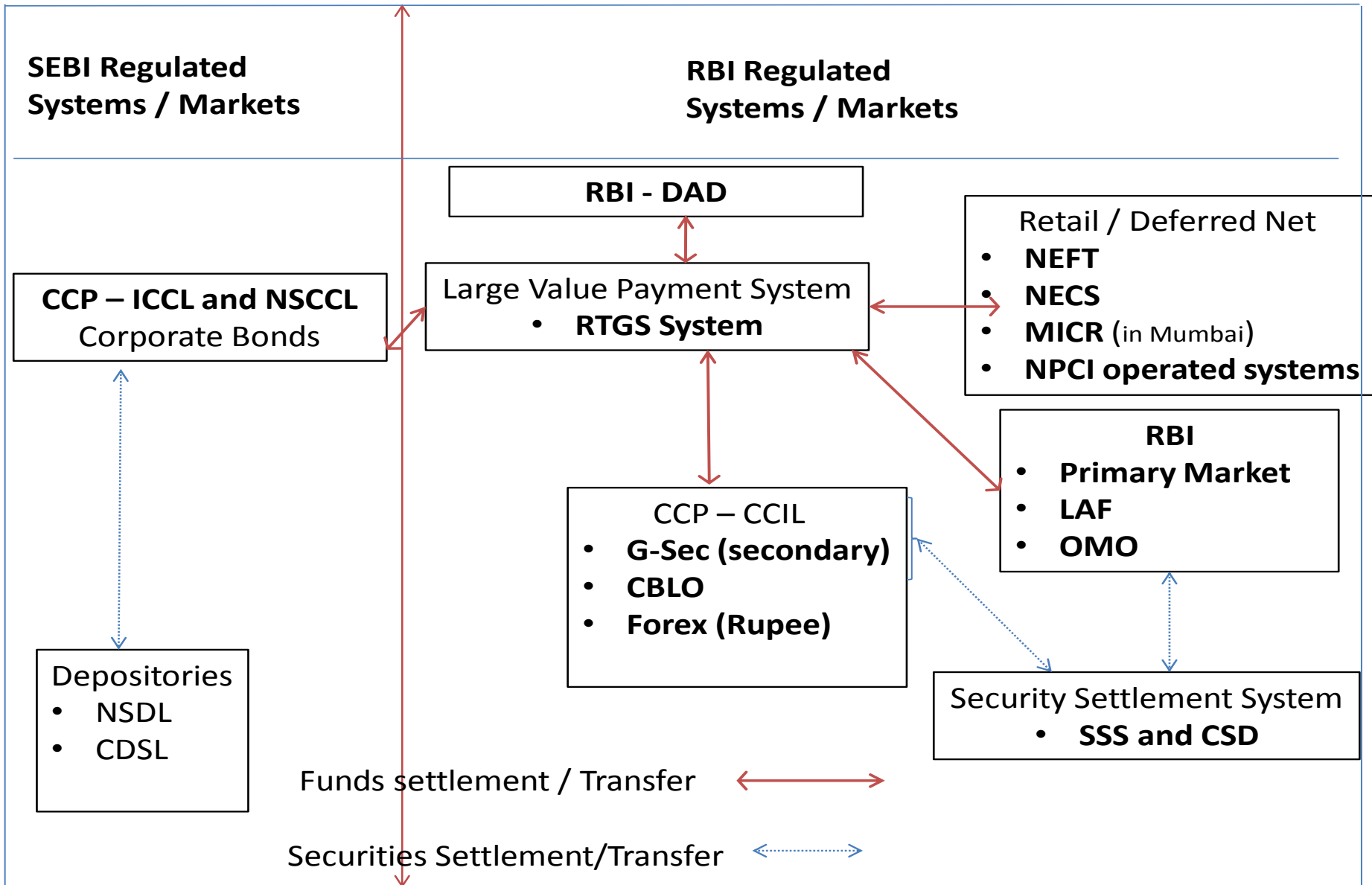
Definition of FMI

An FMI 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. FMIs typically establish a set of common rules and procedures for all participants, a technical infrastructure, and a specialised risk-management framework appropriate to the risks they incur. FMIs provide participants with centralised clearing, settlement, and recording of financial transactions among themselves or between each of them and a central party to allow for greater efficiency and reduced costs and risks”.

How FMI failure impact financial stability?

