



Methodology

*Master European Residential Mortgage-
Backed Securities Rating Methodology
and Jurisdictional Addenda*

DECEMBER 2011



Insight beyond the rating.

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Related Research:

Legal Criteria for European Structured Finance Transactions and Addenda
Master European Structured Finance Surveillance Methodology
Operational Risk Assessment for European RMBS Servicers
Swap Criteria for European Structured Finance Transactions
Unified Interest Rate Model for European Securitisations
The Effect of Sovereign Risk on Securitisations in the Euro Area

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This methodology replaces and supersedes all related prior methodologies. This methodology may be replaced or amended from time to time and, therefore, DBRS recommends that readers consult www.dbrs.com for the latest version of its methodologies.



Master European Residential Mortgage-Backed Securities Rating Methodology and Jurisdictional Addenda

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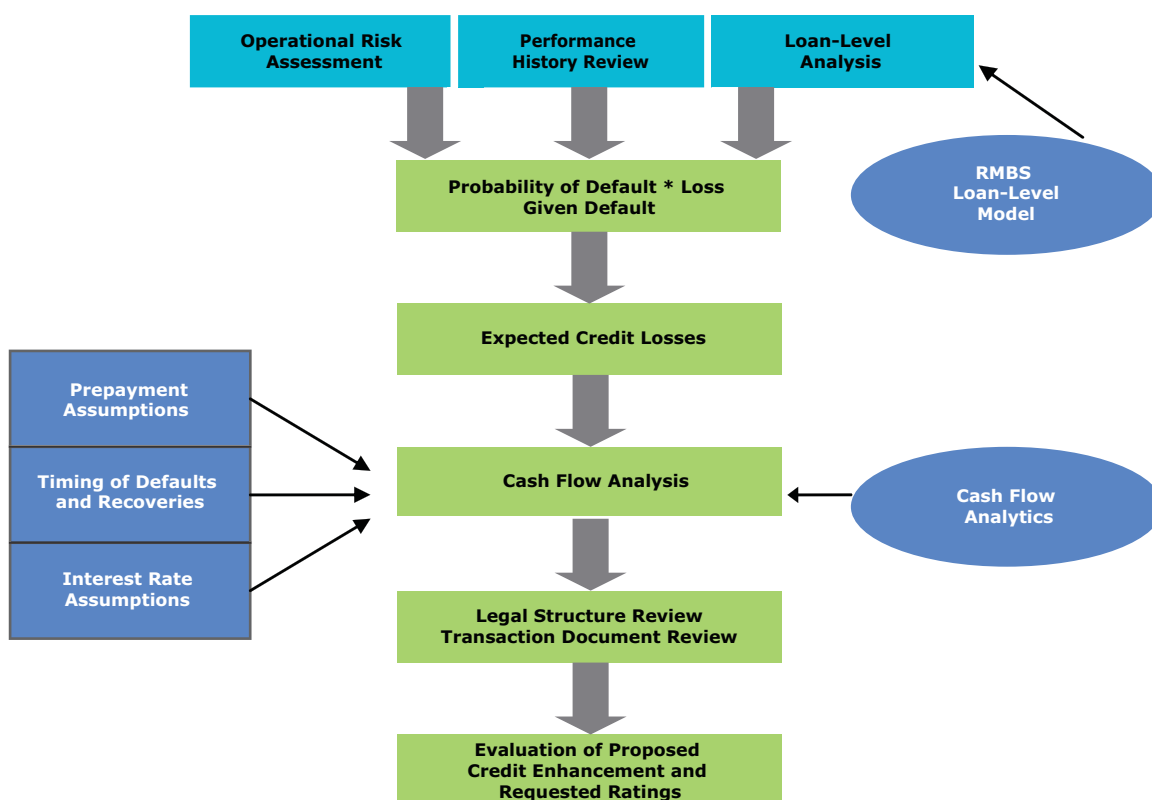
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Executive Summary

This report describes the DBRS rating methodology for European residential mortgage portfolios and forms part of the DBRS Ratings Limited (DBRS) criteria for rating European residential mortgage-backed securities (RMBS) and other transactions linked to residential mortgage assets including covered bonds. Please also refer to the appropriate jurisdictional RMBS methodologies at the end of this report for additional detail regarding DBRS asset analysis.

