ARC RATINGS

STRUCTURED FINANCE RATING CRITERIA

GLOBAL RESIDENTIAL MORTGAGE BACKED SECURITIES ('RMBS') RATING CRITERIA

This is an update to the methodology previously published in May 2020.

There are no material changes and as such no rating impact.

May 2021

I. INTRODUCTION

ARC Ratings' ("ARC") Global Residential Mortgage Backed Securities (RMBS) Rating Criteria (the "Criteria") summarises how ARC assesses credit risks within RMBS transactions globally (excluding the USA). The approach addresses a number of risks, including but not limited to the underlying collateral (which is analysed on a loan by loan basis); the transaction structure; operational risk and counterparty risk.

As transactions can vary significantly, analysis may diverge from stated assumptions. For example, assumptions may vary between countries and between product types. If assumptions set out in these Criteria are amended or supplemented all such modifications will be disclosed in individual transaction reports. Individual country default and recovery assumptions will be published and updated in separate addenda to this report.

II. RELATED RESEARCH

Each transaction will be accompanied by a transaction specific report that will disclose any additional observations or bespoke modifications to the Criteria. The Criteria should be read in conjunction with ARC's published 'Global Structured Finance Methodology' and available at www.arcratings.com.

III. RATING APPROACH

ARC's rating approach is both quantitative and qualitative with final ratings accorded by a rating panel. ARC will initiate its rating approach with a review of the underlying residential mortgage portfolio and the lender's mortgage performance history. There will be a key focus on understanding the originator's underwriting processes and procedures as well as the servicer's ability to manage the portfolio. As such the originator and servicer reviews will form a crucial part of the rating analysis.

ARC will perform an analysis of the historical performance of the lender's loan book as well as a loan-by-loan analysis of the portfolio. A cash-flow analysis (CF analysis) will be carried out to determine the ability of the structure and assets to withstand various rating scenarios and meet timely payment of obligations.

In addition, a review of the transaction documentation and legal opinions will be performed to ensure they reflect the structure presented to ARC.

IV. OPERATIONAL RISK

A key factor of the rating analysis is the ability of the originator and servicer to perform their functions under the transaction documentation. As part of the rating analysis, ARC will carry out a review of both the originator (the entity responsible for underwriting the loans) and the servicer (the entity responsible for managing the portfolio, including making collections of interest and principal and enforcing loans where necessary). The originator and servicer are often, but not always, the same entity. The review provides a qualitative input to the rating panel as well as assisting in determining foreclosure and recovery expectations.

The originator and servicer reviews will consist of an on-site visit and will include a sample file review. The originator review focuses on the processes and procedures adopted by the originator in respect of underwriting and originating loans, while the servicer review focuses on processes for monitoring and servicing the existing loan portfolio, including an assessment of staffing, technology, and administration processes as well as arrears and defaulted loans management. These reviews are crucial in understanding the quality and efficiency of these roles and can drive the rating process in terms of focusing attention on specific areas.

The file review is only intended to allow ARC to better understand the originator/servicer processes. In addition, an independent audit opinion on the underlying collateral/portfolio is required for each transaction, except in cases where the collateral is fully insured by a suitably rated external insurance counterparty. In particular, ARC expects to receive an independent report from a recognised audit firm complying with agreed upon principles ('AUP') that tests compliance with the processes to a 99/1 confidence level.

Once a transaction has closed, an operational review will be carried out at least annually, or as performance events may determine, to assess conformity with and/or changes to policies and procedures.

In structured finance transactions, a key consideration in the analysis is the continuity of servicing over the life of the transaction. As such, specific back-up servicer arrangements or servicer replacement triggers are expected to be included in the transaction documentation to reduce any potential disruptions in cash flows in the event of any issues that may arise with the servicer. A review of the back-up servicer may also be carried out.

If processes and procedures differ in quality from those assumed for a 'base case' lender then qualitative adjustments may be made within the analysis for any shortfalls or weaknesses within the originator's or servicer's processes or policies. In the case of extreme weakness ARC may decline to rate a transaction.

As part of the legal review, ARC will also request a letter of confirmation from the issuer that the pool of assets forming security for the transaction is not subject to any equal or higher ranking charge to another party.

V. ASSET PERFORMANCE

The key parameters in determining performance of a RMBS portfolio are default frequency (DF) and loss severity (LS). DF is typically driven by adverse loan and/or borrower characteristics affecting ability or willingness to pay, as well as loan to value (LTV) ratios. Conversely, LS is largely driven by the current LTV combined with the timing of recoveries, foreclosure costs and house price stress.