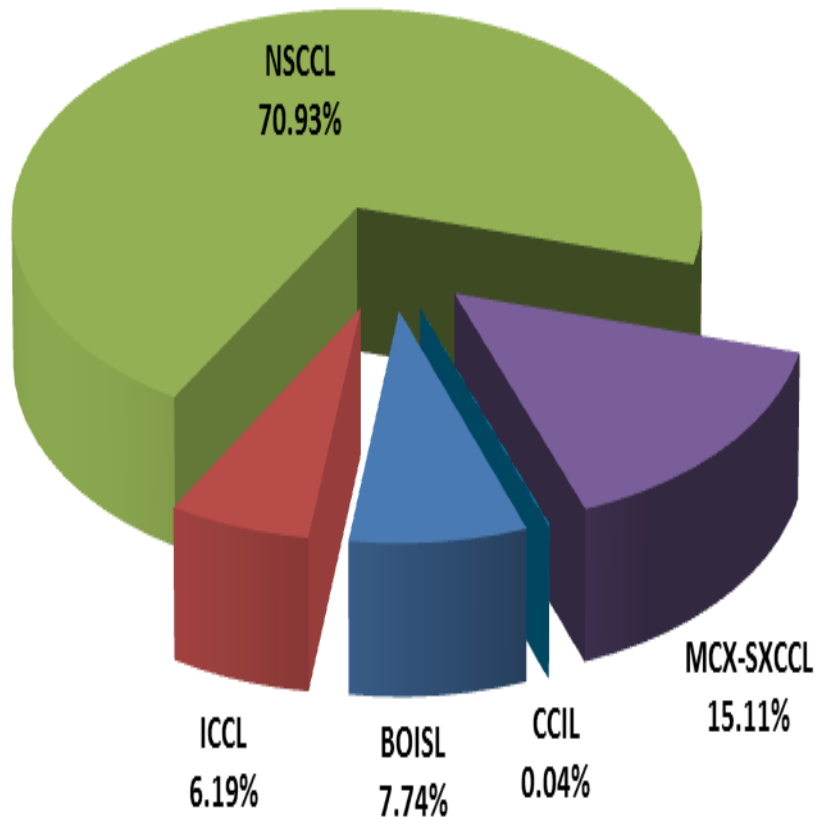
- ✓ Potential for triggering systemic risk
 - ✓ FMIs are critical nodes in networks
 - ✓ Impact would be sever than participant failures
- ✓ Contagion effect due to inter-connectedness and links
- ✓ Credit losses
- ✓ Liquidity and collateral dislocation and scarcity
 - ✓ FMI failure can result in further call for capital/financial resources from from members and aggravating members positions
- ✓ Market failures on account of lack of substitutability

Interdependencies among FMIs

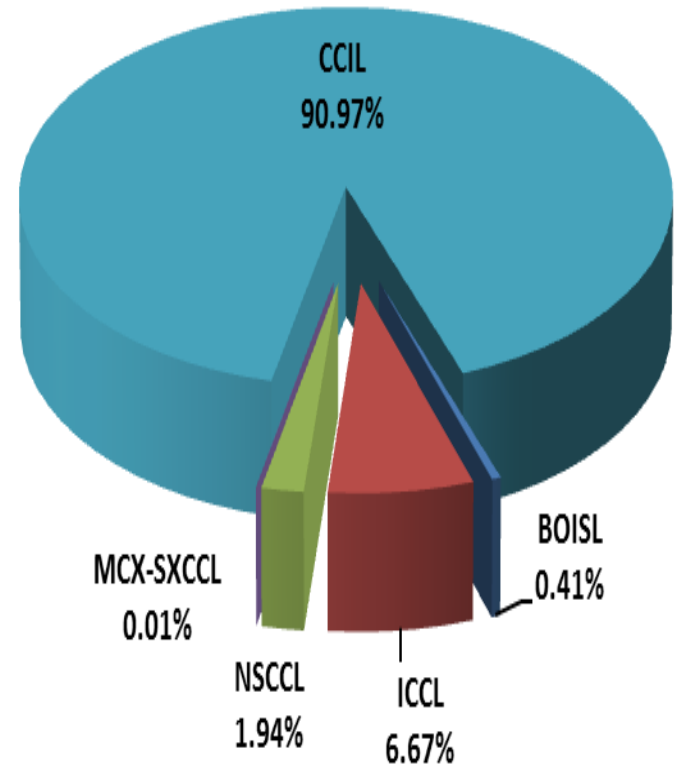


FMI's in India

Share in terms of Volume



Share in terms of Value



Moot point is.....

“CCPs also concentrate risk. If not properly managed, [CCPs] can be sources of financial shocks, such as liquidity dislocations and credit losses, or a major channel through which these shocks are transmitted across domestic and international financial markets.” - **Principles for Financial Market Infrastructure**

FMI are much more complex

The consequences of a failure by an FMI like CCP could be even more severe than the failure of a large participants

CPSS-IOSCO Principles for FMIs

PFMIs - finalised and issued in April 2012

- Harmonise existing standards
 - Core principles for SIPS
 - Recommendations for Security Settlement Systems
 - Recommendations for central counterparties (CCPs)
- Strengthen existing standards
- Ensure consistent application
- Reinforce with disclosure framework and assessment methodology

24 PFMI

General Organisation 1. Legal basis 2. Governance 3. Framework for risk mgmt	Credit & Liquidity Risk 4. Credit risk 5. Collateral 6. Margin 7. Liquidity risk	Settlement 8. Settlement finality 9. Money Settlements 10. Physical deliveries
CSDs and exchange of value settlement systems 11. CSDs 12. Exchange of value settlements	Default Management 13. Participant default rules 14. Segregation and portability	General business and Operation risk mgmt 15. General business risk 16. Custody and Investment risks 17. Operational risks
Access 18. Access & participation requirements 19. Tiered participation 20. FMI links	Efficiency 21. Efficiency & effectiveness 22. Communication procedures and standards	Transparency 23. Disclosure of rules, key procedures & market data 24. Disclosure of market data by Trade Repositories

Liquidity Risk ?

