

# **Economic Capital Framework in the Reserve Bank of India**

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# The outline

- Uniqueness of central-bank risk management
- RBI's approach to Risk management (RM)
- Evolution of the RBI's Economic Capital Framework (ECF)
- The salient aspects of the RBI's ECF

*Note: The views expressed in this presentation are solely those of the presenter and do not necessarily reflect the views of the Reserve Bank of India.*



# Central banks as risk managers

- RM would seem to be in the DNA of the central banks
- CBs are very important macro- and micro-level risk managers
  - They buffer the economy from:
    - monetary shocks and financial stability crises
  - Currency mgt, supervision – lot of minutiae to be risk managed
- But this was NOT the original mandate of central banks
  - CBs given asymmetric privileges of money creation, with responsibility for financing the sovereign's wars
- The advantages of economies with privileged, monopoly currency issuers over Free Banking ones became clear
  - the latter being too prone to banking panic – no LOLR
  - The role of the LOLR falls naturally on the central bank



# Risk management in central banks

- Objective of RM in CBs quite different from others
  - Policy effectiveness rather than profit maximisation
- CBs *acquire* significant risks as a part of policy operations (while taking considered view of B/S implications)
  - Principle of public policy predominance
  - CBs' counter-intuitive approach to risk –
    - In a distress, CBs often called upon to take more risks
    - MMLR/ LOLR/ QE operations are recent examples



# RM – a constrained optimisation

- Conventional RM tools may not be available to CBs
  - Forex reserves cannot be fully hedged
  - Portfolio size determined by public policy considerations
  - Same considerations also enter currency composition decisions
  - Gold – strategic asset – passive RM
  - Domestic portfolio – mainly for policy operations - RM greatly restricted (largely restricted to collateralisation)
  
- The options for RM are quite limited:
  - Risk avoidance – not an option for a CB due to its mandate
  - Active risk management – limited by the operating constraints
  - Risk Transfer – limited option as major risks can be transferred only to the sovereign



