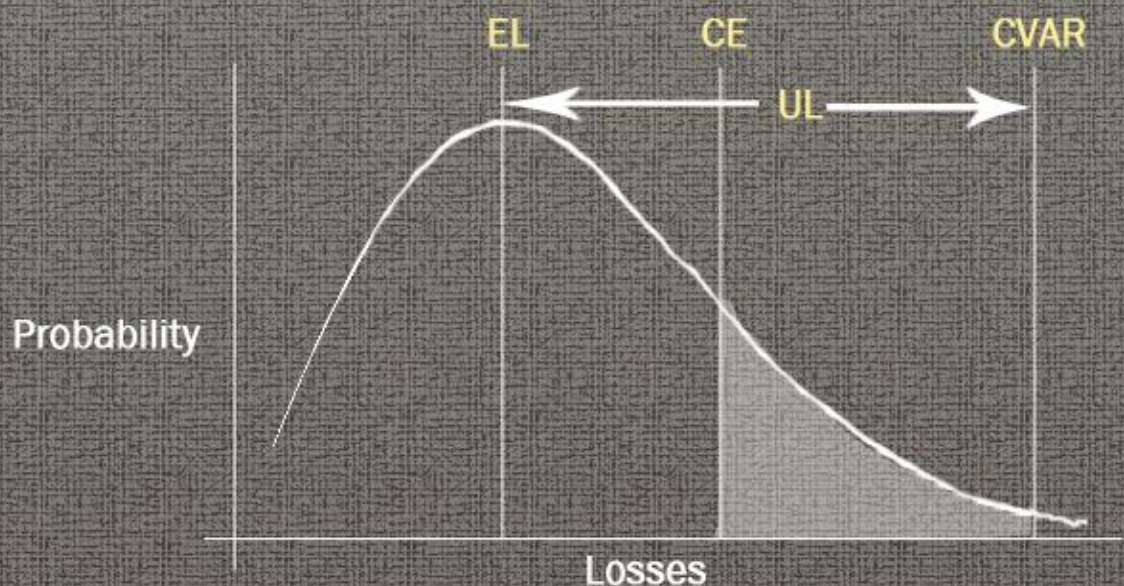


Consulting & Advisory on Securitisation

Cash Flow Modeling Stress Testing Valuations



Vinod Kothari Consultants P Ltd.



Securitisation in India is now gradually becoming a preferred channel for the Originators/Issuers (Banks/FIs/NBFCs) in sourcing of funds and credit risk mitigation; as well as for the Banks/FIs/MFs as an attractive investment option. Further, in India the prime buyers of the securitisation products are Banks driven by the priority sector lending (PSL) requirements mandated by the RBI. The securitisation issuance volumes were around Rs. 30,250 Crore during FY2012 and around Rs. 22,660 Crore during FY2013 (as per ICRA report dated May 2013).

The global recession and financial turmoil in recent years have prompted regulators world-wide for increased scrutiny and stricter regulatory requirements for securitisation transactions. RBI has also from time to time come up with the detailed guidelines on the securitisation transactions for Originators/Issuers as well as for the Investors (mainly FIs and Banks). These guidelines broadly aim at setting up systems in place for **robust risk analysis, timely credit monitoring and stress testing** of the securitisation exposures. **Investors not following RBI requirements would have to assign higher risk weights to their securitisation exposures.** Considering the complexity of securitisation transactions, it also otherwise becomes important for the Investors to engage in close examination of the credit quality and valuation of securitized transactions.

A reliable, quantitative assessment of the risk in your structured finance holdings is necessary to build valid and timely valuations; inform management decisions including decisions to hold, sell, or hedge assets; estimate risk capital; and assess loss reserves.

Vinod Kothari Consultants, with the vast experience and capabilities in the securitisation space, helps institutional clients in their investment decisions as well as risk management of their securitisation exposures. Broadly speaking, we provide below services to the Banks/FIs/NBFCs:

Our Offerings:

- I. Cash Flow Modeling / Analytics
- II. Investor Analysis and Valuations Support
- III. Stress Testing / Scenario Analysis

I. Cash Flow Modeling / Analytics

For Originators/Issuers:

- We provide complete structuring support for variety of asset classes including mortgage loans, auto loans, credit card receivables, microfinance receivables, future flows, and so on
- Our services also includes advising on the taxation, accounting and regulatory matters relating to a securitisation transactions

For Investors:

- Cash flow analysis is a critical part of the securitisation investments. Our team of cash flow experts has global experience in building cash flow models and to reverse-engineer transactions assuming various liability structures and stress scenarios
- We do risk profiling and end to end analysis of the securitisation transaction which involves analyses of the business model of the Originators/Issuers
- Our cash flow models are very comprehensive and incorporate each and every aspect of the deal from loan level data to the tranche payments and the detailed waterfall
- Our models also includes, development of probability distribution for defaults and losses with imbedded scenario analysis