DBRS Rating Process for European RMBS Transactions



The diagram above summarises the process for analysing a residential mortgage-backed securities transaction:

- (1) DBRS assesses the operational risk by evaluating the quality of the mortgage originator and servicer.
- (2) DBRS reviews actual performance data of the originator and servicer with respect to historical defaults and recoveries.
- (3) DBRS conducts a loan-level analysis using its proprietary European RMBS Credit model (RMBS Model), the parameters of which can vary by jurisdiction. The output from the model includes the probability of default, loss given default and expected credit losses for a residential mortgage pool. The results are then reviewed along with the results of the operational risk review and assessment of historical per-



formance data, and are subject to adjustments, as warranted.

(4) DBRS performs a cash flow analysis by incorporating stress assumptions applied to defaults, the timing of defaults and losses, prepayments and interest rates to ensure timely payment of interest and ultimate payment of principal to the holders of the rated bonds for each requested rating.

(5) DBRS reviews the legal structure of the transaction and the associated legal opinions.

(6) DBRS evaluates the form and sufficiency of proposed credit enhancement for the requested ratings.

Operational Risk Assessment

OVERVIEW

DBRS operational risk review is designed to evaluate the quality of the parties that originate and service the loans being securitised. In instances where DBRS determines that the originator's or servicer's quality of operations is below average (company is weak in one or more areas of servicing), issuers may incorporate certain structural enhancements such as additional credit support, dynamic triggers or the presence of a strong backup servicer in order for DBRS to rate the transaction. In the event that DBRS determines that an originator or servicer is of unacceptable quality (company does not meet minimum industry standards), DBRS may refuse to rate the transaction.

ORIGINATOR REVIEW

An originator's appetite for risk and the underlying quality of its underwriting guidelines can have a significant impact on transaction performance. Therefore, DBRS uses both a qualitative and quantitative approach to conducting its originator reviews and makes comparisons among originators. Historical loan performance and repurchase volume, in addition to the items discussed below, are just some of the components that are incorporated into determining the quality of an originator.

DBRS views favorably those originators that have robust guidelines and use reliable means to accurately assess a borrower's income, employment and prior credit history. Furthermore, sophisticated technology and strong fraud-detection procedures can help prevent early payment defaults as well as accurately determine debt-to-income ratios. In addition, the accuracy of valuations can significantly reduce losses in European RMBS transactions. Accordingly, DBRS considers a comprehensive property evaluation process a necessity, particularly in the current economic environment. Furthermore, DBRS believes the participation of the credit risk management, quality control and legal and compliance departments in all aspects of the origination and underwriting process is important in order to identify and mitigate risk.

The originator review process is performed to assess the level of adherence to the originator's underwriting guidelines. DBRS expects that issuers' practices conform to all applicable rules and regulations governing consumer finance in the respective jurisdictions.

Originator Review Focus

- Financial condition and ability to provide and honour representations and warranties.
- Staffing and training.
- Sourcing by product type.
- Use and monitoring of brokers or correspondents.
- Sales and marketing practices.
- Underwriting policies and procedures.



- Recent or planned changes to underwriting guidelines.
- Use of credit scoring and proprietary technology.
- Income, employment and asset verification processes.
- Valuation process and use of automated valuation models (AVMs), where applicable.
- Appraiser approval process.
- Exception process.
- Fraud prevention techniques.
- Closing and funding process.
- Third-party originators oversight and management.
- Quality control and audit processes.
- Risk management.
- Legal and regulatory compliance.

SERVICER REVIEW

The servicer review process typically involves an analysis of the following:

- Company and Management.
- Financial Condition.
- Loan Administration.
- Customer Service.
- Default Management.
 1. Collections
 2. Loss Mitigation
 3. Bankruptcy
 4. Foreclosure
 5. Repossessions
- Investor Reporting.
- Technology.

For details on the servicing review process, please refer to the DBRS methodology “Operational Risk Assessment for European RMBS Servicers” dated June 2011.

JURISDICTIONAL DIFFERENCES

Each European jurisdiction exhibits different legal frameworks, market practices and product characteristics. The present criteria apply across all European jurisdictions, with adjustments made to reflect the specificities of each market. The generic aspects of DBRS rating approach are discussed in the first section of the report and aspects that are jurisdictionally specific are discussed in the addenda. DBRS European RMBS methodology focuses on historical performance data relevant to the jurisdiction and asset class under consideration and a loan by loan analysis of the assets in the proposed pool. With regards to DBRS analysis of the legal structure of securitisation transactions, the reader is referred to DBRS methodology “Legal Criteria for European Structured Finance Transactions”, which contains addenda addressing specific issues relevant to the principal European jurisdictions encountered by DBRS.

The different jurisdictions in Europe also exhibit varying degrees of sovereign-related risk. Here, the reader is referred to the DBRS commentary “The Effects of Sovereign Risk on Securitisations in the Euro Area.”



