Regulation and Supervision of Financial Market Infrastructures regulated by Reserve Bank of India

भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA

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Abbreviations

CBLO	Collateralised Borrowing and Lending Obligations
CCIL	Clearing Corporation of India Ltd
CCPs	Central Counter Parties
CLS	Continuous Linked Settlement
CPSIPS	Core Principles for Systemically Important Payment Systems
CPSS	Committee on Payment and Settlement Systems
CSDs	Central Securities Depositories
FMIs	Financial Market Infrastructures
FRA	Forward Rate Agreements
FSB	Financial Stability Board
IOSCO	International Organisation of Securities Commissions
IRS	Interest Rate Swaps
MNSB	Multilateral Net Settlement Batch
NDS-OM	Negotiated Dealing System -Order Matching
PDO	Public Debt Office
PSS Act	Payment and Settlement Systems Act, 2007
RBI Act	Reserve Bank of India Act, 1934
RCCPs	Recommendations for Central Counter Parties
RSSSs	Recommendations for Securities Settlement Systems
RTGS	Real Time Gross Settlement System
SIPS	Systemically Important Payment System
SSSs	Securities settlement systems
TRs	Trade Repositories

1. Introduction

1.1 Financial Market Infrastructure (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.[1]The term FMI generally refers to systemically important payment systems, Central Securities Depositories (CSDs), Securities Settlement Systems (SSSs), Central Counter Parties (CCPs), and Trade Repositories (TRs) that facilitate the clearing, settlement, and recording of financial transactions.

1.2 FMIs play a critical role in the financial system and the broader economy and contribute to maintaining and promoting financial stability and economic growth. At the same time, the FMIs also concentrate the risk and, if not properly managed, FMIs can be sources of financial shocks or a major channel through which these shocks are transmitted across financial markets. To address these risks, the Committee on Payment and Settlement Systems (CPSS) and International Organization of Securities Commissions (IOSCO) have established, over the years, various international standards viz. (i) the Core Principles for Systemically Important Payment Systems (CPSIPS) (January 2001); (ii) the Recommendations for Securities Settlement Systems (RSSS) (November 2001); and (iii) the Recommendations for Central Counterparties (RCCP) (November 2004).

1.3 CPSS and IOSCO launched a comprehensive review of the three existing sets of standards for FMIs in February 2010 in support of the Financial Stability Board's (FSB) broader efforts to strengthen core financial infrastructures and markets by ensuring that gaps in international standards are identified and addressed[2]. The review also incorporated the lessons learned from the financial crisis to adapt to greater uncertainties and risks in financial markets. As a result of the review by CPSS and IOSCO, a comprehensive set of 24 principles were issued as part of the report titled "Principles for Financial Market Infrastructure" (PFMI) published in April 2012. The CPSS-IOSCO "Principles for Financial Market Infrastructure" unified and harmonized the three existing sets of standards. The new principles have strengthened the existing standards, introduced new standards, and enhanced the responsibilities of authorities.

1.4 The scope of PFMI is to enhance safety and efficiency in payment, clearing, settlement, and recording arrangements, and more broadly, to limit systemic risk and foster transparency and financial stability. The members of CPSS and IOSCO are required to strive to adopt the PFMI in their respective jurisdictions. The Reserve Bank is committed to the adoption and implementation of the new CPSS-IOSCO standards of PFMIs[3]. This policy on supervision and regulation of FMIs in markets regulated by Reserve Bank of India (RBI) has been prepared for the purpose.