# The RBI's approach to RM

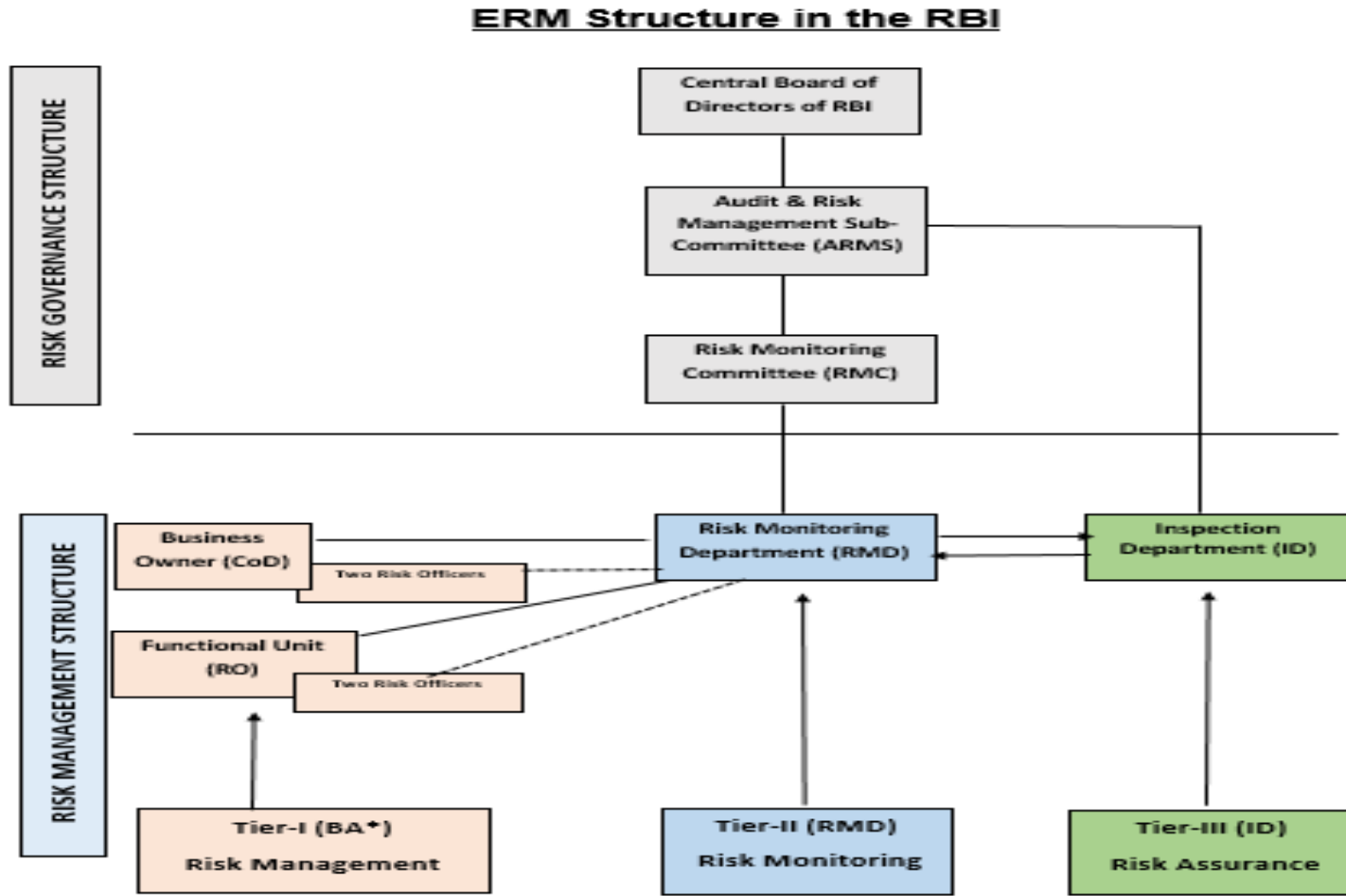
- RBI, like most central banks, is a risk-sensitive institution
- Has adopted an ERM Framework since 2012
  - Three lines of defence approach
  - Risk management, risk monitoring and risk assurance
- For policy operations, financial risk/B-S considerations remain sub-ordinated to the public policy goals
- RBI maintains an overarching view of its risk exposures
  - to ensure necessary financial resilience to absorb them
  - Contingency Fund, revaluation buffers, etc. → *Economic Capital*



# ERM Framework in the RBI

- The Bank's ERMF has two building blocks:
  - Risk Governance Structure (RGS)
    - Central Board
    - Audit and Risk Management Sub-Committee of the Board
    - Risk Monitoring Committee
  - Risk Management Structure (RMS)
    - Business Areas – Tier I / 1<sup>st</sup> Line of Defence (LoD)
    - Risk Monitoring Department – Tier II/ 2<sup>nd</sup> LoD
    - Inspection Department – Tier III/ 3<sup>rd</sup> LoD

# Organogram of the ERM Structure in the RBI



\* BA refers to Business Area comprising of Business Owner i.e. Central Office Department and Functional Units i.e. respective department in the Regional Office/ Training Establishment





# Do CBs require equity?

- Given constrained RM / risk transfer, equity becomes imperative
- A CB's B/S financial strength important for **policy effectiveness**
  - To avoid *policy insolvency* – where a CB is able to carry on daily operations but not effective in implementing its policy
  - CBs with weak finances can become pre-occupied with B-S repair:
    - *generating seigniorage* – excessive reliance may be inconsistent with price stability
    - *Recapitalisation by govt* – CB's autonomy
- CBs need to have and also be seen to have sufficient resources to achieve its policy objectives
  - Losses/ weak finances > impact CB's credibility > these may be misunderstood as/ may imply mistakes
  - To deter the markets from 'gaming' the CB's willingness to carry out loss-making policy actions



# Statutory stipulation for RBI's provisioning

- Section 47 of the RBI Act, 1934 applicable
- It states the following:

“ *Allocation of surplus profits*

*After making provision for bad and doubtful debts, depreciation in assets, contributions to staff and superannuation funds and for all other matters for which provision is to be made by or under this Act or which are usually provided for by bankers, the **balance of the profits shall be paid to the Central Government.**”*