Data Request

As part of the rating process, DBRS analyses historical loan performance data provided by a sponsoring entity and also looks to compare the issuer's experience to the performance of the overall market. DBRS expects issuers to provide performance information, as described below, that covers asset performance during various economic cycles to enable DBRS to evaluate the impact that macroeconomic factors, such as unemployment levels, may have on collateral performance. Typically DBRS receives sufficient performance history from an issuer to perform a rating analysis. Where the performance history for the originator's assets is insufficient, DBRS may consider proxy data such as the performance of similarly originated assets within the same jurisdiction. In all cases where originator-specific static pool data is unavailable, however, DBRS is likely to adopt a significantly more conservative opinion regarding the assets' expected performance than would otherwise be the case. In the absence of adequate performance history, DBRS may decline to rate the transaction due to insufficiency of provided data.

To gain comfort on the accuracy of loan level data relative to underlying documents and data specific to each loan DBRS seeks to access Agreed upon Procedures that are performed by an issuer and/or seller for regulatory purposes. DBRS reviews the procedures performed for the following:

- The quantity of loans reviewed.
- The confidence level.
- The nature of the tests performed.
- The results of the tests and the nature and quantity of exceptions.

DBRS may reflect these results directly in its analysis through additional or higher default probability penalties or, in certain situations, apply a rating cap or decline to rate a transaction.

STATIC POOL DATA

DBRS loss analysis focuses on static pool default data. Static pool analysis relies on historical default data from discrete groups of loans originated over a relatively short period of time; ideally, these time periods should be monthly or quarterly as annual vintage data may lack the precision to accurately assess performance volatility during periods of economic stress. In addition, to the extent available, DBRS reviews static pool arrears/ default data on a gross basis, without taking into account any recoveries, for which separate static pool recovery/ loss data should be provided. Presentation of data in this manner can help provide additional insight into the unique factors that impact loss and recovery performance for the collateral. By evaluating defaults and recoveries separately, DBRS can better understand the volatility drivers behind each figure and can analyse the transactions with greater accuracy.

For cases where static pool arrears/default data is unavailable, DBRS may consider using dynamic portfolio loss data as a proxy. However, this approach has several shortcomings. Firstly, portfolio figures are biased downwards during periods of portfolio growth. While it is possible to make adjustments to the data to address this phenomenon, these adjustments do not provide insight into the timing of losses, an important component of DBRS loss analysis during transaction cash flow modelling. In addition, utilising portfolio figures make it difficult to adjust for changes in asset composition, and the amount and timing of recoveries can be obscured as well. As a result, in the absence of static pool data, DBRS requests supplemental data to help refine its analysis.

Pool data should be presented such that mortgage loans are considered defaulted in a manner that is consistent with the definition of a defaulted receivable in the transaction documentation to ensure that cash flow stresses are constructed to properly address the collateral's loss profile.



In addition to default data, DBRS also requests data to validate its Loss Given Default assumptions, including loan-level information for foreclosed properties, such as the original valuation, valuation date and repossession sale price.

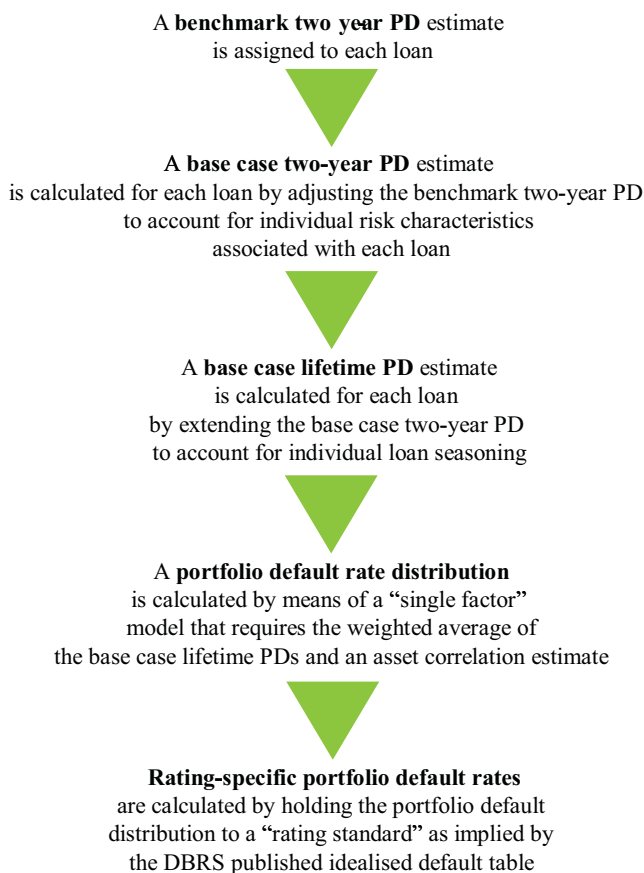
POOL CHARACTERISTICS

When approached to rate a transaction backed by residential mortgage loans, DBRS requests that a loan by loan data template be completed. The data template captures data on the loan and borrower specific features that are described in this report.