[1]Principles for Financial Market Infrastructures, Bank for International Settlement, April 2012

[2] Principles for Financial Market Infrastructures, Bank for International Settlement, April 2012

[3] "Payment Systems in India: Vision 2012-15", Chapter-3: Assurance through Risk Management and Oversight

2. Financial Market Infrastructures regulated by RBI

2.1 The following FMIs are regulated by the RBI:

2.1.1 Real Time Gross Settlement System (RTGS): RTGS system was implemented in March 2004. RTGS system is owned and operated by the RBI. It is a Systemically Important Payment System (SIPS) where the inter-bank payments settle on a 'real' time and on gross basis in the books of the RBI. RTGS system also settles Multilateral Net Settlement Batch (MNSB) files emanating from other ancillary payment systems including the systems operated by the Clearing Corporation of India Limited. RBI is in the process of implementing the Next Generation RTGS (NG-RTGS) built on ISO20022 standards with advance liquidity management functions, future date functionality, scalability, etc.

2.1.2 Securities Settlement Systems (SSS): The Public Debt Office (PDO) of the RBI, Mumbai manages and operates the Securities Settlement Systems for the Government securities, both for outright and repo transactions conducted in the secondary market. Government securities (outright) are settled using DVP model 3 mechanism on a T+1 basis. Repos are settled on T+0 or T+1 basis. Additionally the PDO system also acts as depository for dematerialized government securities. With implementation of the Core Banking Solution (CBS) in the RBI, the securities settlement system has been migrated to the CBS platform.

2.1.3 Clearing Corporation of India Ltd (CCIL): CCIL is a Central Counterparty (CCP) which was set up in April 2001 to provide clearing and settlement for transactions in Government securities, foreign exchange and money markets in the country. CCIL acts as a central counterparty in various segments of the financial markets regulated by the RBI viz. the government securities segment, collateralised borrowing and lending obligations (CBLO) - a money market instrument, USD-INR and forex forward segments. Moreover, CCIL provides non-guaranteed settlement in the rupee denominated interest rate derivatives like Interest Rate Swaps/Forward Rate Agreement market. It also provides non-guaranteed settlement of cross currency trades to banks in India through Continuous Linked Settlement (CLS) bank by acting as a third party member of a CLS Bank settlement member.

CCIL also acts as a trade repository for OTC interest rate and forex derivative transactions.

2.2 Other critical market infrastructures which are designated as FMIs

2.2.1 The principles in the CPSS-IOSCO report “Principles for Financial Market Infrastructures”[4] in general, are not addressed to market infrastructures such as trading exchanges, trade execution facilities, or multilateral trade-compression systems. However, the report states that the relevant authorities may decide to apply some or all of these principles to types of infrastructures not formally covered by this report. Considering the criticality of the Negotiated Dealing System-Order Matching (NDS-OM) in the Government securities market, it will be designated as an FMI.

[4] Principles for Financial Market Infrastructures, Bank for International Settlement, April 2012, Foot note 2, Para 1.3

2.2.2 Negotiated Dealing System- Order Matching (NDS-OM): NDS-OM is owned by the RBI and is operated by CCIL on behalf of the RBI. NDS-OM is an electronic, screen based, anonymous, order driven trading system for dealing in Government securities which was introduced in 2005. The NDS-OM ensures complete anonymity among the participants and brings transparency in secondary market transactions in Government securities. The NDS-OM facilitates straight-through-processing (STP) as all the trades on the system are automatically sent to the CCIL for settlement. With the efficiency and ease of its operations, the NDS-OM today accounts for around 90 per cent of the trading volume in Government securities.

3. Scope of regulation and supervision of Payment Systems in India

Oversight is defined as a "central bank function whereby the objectives of safety and efficiency are promoted by monitoring existing and planned systems, assessing them against these objectives and, where necessary, inducing change"[5]. By convention, "the term oversight is reserved to designate the specific responsibilities and tools central banks have with regard to payment and settlement systems due to their unique character of being both a public authority and a bank. Oversight is a necessary complement to any other means central banks may use to achieve their public policy objectives for payment and settlement systems, such as, operating certain systems themselves or providing settlement services to systems."[6]

3.2 The scope of the regulation and supervision of payment system in India is determined by the goals set forth in the "Payment Systems in India- Vision 2012-15". The vision statement strives "to proactively encourage electronic payment systems for ushering in a less-cash society in India and to ensure payment and settlement systems in the country are safe, efficient, interoperable, authorised, accessible, inclusive and compliant with international standards". Thus, while the working definition of oversight stresses on safety and efficiency, the scope of oversight, regulation and supervision of payment and settlement systems in India encompasses additional policy objectives, such as, authorization, accessibility, inclusiveness and compliance with international standards.