For each country/jurisdiction, ARC will determine a standardised DF and LS scenario by reviewing historic data of default levels for different product types, combined with an analysis of historic house price movements, in order to simulate standardised 'base case' or expected performance outcomes. From this basic analysis individual product types and/or borrower characteristics can be overlaid to allow adjustments to each loan in a portfolio (e.g. interest only loans or borrowers with high debt-to-income (DTI) ratios) from which the base case DF and LS scenarios for a portfolio can then be calculated based on a loan-by-loan analysis. This base case, typically assumed to be at a 'B(sf)' rating level, can then be stressed to consider/determine other ratings.

For each individual transaction the specific historic performance of the loans originated by that lender are taken into account and the country specific assumptions adjusted to create a transaction-specific base case.

DEFAULT FREQUENCY

The key driver of DF is considered by ARC to be the propensity of the borrower to meet its payment obligations, driven primarily by the percentage of net disposable income required to meet those payments, i.e. the DTI ratio. This can be affected by divorce, unemployment or a range of other factors that can temporarily or even permanently affect a borrower's income, while changes in interest rates can alter the quantum of the mortgage payment obligation adversely.

A further driver, although in ARC's view less important than DTI, is the equity the borrower has in the underlying property which is determined by LTV. Borrowers with a high ability to pay (low DTI) are expected to have a lower default risk profile and to some degree this often goes hand-in-hand with a lower LTV. If there is a significant delay between the origination of a mortgage and its inclusion in a securitisation, ARC will use the more recent valuation in calculating LTV (discussed further in Property Values and Market Value Decline, below). Although a rise in the LTV on a property might reduce a borrower's willingness to pay (e.g. following a period of house price decline) it does not, of itself, affect their ability to pay. It is important, therefore, to distinguish between countries in which mortgages are full recourse (i.e. if the loan defaults and foreclosure proceeds are insufficient to repay all debt, the unpaid amount remains a debt obligation of the borrower) and non-recourse (i.e. where the lender only has the right to recover the proceeds of foreclosure and any remaining unpaid debt is expunged). In the latter case, it is arguable that a higher LTV will drive DF to a greater degree although in Europe there are few countries where such non-recourse loans are prevalent. That said, the Basel bank capital adequacy framework does recognise that high LTV loans, even in full recourse mortgage lending jurisdictions, do display a higher tendency to default, most notably for LTVs above 80%. The 'standard' ARC assumptions for this relationship (i.e. the multiple of the base case DF of 1.0x that is assumed for a loan with a LTV of 70%) are set out in the table below, with individual country assumptions differing from this standard as evidence dictates:

Loan to Value	Adjustment to Base Case Default Frequency
LTV < 50%	0.4x
50% ≤ LTV ≤ 60%	0.5x
60% ≤ LTV ≤ 70%	0.7x
70% ≤ LTV ≤ 80%	1.0x
80% ≤ LTV ≤ 90%	2.0x
90% ≤ LTV ≤ 100%	2.5x
100% ≥ LTV	3.5x

ARC will apply a DF matrix after taking into consideration the DTI, LTV and specific product characteristics. Various upward or downward adjustments may be applied to each base case given the qualitative factors presented; these will be detailed in each transaction report. The process for making these adjustments is outlined in Appendix B.

LOSS SEVERITY

Once a loan is in severe arrears or default the lender is expected to commence foreclosure proceedings and repossess the property in order to recover its outstanding loan. A loss is incurred when the current loan balance plus any missed interest payments exceed the property value after foreclosure costs. LS is the ratio of this calculated loss to the loan outstanding. The distressed property value is calculated by deducting an amount derived from market value decline (MVD) assumptions from the original property value. A key factor in determining the LS is the value of the property. The value of the property is evaluated and a MVD assumption applied for each rating category.

PROPERTY VALUES AND MARKET VALUE DECLINE

The property value at the most recent valuation date as provided by the lender is taken into account. The original LTV (OLTV), i.e. the LTV at the time of the original loan, might change in the period before securitisation, so the current LTV (CLTV), based on the most recent valuation, is used but only if this is a full valuation by a qualified surveyor. However, where a property has increased in value from its original valuation but there is no formal revaluation, ARC will take account of the change in value implied by a rise or fall in the relevant property price index, subject to adjustment if such a change is considered by ARC to be excessive. In the case of non-formal valuation (e.g. using an automated valuation model or AVM), ARC will discount any increase by up to 50 per cent but will take account of 100 per cent of any decline.