Probability of Default

SUMMARY

This section describes the DBRS methodology used to calculate loan-level probability of default (PD) and portfolio-level default rates for European residential mortgage pools. One important component of this methodology is an approach to calculate a base case two-year and lifetime PD estimates for individual mortgage loans. The approach also includes the creation of a portfolio default distribution, which allows for the extension to rating-specific portfolio stressed default rates. For each transaction, DBRS conducts additional analysis which serves as a reasonableness check when jurisdictional specific default penalties have yet to be validated. A summary of the methodology used to calculate loan-level PDs and portfolio default rates is given on the following page and described in detail in the following pages. Jurisdictional specific assumptions are described in each addendum.





THE BENCHMARK TWO-YEAR PD ESTIMATE

Each loan in the mortgage portfolio is initially assigned a benchmark two-year PD. The benchmark two-year PD is determined using historical default information supplied by the originator and may be further calibrated by DBRS based on market-wide loan-level data and the related default experience in the relevant jurisdiction. The historical data used to calculate the two-year PD should cover different economic stress scenarios: good, normal, bad and housing crash. DBRS classifies these scenarios based on various economic and market indicators such as unemployment, gross domestic product (GDP) growth, home price appreciation and depreciation and repossessions.

THE BASE CASE TWO-YEAR PD ESTIMATE

The benchmark two-year PD is then adjusted on a loan-by-loan basis to create the base case two-year PD estimate per loan. These adjustments are to account for borrower, property and loan product factors that increase or decrease the credit risk associated with a particular loan. An overview of the risk-adjustment factors used is provided in the next section.

A more qualitative evaluation of underwriting standards, credit policies and servicing practices is then overlaid on the estimated loan-level PDs to adjust for potential originator or servicer specific influences on loan credit performance. Further adjustments may also be necessary in the case of significant pool concentration risks.

The following section focuses on the borrower, mortgage loan and property characteristics that DBRS considers to be influential on a borrower's propensity to default. The default behaviour of each mortgage loan in the pool is forecast by integrating past credit performance information with additional characteristics that may influence a borrower's likelihood of default. Each characteristic is associated with a multiplicative factor, which may be different by jurisdiction, that adjusts the benchmark two-year PD up or down.

BORROWER CHARACTERISTICS AND CREDIT RISK

Credit Risk Band and Adverse Credit History

In order to differentiate between the credit quality of borrowers, each loan is assigned by DBRS to a credit risk band, based on past credit performance information. Credit risk bands range from "A" to "E," with "A" borrowers considered to be the least risky and "E" borrowers having severe current or past credit problems and therefore the riskiest. The available information currently used to determine the credit risk band is the following:

- Previous credit impairments.
- Any prior bankruptcy or the equivalent within each jurisdiction.
- Current arrears on mortgage.

Adverse credit history is a key differentiating factor for default risk because individuals who have suffered debt problems in the past have demonstrated a higher propensity for arrears and defaults on future debt repayment. Significant previous financial difficulties are indicated by arrears or defaults on loans, County Court Judgments in the UK, Judgments in Ireland or BKR (Bureau Krediet Registratie) codes in the Netherlands or insolvency. Lending to borrowers with adverse credit history implies higher default risk compared with mainstream lending and is evidenced by significantly higher mortgage arrears and default performance compared with the prime mortgage market.

Employment and Other Income-Related Variables

Borrower propensity to default is clearly related to the ability to make timely mortgage repayments on an ongoing basis. DBRS regards affordability, income and employment characteristics as key attributes, particularly after noticing the high default rates of recent affordability products in some European countries. In addition, consumer indebtedness rose to record level in many jurisdictions in the run up to the financial crisis of 2007 and has raised serious concerns as to borrowers' ability to repay their debts.



The following sections outline employment and other income-related features that DBRS considers to affect performance behaviour. These features are for owner-occupied properties only and do not apply to buy-to-let (BTL)/investment products, which are discussed separately in a later section.