[5] Central Bank Oversight of Payment and Settlement Systems, May 2005, CPSS, BIS

[6] Central Bank Oversight of Payment and Settlement Systems, May 2005, CPSS, BIS

4. Legal Framework for Regulation and Supervision of Payment Systems[7]

The Payment and Settlement Systems Act, 2007 (PSS Act)[8] defines payment system as "a system that enables payment to be effected between a payer and a beneficiary, involving clearing, payment or settlement services or all of them, but does not includes a stock exchange". Further, "settlement" is defined in the PSS Act as "settlement of payment instructions and includes the settlement of securities, foreign exchange or derivatives or other transactions which involve payment obligations". Thus, the PSS Act covers all categories of payment systems that provide clearing, payment or settlement services or all of them and includes central counterparties, securities settlement systems etc. except for the stock exchange.

4.1 Authorisation of Payment Systems

The PSS Act confers upon the RBI, the right to regulate and supervise payment systems within the country. Chapter III, Section 4 of the PSS Act lays down that "*no person, other than the RBI, shall commence or operate a payment system except under and in accordance with an authorization issued by the Reserve Bank under the provisions of this Act*". In exercise of the powers conferred by Section 38 of the PSS Act, 2007, the Bank has notified the Payment and Settlement System Regulations, 2008[9] in the Gazzette of India. The said Regulations provide for authorisation of a Payment System; Payment instructions and determination of standards; and furnishing of returns, documents and other information including accounts and Balance sheet to the Reserve Bank. A list of entities authorised by the Bank under PSS Act are available on the website of RBI: rbi.org.in (http://www.rbi.org.in/Scripts/PublicationsView.aspx?id=12043).

Among the FMIs regulated by RBI, the Real Time Gross Settlement Systems and the Securities Settlement Systems for the Government Securities are owned and operated by the Reserve Bank and hence these systems do not require authorization.

Clearing Corporation of India Ltd. (CCIL) which is a central counterparty was granted authorization under the PSS Act in February 2009[10]. CCIL is authorized to act as a central counterparty for (i) securities segment covering Government Securities; (ii) Collateralised Borrowing and Lending obligations (CBLO); and (iii) forex settlement segment comprising sub-segments- USD-INR segment and Forex Forward segment. CCIL is also authorized to provide CLS segment i.e. Continuous Linked Settlement of Cross Currency deals, and; (iv) Rupee derivatives segment-Rupee denominated trades in Interest Rate Swaps (IRS)/ Forward Rate Agreements (FRA).

4.2 Regulation and Supervision of Payment Systems

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[7] Includes CCPs, SSSs and Payment Systems
[8] http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/86706.pdf
[9] http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/86707.pdf
[10] http://www.rbi.org.in/Scripts/PublicationsView.aspx?id=12043

Chapter IV of the PSS Act and its various Sections, provide for the Regulation and Supervision of Payment Systems. The powers to regulate and supervise comprise:

- Section 10: *Power to determine standards*: This clause empowers RBI to determine and prescribe standards in respect of format of payment instructions, timings to be maintained, manner of fund transfer, membership criteria, and such other standards to be complied with by payment systems. It also empowers RBI to issue guidelines for the proper and efficient management of the payment systems.
- Section 11: *Notice of change in the Payment System*: This clause requires the system provider not to cause any change in the system which would affect the structure or the operation of payment system without prior approval of RBI.
- Section 12: *Power to call for returns, documents or other information*: This section empowers RBI to call for returns, documents, other information in form, manner and periodicity as it may require.
- Section 13: *Access to information*: This section empowers RBI to access any information relating to the operation of any payment system from system provider and system participants.
- Section 14: *Power to enter and inspect*: RBI has powers to enter, inspect any premises where the payment system is operated and any equipment, computer system and other documents.
- Section 16: *Power to carry out audit and inspection*: RBI has power to conduct and get conducted audits and inspection of payment system or system participants.
- Section 17: *Power to issue direction*: RBI can issue directions to payment system providers and system participants to cease and desist from any act, omission or course of conduct that would result in systemic risks or affect payment systems, monetary policy or the credit policy.
- Section 18: *Power of RBI to give directions generally*: RBI has powers to lay down policies for regulations of payment systems and to issue directions to system providers, system participants etc.
- Section 19: *Directions of RBI to be generally complied with:* This section imposes a duty on every person to whom a direction is issued by the RBI to comply with such direction and submit compliance.