II. Investor Analysis and Valuations Support

- We provide support to the Investors on the Valuation of the structured finance securities, be it for mark-to market accounting purposes or for the purpose of shareholder/management evaluation
- We provide Investor level analysis for making buy-side decisions on the structured finance securities. This includes, end to end analysis of all the transactional level aspects, detailed understanding of the structure of the deal and risk underlying the loan portfolio
- Our buy side analysis and valuations support is based on comprehensive analysis of both loan level, tranche level features, structural and vintage data analysis
 - identifying the risk underlying the individual securitisation position
 - this involves analysis of structural features of the tranches including seniority levels, credit enhancements, sensitivity of the tranche to the interest rates and prepayments, the waterfall mechanism, triggers and the ability of the tranche to withstand the defaults/losses underlying the loan
 - identifying the risk characteristics of the loans underlying the securitisation position
 - this involves analyzing the credit quality of the loans on the basis of diversification/homogeneity of the loan pool. Analyzing the defaults, losses and prepayment on the individual loans based on the loan features/characteristics as well as macro economic indicators
 - static analysis (vintage performance analysis)
 - to figure out loss/default experience in previous securitisations of the originators in the relevant exposure classes underlying the securitisation position

III. Stress Testing / Scenario Analysis

- Regulators world wide have recently subjected banks to stress tests their securitisation exposures. In India, as per RBI guidelines, *“Investors (Banks/FIs) should regularly perform their own stress tests appropriate to their securitisation positions. The results of stress test should be taken into account in Pillar II exercise under Basel II framework and additional capital be held to support any higher risk, if required”*
- Further, banking institutions also need to comply with the ICAAP guidelines on Stress Testing as per Pillar 2 of the Basel II framework
- The required stress test analyses incorporate sound economic forecasting, an understanding of the impacts of economic changes on borrower behavior and defaults, and structural data on specific structured finance deals to develop reliable estimates of values and risks in the current market

Stress Testing - steps in brief:

- **Design economic and deal specific scenarios**

Macro economic factors impacting the particular asset class are identified and economic forecasts are built under various conditions. Each forecast represents a viable scenario, described by easily-understood macroeconomic variables, such as GDP, interest rates, unemployment, and home price appreciation
- **Establishing statistical relationship - Econometric model**

Each loan is classified in a risk class/group that can be ranked from low to high risk. Empirical data are used to establish relationship between loan level repossessions/repayments/defaults and the various macro-variables identified. This is done via a probability model, which, by the use of grouped data, can be transformed into a regression model
- **Simulations / Scenario Testing**

Once scenarios are developed and statistical relationships are identified Monte-Carlo based simulations are used for the purpose of stress testing, where simulated scenarios are run and the loan defaults/repossessions/prepayments are gauged. The loan level performance output is then used as an input to the cash flow models to get the stress test results

Consulting & Advisory on Securitisation Cash Flow Modeling / Stress Testing / Valuations

We work with you to develop customized scenarios and assess the impacts of macroeconomic changes on the performance of your structured finance assets. Using this approach, our experts translate data on potential changes in the economy to information on the bottom line impacts to the deals in your structured finance portfolio.

Proven Experience:

We are able to offer these types of services because of the depth and breadth of our in-house expertise.

We have done numerous consulting assignments on securitisation and our clients include some of the top Investment Banks, Rating Agencies, Government Agencies, Securities and Exchange Commissions, Financial Institutions and NBFCs in India and globally.

Advisory/Consulting Assignments:

Some of our consulting/advisory assignments are:

- We have done cash flow modeling for securitisation of home loan receivables, **first transaction in the country, on behalf of a rating agency in Philippines**. The assignment included complete cash flow model based on historical loan performance data, finding out stress levels and computation of credit and liquidity enhancement for the transaction
- We are currently executing an assignment for **IFC Washington for training Indian banks on use of the securitisation law** (Indian law for enforcement of security interests) for better management of secured lending transactions
- The **Securities Exchange Board of India** took our expert advice in drafting of the regulations relating to listing of asset backed securities
- The **Securities Exchange Commission Sri Lanka** has taken our inputs on taxation of securitisation transactions and the drafting of the securitisation law
- Providing comprehensive modeling and **structuring consulting to a South African boutique investment bank** on securitisation of mortgage loans
- Providing comprehensive consulting on **securitisation of consumer finance receivables to Moccis, a company based in Malaysia**. We adopted a hand holding approach to their securitisation effort including basic guidance, advising and structuring of their proposed securitisation, etc.
- Assisting **the South African Revenue Service** (income-tax department of South Africa) in preparation of a taxation manual for securitisation and synthetic securitisation transactions
- **Vinod Kothari has been on an Asian Development Bank consulting group to advise the Government of India on securitisation and enforcement of security interest laws** in India. The group is responsible for suggesting comprehensive amendments to the SARFAESI Act in India to make securitisation and security enforcement laws effectively work in the country
- **Year-long retainership with Citibank for their securitisation activities** in the country. During this term, we advised the bank on several securitisation transactions where Citibank was the structurer/investment banker