LS is dependent upon house price evolution. MVD assumptions will vary by country and sometimes by regions within a country, if individual regions display different house price patterns. The assumed MVD, to be set for each country in the relevant country addendum, reflects the expected decline, which value may be adjusted further to reflect adverse economic conditions. The adjusted base case will then be stressed for the relevant rating.

FORECLOSURE COSTS

Timing of foreclosure is considered based on available historical information for each jurisdiction and the length of the enforcement process in each market.

Foreclosure costs are the costs estimated for auction or private sale of properties within each jurisdiction, as well as legal costs. The foreclosure costs are subtracted from the distressed property value. Any interest on the loan that is unpaid during the foreclosure period will also be deducted from the recovery value to determine the net proceeds of foreclosure and the final assumed LS on the loan.

The timing of foreclosure and sale, as well as the costs thereof, will be set out in each country addendum.

VI. CASHFLOW ANLAYSIS

As discussed above the base case assumptions are determined by a rating panel and subsequently stressed for the relevant rating scenarios. Typically, a base case will correspond to a 'B(sf)' rating. For higher rating categories, more severe stresses are applied to the base case. A forward-looking approach is assumed.

A cash flow analysis (CF analysis) is run to test the transaction's ability to withstand stress in various rating scenarios. Multiple stress scenarios may be run to determine if principal and interest can be paid under the terms of the transaction. The Weighted Average Default Frequency and Weighted Average Recovery Rate are used as inputs in the CF analysis after making stress adjustments for each jurisdiction. The CF analysis is used to determine whether the available credit enhancement (in the form of subordination of junior debt classes and equity) together with excess spread (the difference between the weighted average interest payable on the portfolio and the weighted average cost of debt) and any available reserves provides sufficient credit support for the relevant rating. The CF analysis aims to mirror the contractual transaction terms, specifically in terms of priority of payments, and will therefore consider, amongst other factors, the timing of defaults and receipt of recoveries, the foreclosure frequency, prepayments, interest rates and hedging, transaction structure and servicing fees. For each of the various rating scenarios a front-loaded, evenly-distributed and back-loaded default timing vector will be run to determine which creates the most stress.

To take account of prepayments the CF analysis starts from a base case based on the lender's historical experience that is stressed upwards and downwards to test the ability of the transaction to meet interest and principal obligations in all scenarios.

ARC expects interest rate risk to be hedged where necessary, using suitably rated counterparties. The ARC criteria for swap counterparties is set out in its Global Structured Finance Methodology. A swap, if present, will typically be designed to hedge any interest rate risk in a transaction and, where it is present, ARC will include the swap mechanics in the CF analysis. The amount of the swap notional should be sufficient to cover the performing asset balance of the transaction, but swaps based on other parameters will be considered in the analysis.

VII. AMORTISATION PROFILE

The amortisation profile will be assessed in the analysis. Interest rates are a key factor in determining the amortisation of the portfolio. Different amortisation types exist, such as constant principal, floating maturity loans, flexible maturity loans, interest only and bullet amortisation. The type of amortisation is factored into the CF analysis.

The legal maturity of the RMBS should fall after the longest loan maturity plus the maximum recovery time in respect of the portfolio, the latter likely to differ from jurisdiction to jurisdiction.

VIII. REVOLVING PERIOD

Many transactions include a revolving period during which principal collections are not required to be used to repay the RMBS but can fund the purchase of new mortgage loans. ARC expects transaction triggers to be included that end the revolving period in the event of performance deterioration of the portfolio.

IX. DELINQUENCIES

While a proportion of delinquent loans in the portfolio are expected to default, the remainder are expected to become performing again. ARC assumptions for the level of delinquencies is based on historical performance. Delinquency assumptions will be stressed in addition to default assumptions, thus testing the transaction's ability to meet timely payments on the rated notes. Many delinquent loans are expected to be restructured and thus become performing again, although ARC will apply different stresses to loans in the portfolio which have already been through this process. This will depend on the borrowers' characteristics as well as the lenders' policies.