5. Implementation of "Principle of Financial Market Infrastructure" in India for regulation and supervision of FMIs

The oversight framework for domestic FMIs has hitherto based on the international standards such as, Core Principles for Systemically Important Payment Systems (CPSIPS), Recommendations for Securities Settlement Systems (RSSS) and Recommendations for Central counterparties (RCCP). RBI is now fully committed to implement the new standards set now by way of PFMIs.

RBI's commitment to adopt PFMIs is reflected in the "Payment Systems in India: Vision 2012-15". The 'Chapter-3: Assurance through Risk Management and Oversight' of the "Payment Systems in India: Vision 2012-15" states that as a member of the international payment systems standard setting body, the Committee on Payment and Settlement Systems (CPSS), the Reserve Bank is committed to the adoption and implementation of the international standards and best practices in payment systems including, the new CPSS-IOSCO standards "Principles for FMIs"[11]. The oversight framework is accordingly being revised based on the experience gathered and taking into account the new CPSS standards viz. the PFMIs.

In line with international developments, and, as indicated in the "Payment Systems in India: Vision 2012-15", the RBI has adopted the standards set out in the PFMIs for regulation and supervision of FMIs in RBI regulated markets in India under the aegis of the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS)[12]. All the FMIs determined by the Reserve Bank are expected to comply with the PFMI requirements as applicable to them. In addition, the Reserve Bank may impose higher or more specific requirements on FMIs, as considered appropriate.

RBI exercises its oversight over the FMIs regulated by it in a manner that is consistent with the responsibilities for authorities as defined in the PFMIs, which require that authorities have the appropriate powers and resources to oversee FMIs, that they clearly disclose their oversight policies, and that they apply the PFMIs to the applicable FMIs.

5.1 Determination of FMIs

Though the expression "FMI" is not specifically defined in the PSS Act, the definition of payment systems in the PSS Act includes all categories of FMIs as indicated in the PFMI report except for the Trade Repository, which is handled in a different way as indicated in paragraph 6.2.

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[11] One of the action points stated in the vision document reads as "Ensure compliance with the new international standards Principles of Financial Market Infrastructures by CCPs, CSDs, Trade Repository and other systemically important payment systems".

[12] The Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) is a committee of the Central Board of the RBI constituted for the purposes of exercising the powers and performing the functions and discharging the duties conferred on the RBI under the PSS Act. The 'Board for Regulation and Supervision of Payment and Settlement Systems Regulations, 2008' detail the functions and powers of the Board. The BPSS is empowered for authorising, prescribing policies and setting standards for regulating and supervising all the payment and settlement systems in the country. The BPSS is chaired by the Governor, RBI.

An authorized payment system would be categorised as an FMI as and when it reaches systemic importance which could be based on various parameters such as (i) volume and value of transactions; (ii) share in the overall payment systems; (iii) markets in which it is operating; (iv) degree of interconnectedness and interdependencies; (v) criticality in terms of concentration of payment activities etc.

The Reserve Bank maintains a separate list of authorized payment systems which are declared as FMIs and are made public.

5.2 Application of PFMIs to FMIs in India

All payment systems which are declared as FMIs would be required to comply with the PFMI standards. The FMIs would be assessed using the PFMI framework.