# Evolution of the RBI's Economic Capital Framework (ECF)

- RBI's long history of assessing its capital requirements
  - **Subramanian Committee (1997)**
    - (CR + ADR) should constitute 12% of the total assets
    - a sub-target of 1% for ADR
    - Recommendations accepted and implemented
  - **Thorat Committee (2004)**
    - CGRA+CR+ADR to be at 18% of total assets
    - Recommendations was not accepted
    - RBI continued with Subramanian Committee recommendation



### ➤ **Malegam Committee (2013)**

- CR and ADR found to be in excess of the buffers required
- No need of further transfers to these buffers for three years.
- A review may be carried out after three years

### ➤ **ECF (2015)**

- Developed for assessing provisioning requirement
- Uses a formal, transparent mechanism based on international best practices
- It makes the provisioning assessment & profit distribution an objective, rule-based process



# RBI's B/S structure – as on June 30, 2016

Liabilities		% of B/S	Assets		% of B/S
Currency notes issued		52.7	Investments (i + ii)		93.0
<b>Equity (i + ii + iii):</b>		<b>31.1</b>	i. Rupee securities	21.8	
i. Valuation Buffers	21.3		<b>ii. Forex assets</b>	<b>71.2</b>	
ii. Capital + Retained Earnings	7.8		Gold & other p-metals		4.2
iii. Current income & surplus	2.0		Loans and advances		1.6
Deposits		15.6	Other Assets		1.2
Other liabilities		0.6			
<b>Total Liabilities</b>		<b>100</b>	<b>Total Assets</b>		<b>100</b>



# EC Framework of the RBI

- Objectives of the ECF are:
  - To have adequate financial resilience for a systemic distress
  - To remain an unimpeachable counterparty internationally
  
- “Equity”:
  - $EC = \text{Total Assets} - \text{Outside Liabilities}$   
= capital, retained earnings and valuation buffers
  
  - Common valuation buffer for various valuation risks – no haircuts
  
- Risks covered under the ECF are:
  - Market Risk, Credit Risk and Operational Risk; and
  - ‘Contingent Risks’ – Financial-stability / LOLR risks



# ECF Methodologies

- The methodologies used in the ECF are:
  - Market risk – Stressed VaR of Basel 2.5
    - at a very high Level of Confidence
  - Credit risk – Standardised Approach of Basel II
  - Operational risk – Basic Indicator Approach of Basel II
  - Contingent Risks – Scenario analysis for LOLR risk
    - Peak Liquidity approach adopted
    - Goal: 4% of B/S – over medium-term



## RBI's *expanded* ELA mandate

- Section 18 of the RBI Act, 1934 applicable
- It states the following:

*“When, in the opinion of the Bank, a special occasion has arisen making it necessary or expedient that action should be taken under this section for the purpose of regulating credit in the interests of Indian trade, commerce, industry and agriculture, the Bank may, notwithstanding any limitation contained in section 17, **make loans or advances to any other person**, repayable on demand or on the expiry of fixed periods, **not exceeding ninety days**, on such terms and conditions as the Bank may consider to be sufficient.”*