X. RESERVE FUNDS

Many transactions include reserve funds which can have different characteristics. Some transactions will have a reserve fund that, when used, must then be restored to a specific level from excess spread while others will have a reserve fund built up over time from excess spread and must then be restored when used. In any event ARC's CF analysis will take account of the transaction-specific reserve fund mechanics and determine the extent to which it can be relied upon to support the ratings.

XI. LIQUIDITY FACILITY

In some scenarios, dependent upon the transaction and the priority of payments, a liquidity facility may serve to provide additional support to the notes, in particular to allow the transaction to overcome short-term liquidity constraints. Typically such a liquidity facility ranks above the most senior notes in a RMBS priority of payments so in it CF analysis ARC will ensure that any drawings can be made and repaid without affecting the ability of the transaction to meet all of its payment obligations. Liquidity facilities in some cases may also amortise in line with the notes and again this will be considered in the analysis.

XII. CONCENTRATION RISK

ARC expects a RMBS portfolio to be granular and, within each country, to be spread broadly in line with population dispersal. Excess concentrations (e.g. a disproportionate exposure to a particular region) and larger than average loans might lead to additional stresses in terms of both DF and MVDs.

A portfolio should be protected from performance volatility as the portfolio size declines. ARC will determine in its analysis if the level of concentration within the portfolio is sufficiently granular to insulate the transaction from tail end risk.

XIII. LEGAL ANALYSIS

ARC expects to receive full transaction documentation as well as legal opinions, as discussed in its Global Structured Finance Methodology. Typically, ARC will request a review of legal opinions by external counsel.

For a RMBS transaction a bankruptcy-remote SPV is expected to be established with a true sale of the mortgage loans to the SPV. The SPV is expected to be the legal owner of the loans and as such be entitled to the proceeds arising from them even in the event that the seller becomes insolvent.

XIV. COUNTERPARTY RISK

ARC will review counterparty risks within the transaction. In order to support a RMBS rating higher than the rating of the originator, ARC expects transaction counterparties to meet the counterparty guidelines summarised in its Global Structured Finance Methodology. ARC also expects that at closing the transaction documentation reflects its counterparty guidelines. The underlying analytical assumption of the guidelines listed in this report is that a jump-to-default of the relevant counterparty within the specified remedial period is sufficiently remote to support the associated maximum achievable securities rating.

XV. COMMINGLING RISK

Commingling risk should be mitigated and covered in the provided legal opinion. For an RMBS transaction funds should be paid directly into the issuer's bank account or paid into the account of the seller / originator and then transferred to the transaction account within a predefined time frame (see Global Structured Finance Methodology for more details). Where commingling risk exists, this should be appropriately mitigated or covered by reserves.

XVI. PERFORMANCE MONITORING

ARC should receive transaction portfolio performance reports on a monthly or quarterly basis. ARC will expect to receive updated loan-by-loan information. For a RMBS transaction cash flow analysis may not be continuously repeated over the life of the transaction if cash flows and performance of the transaction remain in line with expectations. All transactions will be reviewed on an annual basis at a minimum or as events may warrant. Declining performance of the transaction and changes in trends within the residential property or mortgage market may result in reviews being undertaken more frequently. ARC will aim to meet with the originator/servicer at least annually to discuss any updates to the origination/servicing processes and procedures.

XVII. RATING MODIFIERS

An Indicative Rating - evidenced by the suffix (ind) – is a rating assigned by ARC to an issuer or an instrument (most commonly structured or project finance debt issues) when the assignment of a final rating is dependent upon the fulfilment of specific contingencies. Any material deviation in the fulfilment of these contingencies from the assumptions underlying the Indicative Rating can have a material impact on the final rating accorded, which accordingly may be fundamentally different to the initial Indicative Rating. Moreover, ARC reserves the right not to issue a final rating. Potential investors are advised to bear this in mind when considering any indicative rating.

As with all other structured finance ratings, RMBS ratings are required to include the suffix (sf) following the rating assigned.

XVIII: ENVIRONMENTAL, SOCIAL AND GOVERNANCE FACTORS

ARC's structured finance ratings are always based on an holistic analysis of the transaction to be rated with the goal of identifying all relevant aspects, including environmental, social and governance (ESG) factors, that might impact the issuer, collateral or structural features of the transaction. ARC always takes the most forward-looking perspective that current knowledge about these risks permits, acknowledging that in the case of some ESG factors their credit impact will only be known over a longer time horizon than the one considered for the rating analysis, making an accurate quantification of its potential impact unlikely. Therefore, ARC tries to incorporate ESG factors into its ratings mostly through qualitative analysis. The potential impact of environmental and social factors is usually on the pool of assets serving as collateral, while governance factors impact the transaction features. Since the governance aspects are covered throughout this methodology, this section only includes the factors related to Environmental and Social impact.

