Takeaways from Program on Implementation of Advanced Approach (IRB) in Basel II

December 2014

1. CAFRAL had organised a two-days Program on Implementation of Advanced Approach (IRB) of Basel II for the senior officers of banks on December 23 & 24, 2014, in Mumbai.

2. The objective of the program was to give guidance in developing IRB credit risk models, and arriving PD, LGD, EAD numbers on the loan assets and assess correlation factor amongst borrowings and borrowers

3. The **key takeaways**:

✓ Adoption of Advanced Approaches is just an option and not an obligation for them.

✓ Internal Model development, validation, including model predictive power assessment and incorporating model outputs in business decision making are the pre-requisite for adoption of Advanced Approach. Robust data management process should be in place, tested and documented.

✓ Building such robust credit risk data for IRB implemetation automatically adds to effciency in banking operations and also can help in effective HR policy environment to manage attrition of qulified staff etc related issues.

✓ Such robust and accurate database collection methods would contribute to system based approach in credit risk assessment and resolution and bring operational efficiency in credit risk management despite attrition or churning of qualified staff.

✓ SBI's case study on successfully building robust credit risk data mart solution for IRB implemetation by pooling data from existing CBS, Treasury & Fiance systems as well as applying inhouse built model development platform with capital calculator proves that it is also possible for a public sector bank to successfully implement IRB with a home grown team and solution.
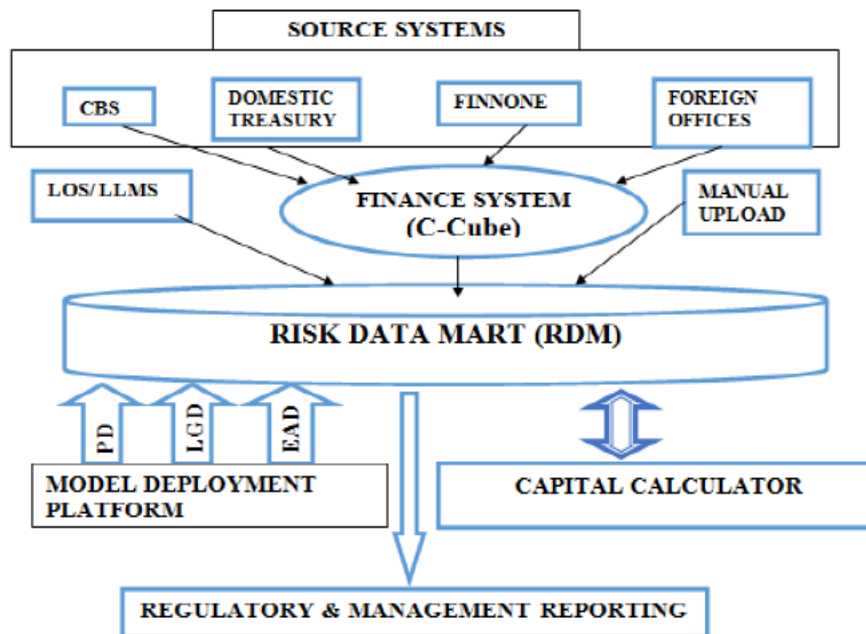
Credit Risk Data Mart

Diagram: SBI's internally developed Data Mart Solution for IRB reporting

✓ Banks need to take their decision to move to Advanced Approaches based on their intrinsic organisational capability and risk management system, practices and culture.

✓ Computing provisions and capital under IRB is complex function of PD EAD LGD which have different risk horizons (PD is over a year but EAD is point in time and LGD has indefinite horizon). The predictive determinants have to be based on empirical data spanning over a long time for which homogenous data points based on risk drivers have to be built up by banks and risk profiles have to be factored in modelling.

✓ Practical challenges in Model building involve i-who will build it, ii-what type of model would be built, iii-data & parameter selection for models iv-validation, documentation, calibration, and hygiene issues.

✓ PD and LGD estimation requires scorecard development. These challenges can be overcome by robust application processing system customized to bank's need. Off the shelf solution may not work. Data governance and responsibility (wrong data means

wrong model) and real time integration with credit bureaus and banks internal data has to be ensured.

✓ Banks should have the Model Policy which should define the i- model, ii-role and responsibilities in the model life cycle, iii-model ownership and development, iv-independent validation and approval, v-model Inventory, which should include the list of models used, vi-model scope, vii-model materiality, viii-any uncertainty associated with model outputs.

✓ Independence of model validation and building teams is a must for effective governance.

✓ Validation of models should include evaluation of (a) model scope, governance and implementation; (b) internal data; (c) model design, conceptual soundness, risk driver analysis, explanation of key model assumptions and limitations; (d) performance analysis, back testing of risk differentiation, calibration level, outcome versus expected value at model level; (e) stress testing and sensitivity analysis of the model and of key model assumptions and model limitations; (f) model processes; (g) model use

✓ The validation team should perform its own test on a sample basis on all material issues, including model performance tests, quality of used database, data cleaning, etc.; (i) the independent validation function has clear standard for documenting the validation work and (j) it periodically follows up on the progress made in response to the identified weaknesses.

✓ Model Validation is a rigorous activity and can become repetitive. At the same time, it requires specialised skills and requisite experience. Job rotations can create conflict of interest. The structure could be a senior validation head with a rotating job unit.

✓ Expectations from regulators by banks include i-giving illustrative examples on various scenarios, ii- prescribing validation techniques for LGD and EAD, iii-need to standardise the appoaches and iv-suggest best practices across the banks to reduce possible arbitrage between banks. It would possibly avoid loss of time and effort and help in justify the approach used to the Boards of banks, as there are large capital and business implications.

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