5.2.1 RBI operated and/or owned FMIs

RTGS and SSS for Government securities are owned and operated by RBI. RBI is exempted from the authorization requirements as an operator of payment system under the PSS Act. Notwithstanding this, RBI would assess/review the FMIs operated by it against the international standards with the same rigour as other FMIs and, where necessary, take action to remedy deficiencies[13], if any.

As indicated in para 2.2.2, NDS-OM which is owned by RBI and designated as an FMI, would be subjected to some of the principles of PFMIs relevant to an electronic trading system.

5.2.2 Other FMIs

CCIL shall be assessed with the CPSS-IOSCO standards of PFMIs. RBI has requisite legal powers under the PSS Act 2007 to issue guidelines/directions to FMIs. RBI has issued advice to CCIL, under Sections 10(2) and 18 of the PSS Act, directing that CCIL shall be subjected to regulation and supervision using the PFMIs. CCIL has been directed to adhere with the PFMI requirements.

Further, any authorized payment systems designated as an FMI by the RBI in future would be included in the list as indicated in paragraph 5.1 of the above. Such FMIs would be issued directions under section 10(2) and section 18 of the PSS Act to comply with the PFMI requirements as applicable to them.

[13]The PFMIs say that “the principles are applicable to FMIs operated by central banks, as well as those operated by the private sector. Central banks should apply the same standards to their FMIs as those that are applicable to similar private-sector FMIs. However, there are exceptional cases where the principles are applied differently to FMIs operated by central banks due to requirements in relevant law, regulation, or policy.in general, the principles are applicable to FMIs operated by central banks” (para 1.23 of the PFMI).

5.3 Oversight process

The oversight of the FMIs would be primarily a combination of offsite supervision and onsite inspection.

(I) Offsite supervision

Offsite supervision would be the primary means for oversight of FMIs and will be conducted through a combination of self-assessments by the FMIs and information/data required to be furnished by them.

(i) Self-assessment: FMIs are required to undertake/conduct regular periodic assessment against the CPSS-IOSCO's PFMIs to ensure that FMIs continue to meet these standards. The frequency of self-assessment would be annual or as advised by RBI from time to time. FMIs are required to submit the assessment report along with the compliance measures to the RBI.

(ii) Call for information: RBI is empowered to access any information relating to the operation of the FMIs as well as their participants which helps to measure and monitor the performance of the FMIs against the oversight objectives. Chapter IV of the Payment and Settlement Systems Regulations, 2008 prescribe the minimum information to be furnished by the FMIs. Additionally, RBI may call for any periodic or ad hoc information from the FMIs as felt necessary. This information/data will be in addition to the other information furnished by the entity, such as, audit reports, balance sheet, minutes of the board meeting etc.

(iii) System of alerts: The FMIs are required to put in place a mechanism for proactively reporting on a priority basis any abnormal events/developments, aberration, delays, incidents etc. to the RBI at the earliest possible time. The system of alerts is to basically track the various risk events in a timely manner so as to prevent any disruptions in the functioning of the FMIs.

(iv) External and/or internal audits of control measures: Section 16 of PSS Act allows RBI to conduct or get conducted audits and inspections of a payment system or participants thereof. RBI may advise the FMIs to undertake external and/or internal independent audit of its operations, IT system, information security and BCP/DR arrangements. The scope of such audits would be to verify the existence of risk control measures, the suitability of such measures, effectiveness of the risk controls and adherence to the risk control measures by the FMIs on an ongoing basis. The FMIs are required to submit the operational, technology and other audit reports as prescribed by RBI along with the compliance measures to RBI on a periodic basis. The scope and coverage of such audits may be finalized by the FMIs in consultation with RBI.

(vi) Prior approval of changes: Section 11 of the PSS Act enjoins upon the FMIs not to cause any change in the system which would affect the structure or the operation of payment system without prior approval of RBI. Thus, the offsite monitoring and surveillance would also include assessment of any changes/amendments to the rules, regulations, bye-laws, notifications, risk

management framework of the FMIs, to ensure that such changes/amendment are within the accepted risk-management and efficiency standards. Similarly introduction of new products or changes in the structure or operation of any existing product would be assessed against the PFMIs and would become effective only after approval by the RBI.

