

MBS RATING METHODOLOGY

INTRODUCTION

Mortgage-backed Securitisation (MBS) refers to the securitisation of mortgage loans. These loans can be against residential properties (residential mortgages) or commercial properties (commercial mortgages). The securitisation of residential mortgage loans is called residential mortgage-backed securitisation (RMBS), and the securitisation of commercial mortgage loan is called commercial mortgage-backed securitisation (CMBS).

The MBS rating criteria concentrates on three main areas including:

- The credit quality of the loans and related security, which reflects the experience and competency of the underwriter as well as the loan characteristics;
- Structural features of the transaction, including the transaction's cash flows, tranching, and
- Legal aspects of the transaction.

PACRA assesses the interaction of each of these areas and tests the robustness of an MBS transaction using various assumptions on delinquencies, defaults, interest rates, and prepayments. PACRA's rating approach aims to assess the ability of a special-purpose entity (SPE) that is issuing MBS to apply the cash flows generated by the assets being securitized to make full and timely payment of interest and full and ultimate repayment of principal on the instruments/notes. SPE does this by applying the cash flows generated by the assets being securitized. The rating methodology analyzes the interaction between the credit, cash flow, and structural aspects of the transaction under a range of assumptions and scenarios.

PACRA's comprehensive offerings include instrument and entity credit ratings, insurer financial strength ratings, fund ratings, asset manager ratings and real estate gradings.

PACRA's opinion is not a recommendation to purchase, sell or hold a security, in as much as it does not comment on the security's market price or suitability for a particular investor.

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THE ANALYSIS

Our analysis for rating MBS transactions begins with due diligence on the originator's credit evaluation process, to understand the procedures and underwriting standards in respect of their mortgage business. To assess the credit quality of the portfolio of mortgage loans, PACRA conducts a detailed analysis on a loan-by-loan basis, measured against a benchmark loan to arrive at the entire pool's overall credit profile. The benchmark pool serves as a common yardstick by which the risk of any given other pool of mortgages can be determined. The benchmark pool is assumed to exhibit a specific amount of losses for each rating category in the absence of other legal and structural considerations unique to the transaction, such as excess spread or negative carry and/or interest rate mismatches. Meanwhile, the capabilities of the servicer, a role that is mostly carried out by the originator, are evaluated. The experience and performance of the servicer in servicing mortgage portfolios is important, as it can affect the performance of the securitised portfolio.

Following is a detailed discussion as to different dimensions of an MBS transaction evaluated by PACRA;

- Origination
- Servicing
- Financial performance
 - Cash flows
 - Prepayment scenarios
 - Interest rate scenarios
 - Pool characteristics
- Legal structure

ORIGINATOR EVALUATION

PACRA conducts an on-site visit in our underwriting evaluation where we run through the processes of the origination of a mortgage (from submission of application through to loan disbursement). We conduct interviews and discussions with key management personnel and operations staff at critical levels. The focus of the originator review is the underwriting process: the way in which a borrower is sourced (in-house versus intermediary) and the assessment of the borrower's creditworthiness is key to judging the quality of an originator. Criteria regarding eligible income, income certification and affordability assessment are considered with particular care, as they rely on a number of practices and criteria that may vary across lenders of a particular jurisdiction. The technology the originator uses to process the application is another important aspect of underwriting a mortgage loan; PACRA also assesses data on staffing, such as levels of experience, ongoing training and productivity incentives. In addition, appraisal procedures are evaluated and quality control issues are discussed to find out how well an originator adheres to its own guidelines and procedures.

PACRA examines the originator's track record in the housing finance business. Some of the key areas examined are:

- Credit Appraisal Standards
- Sanction and disbursement procedures adopted including delegation of powers
- Adequacy of documentation

SERVICING

This part of the rating exercise forms a key part of our analysis to determine the effectiveness of servicer in managing portfolio delinquencies and defaults. We evaluate collection, delinquency management process, and disaster-recovery plans. We will perform an on-site review of the servicer's loan-servicing platform that supports the monitoring and collection processes. At the same time, we want to understand the typical measures that the servicer undertakes subsequent to a default on a mortgage. To the extent that staff is unable to cope with the volume of mortgage loans, perform collections, arrest delinquencies or pursue recoveries, the portfolio may suffer from a higher level of credit loss.

In our due-diligence process, we will meet with the management to understand the various collection policies and procedures on managing accounts in arrears. Here, too, the quality and experience of the staff are paramount. PACRA believes an experienced arrears management team is likely to resolve delinquencies more quickly and to reduce losses. A step-by-step procedure for managing a delinquent loan, from the first day a payment is missed through to repossession, is also important when evaluating the proficiency of a servicer. Further, the agency assesses whether the lenders' resources (capacity, staff, and IT systems) are sufficient to (i) detect efficiently cases for which action is required (typically delinquencies) and to (ii) deal with severe business and performance downturns. PACRA evaluates the experience of the recovery department, its staff, procedures and the decision making process through the life of a defaulted loan.

Some of the key areas examined are:

- Monitoring and Collection procedures
- MIS
- Historical repossession and recovery rates
- Historical delinquency and default rates
- Prepayments

As part of our surveillance of MBS transactions, PACRA conducts an annual review on the servicer's operations and changes in its policies and assesses the impact on the transaction.