- Might not be paid in time
 - Possible consequences
 - Borrow money
 - Borrow securities
 - Sell assets
 - Pay penalties for settlement failures

Credit Risk ?

- Might not be ever paid
 - Possible consequences
 - Unwanted open position
 - Replacement cost
 - Loss of entire principal

Systemic Risk ?

- One failure may trigger other failures
 - Possible consequences
 - Shortage in liquidity across markets
 - Pressure of interest/exchange rates
 - Large swing in asset prices
- Impact financial stability
 - **That's why Central Banks care** and hence the PFMIs – to strengthen the FMIs

Why do CBs care?

FMI safety necessary for

- Financial System stability
- Transmission of monetary policy
- Functioning of Banks
- Functioning of the financial system
- Functioning of the macro-economy

Why do CBs care? ...

Potential roles of the central bank

- Operator of payment systems
- Liquidity / credit provider : Intra day/over night
- Bank supervisor
- Catalyst / Collaborator for innovation
- System supervisor/overseer
 - Setting policies/objectives/standards
 - Specific laws and regulations
 - Dialogue with domestic and international authorities
 - Enforcement and sanctions

PFMIs – what's new?

- New principles
 - Comprehensive risk
 - Segregation and portability
 - Resolution
 - Trade repository
- Higher requirements – cover 2 for credit and liquidity risks

New Principles in PFMI

- **Comprehensive Risk**

- To facilitate comprehensive regulation, supervision, and oversight among regulators
- Need cooperation among Central Banks, market regulators and other relevant authorities-domestically and internationally
- to reduce the probability of gaps in regulation, supervision, and oversight
- To minimise the potential duplication of effort and the burden on the FMIs or the cooperating authorities.

New Principles

- **Segregation and portability**
 - Effective segregation arrangements can reduce the impact of a participant's insolvency on its customers
 - Portability minimises the costs and potential market disruption associated with closing out positions and reduces the possible impact
 - Effective legal framework to support segregation and portability

New Principles

- **FMI recovery and Resolution**
 - The choice of resolution powers should be guided by the need to maintain continuity of critical FMI functions.
 - FMI's resolution authorities, to ensure consistency between recovery and resolution plans.

New Principles

- **Trade repository**

- An entity that maintains a centralised electronic record of transaction data.
- Emerging as a new type of FMI, have recently grown in importance, particularly in the OTC derivatives market.
- Serving a significant role in enhancing the transparency of transaction information
- Promoting financial stability, and supporting the detection and prevention of market abuse.
- Providing information that supports risk reduction, operational efficiency and effectiveness and cost savings

Role of Authorities in implementation

- **Why ?** - Regulatory response to the 2007 Financial Crisis
 - FMI's failure may impact Financial Stability
- **How ?** – Through **Structured, Safe, Secured, Suitable** systems with global **Standards** having **Settlement finality** with sound legal basis.
- **Why ?** - Responsibility as G20 members and because CBs care and assume responsibility for financial stability.

Challenges in the implementation of PFMI

- **Complexity in the standards**
 - Multiple FMIs, multiple regulators in a single jurisdiction
 - Developing Cooperative Oversight
 - Relevant authorities /regulators should cooperate with each other, both domestically and internationally,
 - Differences in Legal/ regulatory framework in various jurisdictions
 - Need for specific regulation or rules in order to adopt the PFMI in some jurisdictions .
- If a central bank is an owner or operator of an FMI as well as the overseer of private-sector FMIs, conflicts of interest need to be addressed.

Challenges ... PFMs

- Sustainability in complying PFMs
- Developing Enforcement Tools
- Implementing necessary Procedural changes
- Challenges in institutional and technical changes
- Bearing Investment cost - To what extent ?
 - Can it be transferred :
 - to participants ?
 - from participants to customers/users?

Challenges ... PFMs

- Risk Profiles of FMIs and banks are different
- Are we replacing “too big to fail” banks with FMIs
- **Liquidity** will be an issue
 - Indian markets dominated by few large players/banks
 - Central bank liquidity support has moral hazard issues
 - Focus on participant liquidity or FMIs liquidity
- **Collaterals** : Issues relating to concentration, reuse and liquidation.
 - Having High quality collaterals with low market and low liquidity risk
 - In many jurisdictions collaterals with low credit, liquidity, and market risks may only be limited to government securities

Thank you