For a RMBS transaction, the most likely environmental factors that could be included in the analysis would be waste and hazardous materials management and exposure to environmental impacts. We assess both the consequences from the environmental factors, as well as the impact of regulatory or policy initiatives aimed at minimising or preventing the adverse impact of these factors.

Social factors that could be included in the analysis:

- Consumer protection.

- Integration in the community and affordability.

- Exposure to social structural changes.

Where ESG factors are a key driver behind the assignment or change of a credit rating or rating outlook this will be outlined, the ESG factor that was considered a key driver identified and its materiality explained in the accompanying press release and/or report.

For ARC, ESG factors are not based on quantitative data neither have a specific score; the impact for the analysis is directly at the level of the rating if, from the analysis, it is determined as a potential risk for the issuer that can therefore affect the rating in the long term.

XIX. QUALIFICATION

Note that ARC is not a legal, tax or financial adviser and will only provide a credit opinion of the rated securities. For example, a rating does not cover a potential change in the applicable laws nor can it be regarded as an audit. Moreover, ARC is not a party to the transaction documents, nor does it provide legal, tax or structuring advice.

APPENDIX A: DATA REQUIREMENTS AND ORIGINATOR & SERVICER REVIEW AGENDA

ARC expects to receive sufficient data to analyse the underlying portfolio. A spreadsheet template is available on request to act as a guide to ARC's specific requirements.

ARC expects to receive:

- Loan-by-loan information on the underlying collateral, including cumulative default and recovery information; and
- Performance data detailing the proportion of loans in arrears by greater than 90 days for each annual vintage for at least the past 5 years.

ORIGINATOR / SERVICER REVIEW AGENDA

As discussed in the Criteria, ARC will carry out an on-site review for each originator/servicer, and where warranted, back-up servicer. The review will include, but will not be limited to, a discussion of the following:

- Company operating structure and history;
- Underwriting policies;
- Management/Staffing;
- Origination channels
- Underwriting and approval processes;
- Broker sources;
- Servicing and collections;
- Arrears and enforcement processes;
- Data extraction capabilities;
- Systems;
- Disaster recovery plan;
- Mortgage regulation;
- Customer service;
- Quality control;
- Marketing; and
- Audit.

APPENDIX B: DETERMINING CREDIT ENHANCEMENT FOR RMBS

ARC applies the following approach in establishing the appropriate level of credit enhancement (CE) in RMBS transactions, calculated on a loan-by-loan basis in order to determine a blended CE. The determined blended CE is then factored into the CF analysis as discussed in the Criteria:

Inputs

Default Frequency X Loss Severity

Loan to value

House price stress

Foreclosure costs & timing

Accrued interest

Property value adjustments

= Base Case Default Frequency

+/- Adjustments for loan characteristics

+/- Adjustments for property characteristics

+/- Adjustments for Borrower characteristics

= Derived Credit Enhancement

X stress multiples

+/- Quantitative analysis adjustments

= Credit enhancement for relevant tranche

Stress multiples per rating scenario are determined by the rating panel. Typically, these can be derived for each loan as a function of the base case default frequency. The multiple applied will be disclosed in the transaction rating report.

DISCLAIMERS

ARC Ratings, S.A. is registered as a Credit Rating Agency with the European Securities and Markets Authority (ESMA), within the scope of the Regulation (EC) Nº 1060/2009 of the European Parliament and of the Council, of 16 September, and recognised as External Credit Assessment Institution (ECAI).

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Credit Ratings assigned by ARC Ratings are independent and forward-looking opinions on the capacity and willingness of an entity or the capacity of a transaction to make all required interest and principal payments on a given obligation in a timely manner interest and principal. The meaning of each rating category is explained in www.arcratings.com. ARC's credit ratings are based on ARC's published rating criteria.

Ratings do not constitute a recommendation or offer or solicitation to buy or sell any investments that may be mentioned, and are only one of the factors that investors may wish to consider. The use of any rating is entirely at the user's own risk.

In the rating process, ARC Ratings adopts procedures and methodologies aimed at ensuring transparency, credibility and independence, and also that rating classifications are not influenced by conflicts of interest.

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