Consulting & Advisory on Securitisation Cash Flow Modeling / Stress Testing / Valuations

- Advising **Cognizant Technologies**, IT Company headquartered in the USA, on **structuring and modeling of residential mortgage backed transactions**. Cognizant engaged us for a 6-month consulting contract for the modeling project that they envisaged for leading US banks (such as Deutsche, Washington Mutual).
- Advising **Infosys Technologies**, a leading IT company, to **set up the functional requirements for a securitisation module** to be added to their software products. This assignment required us to take the company step by step through securitisation procedures and prepare cash flow models for various types of securitisation transactions
- Advising **GE Capital**, a leading finance house, on several of their securitisation transactions. We have been engaged to vet and vouch information memoranda for securitisation transactions, check essential financial data, and advise the company on taxation and accounting requirements
- Our services were **retained for 2 years by CARE a rating agency on a retainership basis**. The scope of the retainership includes advising the rating agency on their structured finance ratings basis, and in particular, in developing models for securitisation transactions
- We have been engaged in advising the **Government of Jordan on a project relating to affordable housing** in Jordan. We would be advising the government on appropriate funding plans, as also in laying down legal framework for securitisation or sukuk as may be the result of the study
- We are currently executing an assignment along with IMACS, **an affiliate of ICRA (rating agency)** for imparting training on IFC Washington's mortgage toolkit for affordable housing finance. The assignment has already run for over a year and expected to continue

Our Team:

Vinod Kothari

Internationally recognized as an author, trainer and consultant on specialized financial subjects, viz., housing finance, securitisation, credit derivatives, accounting for financial instruments, structured finance, banking regulations etc. As such, he lectures all over the world.

Vinod with his efficient team has advised and consulted on securitisation to very diverse groups - from rating agency professionals in Malaysia, to group of investors in Sydney, to tax officers in South Africa, to group of lawyers in India, to executives of the World's largest securitisation agency in Washington, to a group of quants in New York.

Amit Badola

He comes with extensive international experience and expertise in different facets of securitisation involving cash flow modeling, ratings analysis, pricing/valuations, structuring and credit risk analysis of the structured finance transactions around the globe. He has worked on all the asset classes including most complex ones like Hybrid CDOs, Synthetic CDOs, Master Trusts, Credit Card Trusts etc.

He is a Chartered Accountant & an MBA (Finance) - gold medalist from ICAI, Hyderabad.

Amit has worked with Crisil Ltd. (A subsidiary of S&P) for 6 years working on cash flow modeling, ratings analysis and credit risk review for the structured finance transaction. During his tenure with Crisil, he has been deputed to S&P Office (London) to work closely with rating analysts and investment bankers on the structural mechanism of the deals and to train analysts on the cash flow analysis and structure of complex Master Trust deals.

Nidhi Bothra

She specializes in areas of securitisation covering cash flows; structuring the transactions including both legal and commercial aspects, assignment transactions; domestic, off-shore as well as cross border transactions, Covered Bonds and Other Financial Instruments, Leasing, Mortgage Lending, Affordable Housing and Housing Microfinance, Asset Reconstruction Business etc.

She is also a well known writer in the field of finance whose authored articles made their place in esteemed journals, websites and other forms of mass media. She is an established trainer and lecturer in the field securitisation at leading Organizations and Education Institutions within India and abroad.

She was engaged on study on Covered Bonds into India for a Working Committee set up by National Housing Bank India during 2012. Currently, she is also acting as a leasing consultant to several NBFCs in India. She is on the Correspondent Board for Islamic Finance News, Red Money Publications for "Securities and Securitisation."

Other Team Members:

For the profile of our other team members please look at the below link to our website:
http://vinodkothari.com/Profile_Team.htm

Vinod Kothari Consultants Pvt Ltd

Kolkata

Krishna Building, Room No 1012,
224, AJC Bose Road
Kolkata- 700017 (India)
Phone: +91-33- 22817715/ 1276 / 3742
E-mail: nidhi@vinodkothari.com

Mumbai

601 - C, Neelkanth
98, Marine Drive
Mumbai 400 002 (India)
Phone: +91-22-22817427
E-mail: vinod@vinodkothari.com

Websites :

Securitisation : <http://www.vinodkothari.com>
Leasing : <https://india-financing.com/leasing-index.html>
NBFC : <http://www.india-financing.com>
Credit Derivatives : <http://www.credit-deriv.com>