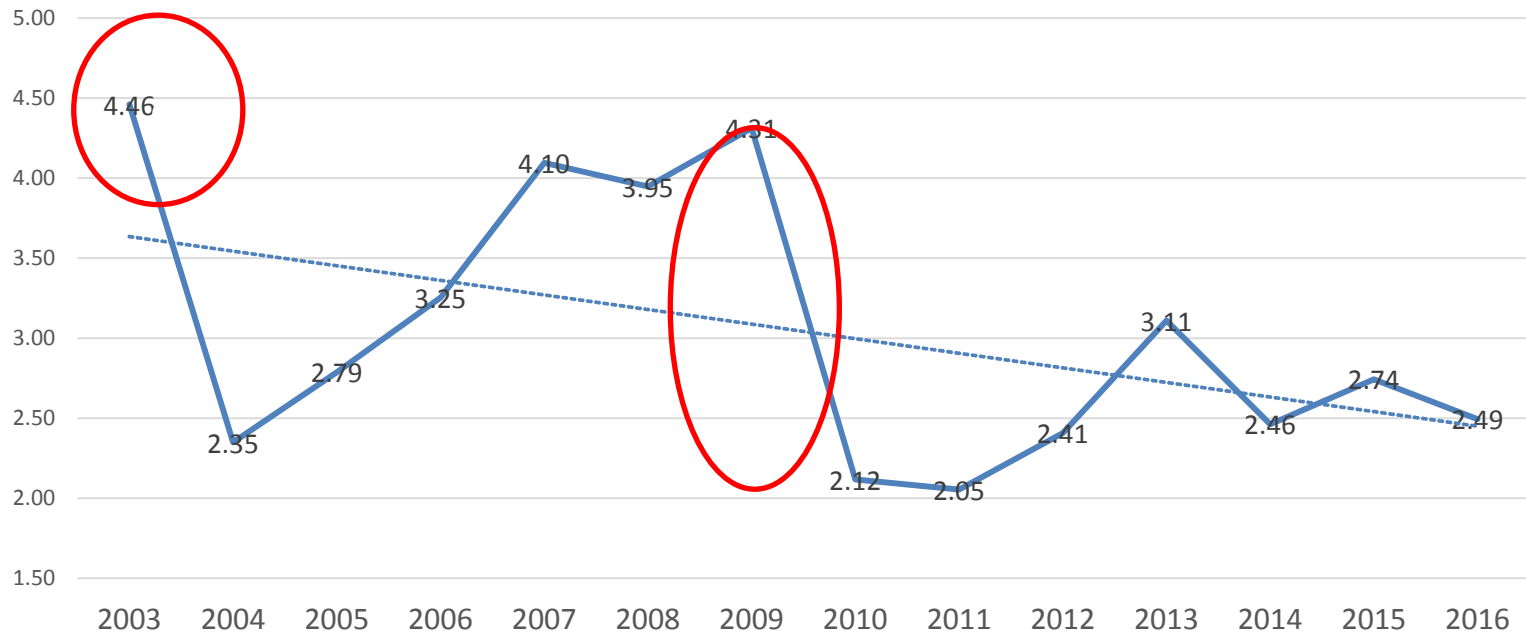




# RBI's Monetary & Financial Stability Risks

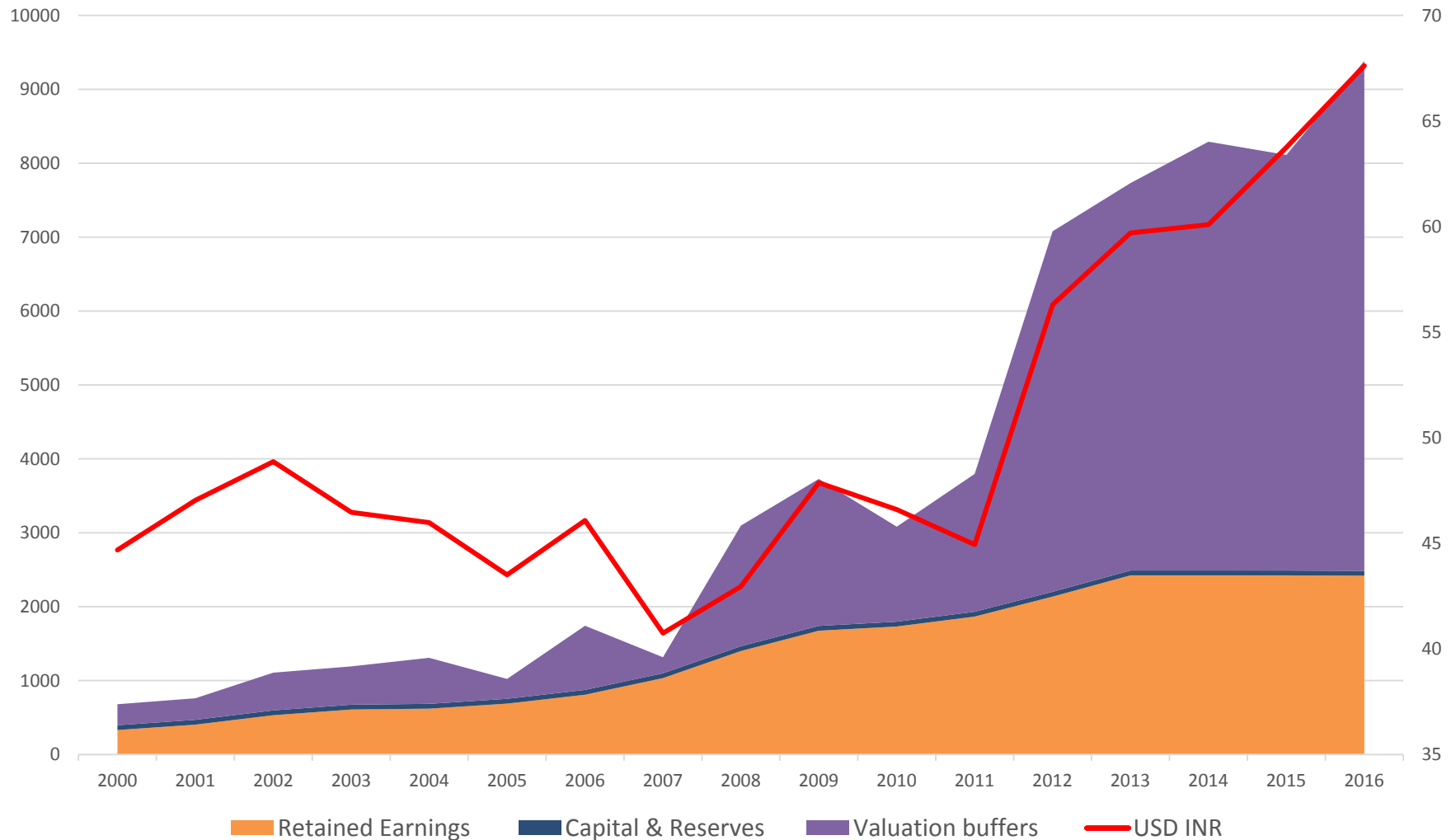
## ➤ Impact of Monetary Policy operation