FINANCIAL PERFORMANCE

CASH FLOW ANALYSIS

Collateral cash flow analysis considers the financial structure and determines credit enhancement. PACRA develops a base-case portfolio performance expectation, which represents the anticipated performance of a portfolio under a non-stressed economic scenario. This base case is run through stress scenarios at each desired rating category. For the purposes of credit enhancement, we also considers liquidity issues; payment priority; commingling, negative carry, profit rate, and reinvestment risks; and amortization issues. For each scenario of interest rate and prepayment, pool inflows and outflows are compared on a monthly basis to derive monthly surpluses or shortfalls. These monthly shortfalls/surpluses are cumulated to find out the cumulative shortfalls in very month.

PREPAYMENT SCENARIOS

Prepayment plays an important role in determining how much excess spread is generated within a transaction. High prepayment levels reduce the available excess spread, as interest income is no longer available from prepaid loans. All else being equal, transactions that have a more generous spread can afford a lower level of subordination as the excess spread available can act as another form of credit enhancement for the transaction.

INTEREST RATE SCENARIOS

Residential mortgages in Pakistan typically have floating rates and are referenced to the KIBOR. RMBS transactions, on the other hand, can be issued either on a fixed-rate or floating-rate basis, and may be exposed to interest-rate and/or basis risk. Floating-rate liabilities in the meantime are typically referenced to inter-bank rates e.g. the 6-month Karachi Interbank Offer Rate (6-m KIBOR).

POOL CHARACTERISTICS ANALYSIS

Pool selection criteria play a very important role in determining the quality of the pool. The pool characteristics are a good indicator of the expected future performance of the pool. PACRA, looks at the following characteristics:

Loan-to-Value Ratio (LTV Ratio)

LTV ratios historically have proved to be key predictors of default frequency rates. LTV is defined as the ratio of mortgage debt divided by the value of the security property, expressed as a percentage. The higher the LTV, the higher the risk of loss on the loan. A low ratio indicates a higher initial equity of the borrower in the asset, and hence disincentivises default on loan repayment. As the loan is gradually repaid in installments, the borrower's equity in the asset builds up.

Geographical Distribution

The geographical concentration of the pool can affect pool performance, due to the influence of regional socio-economic conditions in a particular geographical area. In PACRA's analysis, a concentrated pool is subjected to more extreme stress scenarios than a diversified pool is. Overall geographical spread of the pool, the geographical diversification within a particular city, the type of industries located in the region etc are some of the factors that determine what constitutes concentration.

Seasoning

Seasoning refers to a loan that has been on the books for at least a year and has a satisfactory payment record. Net seasoning refers to the number of installments paid by the borrower. As the installments are paid, borrowers equity increases. Moreover, a few months minimum seasoning also eliminates cases of fraud to a greater extent. PACRA takes in to account weighted average seasoning of the pool at the time of the securitisation and the seasoning profile of the contracts in the pool.



Borrower Profile and Diversification

It is important to analyze the profile of the borrower since the characteristics of a particular borrower segment might be very different from those of other segments. For example salaried and self-employed borrowers have different characteristics, which may lead into different performance. Similarly, borrower diversity ensures that the pool's performance is not overly dependent on the performance of a few borrowers.

Original Tenure

It has been generally viewed that, with all else being constant, the higher the original tenure of contracts, the higher the risk of losses. Therefore, longer tenure implies higher uncertainty.

Loan Amount

A large loan is generally perceived to be riskier as compared to a small loan. This reflects the fact that the target segment for a high-value property is small. Hence, if a high value contract defaults, there is less likelihood of quickly getting a buyer.

Loan Purpose

Residential mortgage loans can be made to purchase a property, to refinance an existing mortgage, to release equity under an existing mortgage, to improve the home or for various other purposes. Generally, loans to purchase a home or to refinance at a lower rate have the lowest default frequency, Conversely when equity is released through a cash-out refinance, default frequency rises. In these cases, the determination of property value is made solely by an appraiser.

Owner Occupancy

The primary residence provides a greater housing service to the owner than does a rental or second home and is therefore less likely to be subject to loss. Investor or rental properties rely on cash flows from parties who may not have the credit profile of the borrower, increasing the risk of default.

Debt-to-Income Ratio DTI (Ratio)

DTI ratio is defined as the ratio of the mortgage installments to the household's income, gross, or net of taxes. PACRA will calculate the DTI from the loan-by-loan income data provided by the lender. The DTI ratio is the annuity-based mortgage installment divided by the monthly income.

LEGAL STRUCTURE AND DOCUMENTATION REVIEW

The purpose of this review is to assess the credit and legal implications of the transaction structure. As part of this review, issues considered include transferability of assets; bankruptcy remoteness of SPE; taxation issues including transfer tax, stamp duty and withholding tax; regulatory issues and set-off risk. When rating a securitization transaction, particularly in an industry with no previous securitization transactions or examples in the proposed asset class, an understanding of the legal environment is vital.



PACRA has found that the legal ability to transfer assets and attached security to a third party can often be constraints to securitization Most securitizations rely on a “true sale” of assets where ownership cannot be challenged in the event of the originator’s bankruptcy. PACRA typically consults legal counsel independently or rely on transaction’s legal advisor early in the rating process to assess legal issues impacting the feasibility of a transaction.

PERFORMANCE ANALYTICS

Once a transaction has been closed, PACRA continues to play a role in the securitization throughout the life of the transaction. The agency’s dedicated Performance Analytics team provides a valuable tool for investors by monitoring and reporting on the performance of the rated securities.