(II) Onsite inspection

Onsite inspection/audit would complement the offsite monitoring and surveillance mechanism put in place for the FMIs. RBI has power under section 14 of the PSS Act to enter, inspect any premises where the FMI is operated and any equipment, computer system and other documents. Section 16 of PSS Act allows RBI to conduct or get conducted audits and inspections of a payment system or participants thereof. The scope of on-site inspection/audit would be based on areas identified through off-site oversight process and may also include all activities of FMIs. FMIs would be subjected to annual/periodic onsite inspection as determined by the RBI from time to time. RBI may also conduct or get conducted audit/special audit to assess FMIs' compliance to onsite and offsite oversight findings.

(III) Other measures

RBI may also hold periodic meetings with the Board and the senior management of the FMIs to discuss developments, oversight concerns and expectation, etc. RBI may also hold discussions with the participants of the FMIs on issues relating to the FMI.

(IV) Other provision

Various provisions of the PSS Act empower RBI to lay down policies for regulations of FMIs, issue direction to FMIs and their participants. Section 17 of the PSS Act empowers RBI to issue directions to the FMIs and participants of the FMIs to cease and desist from any act, omission or course of conduct that would result in systemic risks or affect payment systems, monetary policy or the credit policy. Section 18 of the PSS Act permits RBI to lay down policies for regulations of FMIs and to issue directions to FMIs and system participants. Section 19 of the PSS Act imposes a duty on every person to whom a direction is issued by the RBI to comply with such directions and submit compliance.

Any violation of the directions issued by the RBI would warrant penalty as prescribed under the Chapter VII of the PSS Act.

6. Regulation and supervision of Trade Repositories

6.1 Trade Repository in India

The Reserve Bank of India in August 2007 mandated reporting of inter-bank Rupee Forward Rate Agreement (FRA) and Interest Rate Swap (IRS) trades to the reporting platform developed by the Clearing Corporation of India Limited (CCIL). Subsequently, RBI constituted a Working Group in June 2010 to work out the modalities for an efficient, single point reporting mechanism for all OTC interest rate and forex derivative transactions[14]. In accordance with the recommendations of the Working Group, it was decided that:

a. All inter-bank OTC foreign exchange derivatives should be reported on a platform to be developed by the CCIL.

b. All/selective trades in OTC foreign exchange and interest rate derivatives between the Category–I Authorised Dealer Banks/market makers (banks/PDs) and their clients shall be reported on the CCIL platform subject to a mutually agreed upon confidentiality protocol.

Accordingly, CCIL has developed reporting platforms for reporting of OTC derivative trades[15].

6.2 Framework for regulation and supervision

The PSS Act does not cover the Trade Repositories. A Trade Repository for derivatives has been set up by CCIL as required by RBI.

The OTC derivatives markets in India has developed within a regulated framework covering two separate legislations viz. (i) the Reserve Bank of India Act, 1934; and (ii) the Forward Contracts (Regulation) Act, 1952.

Under the RBI Act, 1934, the validity of any OTC derivative contract is contingent on one of the parties to the transaction being a RBI regulated entity. In the RBI Act, 1934 (amended in 2006), derivatives have been defined in Section 45 (U)(a)[16] as *" 'derivative' means an instrument, to be settled at a future date, whose value is derived from change in interest rate, foreign exchange rate, credit rating or credit index, price of securities (also called 'underlying'), or a combination of more than one of them and includes interest rate swaps, forward rate agreements, foreign currency swaps, foreign currency-rupee swaps, foreign currency options, foreign currency-rupee options or such other instruments as may be specified by the Bank from time to time."*

[14] http://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=633

[15] http://www.rbi.org.in/scripts/NotificationUser.aspx?Mode=0&Id=7050

[16] http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/RBIA1934170510.pdf

Further, the RBI Act empowers the RBI under section 45W to determine the policy relating to interest rates or interest rate products and give directions in that behalf to agencies dealing in derivatives, money market instruments, etc.[17] The legislative framework under section 45W of the RBI Act, 1934 provides RBI with the powers to regulate transactions in derivatives as aforesaid. Accordingly, RBI has issued directions to market participants to report OTC derivative trades to the designated Trade Repository, namely CCIL. .