RBI's gross Income %ge of B/S





# *RBI's equity levels (in ₹ bn) and the USD-INR rate*





# Challenges ahead

- Validation and refinement of the ECF model
- Developing credit VaR model
- Modelling the Operational Risk
- Sensitivity analysis



# Thank You

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# RBI B/S as on June 30, 2016

(amount in Rs. Bn)

Liabilities	30.06.15	%age of B/S	30.06.16	%age of B/S	Assets	30.06.15	%age of B/S	30.06.16	%age of B/S
Capital	0.05	0.0	0.05	0.0	<b>Assets of Banking Department(BD)</b>				
Reserve Fund	65	0.2	65	0.2	Notes, rupee coin, small coin	0.11	0.0	0.14	0.0
Other Reserves	2.22	0.0	2.24	0.0	Gold Coin and Bullion	578.84	2.0	662.23	2.0
Deposits	5326.91	18.4	5065.27	15.6	Investments-Foreign-BD	7276.29	25.2	6727.84	20.7
Other Liabilities and Provisions	8764.98	30.3	10220.4	31.5	Investments-Domestic-BD	5174.97	17.9	7022.84	21.7
					Bills Purchased and Discounted	0	0.0	0	0.0
					Loans and Advances	802.32	2.8	520.41	1.6
					Investment in subsidiaries	13.2	0.0	23.2	0.1
					Other Assets	313.43	1.1	396.28	1.2
<b>Liabilities of Issue Department</b>					<b>Assets of Issue Department(ID)</b>				
Notes issued	14732.4	51.0	17077.2	52.7	Gold Coin and Bullion(as backing for Note issue)	637.23	2.2	729.07	2.2
					Rupee coin	1.99	0.0	1.71	0.0
					Investment-Foreign-ID	14082.8	48.7	16335.9	50.4
					Investment-Domestic-ID	10.46	0.0	10.46	0.0
					Domestic Bills of Exchange and other Commercial Papers	0.0	0.0	0.0	0.0
<b>Total Liabilities</b>	<b>28891.59</b>	<b>100.0</b>	<b>32430.1</b>	<b>100.0</b>	<b>Total Assets</b>	<b>28891.59</b>	<b>100.0</b>	<b>32430.1</b>	<b>100.0</b>