Analytics of Deposit Insurance Fund

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Overview

- The main public policy objectives of deposit insurer are to reimburse depositors after bank failure, act as receiver for failed banks, and contribute to the stability of the financial system.
- Robust funding arrangements are vital for prompt reimbursement to insured depositors. Adequacy of fund (ex ante) would help to promote depositor confidence.
- As per International Association of Deposit Insurers, the appropriate measure of a deposit insurance fund (DIF) is the Target Fund Ratio or Reserve Ratio (RR). The RR is the ratio of balance in DIF to insured deposits in the banking system.
- The target fund should be adequate to at least cover the potential losses of the deposit insurer under normal conditions. The most common factors considered in setting the target ratio are: financial system structure and characteristics; legal framework; macroeconomic conditions; and prudential regulation, supervision, and resolution regime. The other factors are availability and accessibility of emergency/backup funding and the state of the accounting and disclosure regime (IADI paper on Target Ratio, 2018).

Overview

- As per IADI Core Principles [CP 9 (essential criteria 5)], after establishing an ex ante DIF, determination of the target fund size should be based on clear, consistent and transparent criteria, which are subject to periodic review. A reasonable time frame should also be set by deposit insurer to achieve the target fund size.
- An examination of cross-country ratios suggest that it ranges between 0.3 - 6.6 per cent in 2016 (see slide 7).
- According to IADI survey 2018, out of 83 countries 54 jurisdictions have a target fund size or RR. Out of 54, RR is on insured deposits in 28 jurisdictions while it is based on eligible deposits in 17 jurisdictions.
- In 28 jurisdictions RR is set in the law while in 16 it is set by the governing body (IADI 2018).
- Majority of the jurisdictions used their experience with bank failure losses to determine the target deposit insurance fund.

Analytics of Setting the Fund Target

- There are two basic methods of assessing the adequacy of DI Fund viz., expert opinion or discretionary method and statistical method based on risk analysis.

  - Expert opinion method - adequacy level of DI fund is set without taking into account the probability of default of member banks and the level of insurance liability of the DI system.

  - Risk Analysis - DI fund sufficiency evaluation is based on estimation of PD member banks and DI fund cover losses.
  - As per IADI paper (2011), three important issues need to be taken into consideration in the evaluation of adequacy of fund: (1) Estimation of expected and unexpected losses of DI fund (EL), (2) excluding ‘too big to fail’ banks from the basis of evaluation of DI fund sufficiency; and (3) orientation on the implied level of financial reliability.

Analytics of Setting the Fund Target

- Both in the short-run as well as in the long run, estimation of Expected losses (EL) and unexpected losses (UL) is required to arrive at the total losses (CL).

- Expected losses estimation consists of estimation of insured deposits in member banks (exposure at default - EAD), probability of default (PD) of member banks and the share of non-recoverable losses from the bankruptcy estate of liquidated bank (loss given default-LGD). EL can be represented as:

$$EL = EAD*PD*LGD$$

- Estimation of UL does not have a simple analytical expression. The method used to estimate UL is statistical simulation method (Monte Carlo).

Analytics of Setting the Fund Target

- Estimation of EL: Credit risk models used by financial institutions, as well as Basel II capital adequacy accord, generally suggest that exposure at default is exogenous input of the model. Majority of the deposit insurers receive regular reports on insured deposits and thus have access to the data.

- Estimation of LGD: It is defined as the ratio of losses in the event of default to EAD. In the absence of relevant data for estimation, the distribution of LGD can be bimodal. The assets of the failed bank are very bad (LGD is close to 1) or the assets are rather good (LGD is 0).

- Estimation of PD: As per the extant practice of deposit insurers, there are three approaches for the modelling of PD., viz, standard approach - on the basis of credit ratings of member banks; improved approach - on the basis of econometrical models; advanced approach - on the basis of market data models. Correlation of external (independent) or internal credit ratings of member banks and the history of member bank defaults is one of the most simplest approach to estimation of probabilities of default.

Reserve Ratio in Select Jurisdictions

Reserve Ratio in Select Countries -2016		
Sr. No	**Country**	**Reserve Ratio**
1	Canada	0.52
2	Colombia (March 2014)	3.10
3	France	0.30
4	Germany	0.30
5	Hungary	0.32
6	India (March 2018)	2.50
7	Italy	0.10
8	Japan	0.31
9	Malaysia	0.33
10	Philippines	5.80
11	Poland- Banks	1.60
12	Taiwan	0.30
13	Turkey	6.60
14	United Kingdom	0.60
15	United States	1.24
Source: Annual Reports and Websites of respective jurisdictions.		

Structure of Indian Banking System

- Indian Banking System - Insured Banks (2,104)
  - Commercial Banks (163)
    - Public Sector Banks -22
    - Private Banks - 19
    - Foreign Banks - 46
    - Regional Rural Banks -56
    - Local Area Banks - 3
    - Small Finance Banks - 10
    - Payment Banks - 7
  - Co-operative Banks (1,941)
    - State (Provincial) Co-op Banks - 33
    - Central Co-op Banks - 364
    - Urban Co-operative Banks - 1544

Setting of RR by DICGC

- DICGC is the second oldest DIA. It enables in maintaining financial stability through provision of deposit insurance particularly to the benefit small deposit depositors.
- The Reserve Ratio was set by DICGC recently.
- The main factors taken into consideration for arriving at RR are as given below:
  - The quantum of insured deposits based on risk profile of banks. The risk assessment is based on the parameters such as capital, asset quality, profitability and liquidity.
  - In the case of merger of weak bank with strong bank after the approval of the merger scheme by the regulator, DICGC provides financial support to the depositors of the weak bank.
  - The historical failure of banks, robust supervisory and regulatory architecture and state ownership of banks.

Setting of RR by DICGC

- The method followed is essentially a discretionary one as banking system in India dominated by State ownership.

- There is an implicit assumption of normal conditions in the financial system in terms of key financial indicators and macro economy in the ensuing years up to which target has been set .

- The method will not be applicable in a situation of systemic crisis, where Sovereign Authority and Central Bank would play a vital role in the mitigation of crisis with DI being in supportive role to the extent of covering insured deposits.

Investment Policy - DIF

- The Deposit Insurance Fund (DIF) is build up through income from premium, coupon income and recoveries net of claims settlement. The latest fund position under DIF stood at USD 13 billion.
- As per the DICGC Act, the balances in the DIF shall be invested in securities of the Central Government (Federal).
- The objectives of investment policy are: To invest funds in such a manner which will provide for: security while meeting liquidity and optimum returns on investment.
- The strategy of investment decisions are based on 'Risk Management Framework and Investment Management Guidelines' approved by the Board of Directors.

Investment Policy - DIF

- The temporary surplus funds are invested for overnight tenor, since the G-Sec market follows a T+1 settlement cycle, while in the overnight market, settlement is on T+0 basis.
- The instrument for deployment of overnight funds is Market Repo.
- The instruments that are relied upon for deployment of funds are: Dated securities, Treasury Bills, Special securities such as Oil Bonds and Fertiliser Bonds, Cash Management Bills issued by the Federal Government.

Conclusion

- Deposit insurance is an important pillar of trust. Yet it is most effective when it stands alongside other pillars of trust, such as banking supervision, resolution arrangements and ultimately the lender of last resort function of central banks (Agustin Carstens, 2018).

- A deposit insurance system can deal with a limited number of bank simultaneous bank failures, but the resolution of a systemic banking crisis requires that all financial safety net participants work together effectively (IADI discussion paper on Evaluation of DIF sufficiency).

Thank You