6.3 Adoption of PFMI for Trade Repository

CCIL as the trade repository would be subjected to regulation and supervision using the PFMIs. Further, CCIL in general is required to comply with the PFMI requirements.

7. The Reserve Bank is committed to the adoption and implementation of the “Principles for FMIs” (PFMIs). The responsibilities for authorities as defined in the PFMIs require that authorities should have the appropriate powers and resources to oversee FMIs, disclose their oversight policies, and apply PFMIs to applicable FMIs. The policy on supervision and regulation of FMIs in RBI regulated markets has been prepared for the purpose.

[17] http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/RBIA1934170510.pdf

Annex-1

Various types of FMIs

Payment systems: A payment system is a set of instruments, procedures, and rules for the transfer of funds between or among participants; the system includes the participants and the entity operating the arrangement. Payment systems are typically based on an agreement between or among participants and the operator of the arrangement, and the transfer of funds is effected using an agreed-upon operational infrastructure.

Central Securities Depository: A central securities depository provides securities accounts, central safekeeping services, and asset services, which may include the administration of corporate actions and redemptions, and plays an important role in helping to ensure the integrity of securities issues (that is, ensure that securities are not accidentally or fraudulently created or destroyed or their details changed).

Securities Settlement Systems: A securities settlement system enables securities to be transferred and settled by book entry according to a set of predetermined multilateral rules. Such systems allow transfers of securities either free of payment or against payment. When transfer is against payment, many systems provide delivery versus payment (DvP), where delivery of the security occurs if and only if payment occurs.

Central Counter Parties: A central counterparty interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the performance of open contracts. A CCP becomes counterparty to trades with market participants through novation, an open-offer system, or through an analogous legally binding arrangement.

Trade Repository: A trade repository is an entity that maintains a centralised electronic record (database) of transaction data. TRs have emerged as a new type of FMI and have recently grown in importance, particularly in the OTC derivatives market. By centralising the collection, storage, and dissemination of data, a well-designed TR that operates with effective risk controls can serve an important role in enhancing the transparency of transaction information to relevant authorities and the public, promoting financial stability, and supporting the detection and prevention of market abuse.

Annex-2

Principles for financial market infrastructures

General Organisation

Principle 1: Legal basis: An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Principle 2: Governance: An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

Principle 3: Framework for the comprehensive management of risks: An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

Credit and liquidity risk management

Principle 4: Credit risk: An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions.

Principle 5: Collateral: An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

Principle 6: Margin: A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

Principle 7: Liquidity risk: An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

Settlement:

Principle 8: Settlement finality: An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

Principle 9: Money settlements: An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money.

Principle 10: Physical deliveries: An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

Central securities depositories and exchange-of-value settlement systems

Principle 11: Central securities depositories (CSD): A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.

Principle 12: Exchange-of-value settlement systems: If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

Default management

Principle 13: Participant-default rules and procedures: An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Principle 14: Segregation and portability: A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.

General business and operational risk management

Principle 15: General business risk: An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

Principle 16: Custody and investment risks: An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

Principle 17: Operational risk: An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

Access

Principle 18: Access and participation requirements: An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

Principle 19: Tiered participation arrangements: An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

Principle 20: FMI links: An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

Efficiency

Principle 21: Efficiency and effectiveness: An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

Principle 22: Communication procedures and standards: An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

Transparency

Principle 23: Disclosure of rules, key procedures, and market data: An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

Principle 24: Disclosure of market data by trade repositories (TR): A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.