Self-Certification

Self-certification is used by borrowers who want to obtain a mortgage without having to demonstrate their earnings to a standard required by conventional mortgage underwriting criteria. Here, applicants simply declare their own income, without having to provide the lender with any underlying documentation (e.g. pay slips, audited accounts, tax returns, etc.). Typically, borrowers who seek to self-certify are self-employed, commission-based or contract workers. Self-employed borrowers may choose to self-certify for a number of reasons. Firstly, most lenders require self-employed workers to provide two to three years of audited financial accounts, which disqualifies more recent self-employed borrowers. Secondly, audited accounts and/or current tax returns are often time lagged and may not show the latest figures of a borrower's income. Thirdly, self-employed borrowers may also perceive that supplying the necessary documentation would be too onerous and time-consuming. Commission-based workers may also choose to self-certify, as they receive a salary with a high proportion of bonus payments and hence show a large degree of variability in income over time. Contract workers and those with incomes from a variety of sources usually choose to self-certify because their total earnings may not otherwise be considered under a traditional mortgage.

There are additional risks with self-certified mortgages. Historical data indicates that mortgage lenders generally have a higher level of material arrears for their self-certified portfolios compared to mainstream lending. Lenders endeavour to offset this risk in a variety of ways, the most common being:

- Most self-certified mortgage providers pass the applicant's stated income through a plausibility check to ensure their stated job type fits within a reasonable salary range;
- More conservative credit score cards are taken into account when assessing self-certified mortgage applications, as well as lower LTV ratios so as to deter borrowers from taking out a mortgage that they cannot afford;
- Fraud detection systems in various jurisdictions also discourage systematic fraud in the self-certified market.

Despite these additional safeguards, the higher level of arrears experienced with this product type means that DBRS considers self-certified loans to be riskier than benchmark loans. Note that DBRS considers self-certification products to employed borrowers riskier than those to self-employed borrowers, given that the latter may have a more "legitimate" reason for self-certification (such as the burden of supplying audited financial accounts).

Self-Employed

Self-employed borrowers who do not self-certify their income need to provide the mortgage lender with documentary evidence of their earnings (e.g. latest tax certifications). However, compared with borrowers who are employees, self-employed borrowers tend to have lower stability in terms of monthly income. In addition, self-employed borrowers often need to undertake large financial investments in order to set up their own business, which may make them more vulnerable in an increasingly stressful financial environment.

Loan-to-Income (LTI)

LTI is a measure of loan affordability and is commonly used by lenders to determine how much they are prepared to advance on a mortgage. LTI is calculated by dividing the loan balance by the total income for the household (e.g. the sum of incomes in the case of multiple borrowers). Many lenders also use more sophisticated affordability measures to take into account other financial commitments (e.g. council tax, unsecured loan repayments, childcare costs, utility bills, etc.). Although it is likely that



more complex affordability tests are better indicators of risk than a simple LTI measure, the components of these measures are not consistent across lenders. As such, DBRS considers LTI a simple but effective means of assessing affordability.

A higher LTI ratio is a sign of greater financial commitments and makes a borrower more susceptible to default in case of a life changing event such as divorce or loss of job, or an economic shock such as interest rates increases on their debt obligations. DBRS applies a risk adjustment to the benchmark two-year PD based on a borrower's LTI ratio.

Income data may not be available for seasoned loans, in which case, for loans that have exhibited performance that is in line with loans where income has been provided, DBRS calculates a conservative estimate of a borrower's income by using the originator's underwriting metrics (maximum loan-to-income, maximum debt-to-income ratios, etc.). In addition, DBRS expects that originators can represent within the transaction documentation that the loans have been underwritten in accordance with underwriting practices. Additional comfort may also be drawn from, depending on their scope and results, Agreed Upon Procedures and/or pool audits. For loans seasoned less than 12 months, DBRS assigns a default expectation of 100% to loans missing income data.

Single Income

When mortgage repayments are serviced by two separate incomes, if one income becomes unavailable (e.g. as a result of unemployment), being able to rely on a co-borrower's income mitigates the likelihood of default. As such, the repayments on a mortgage serviced by a single income attract a multiple to the benchmark two-year PD rate.

MORTGAGE LOAN CHARACTERISTICS

Loan-to-Value (LTV)

LTV is the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The input used by DBRS in the default model is the LTV at the time of securitisation. This is calculated by summing all of the outstanding balances from every loan secured by the same property (e.g. first-lien and second-ranking mortgages) and dividing by the appraised value of the property serving as security for the loan itself.

In the case of flexible loans, for the purposes of default probability calculations the current balance is taken into account rather than the maximum drawable amount. For the purposes of loss severity calculations the maximum drawable amount is taken into account instead of the outstanding loan balance.

Higher LTV ratios are associated with increased likelihood of default, attributable to the progressively smaller portion of equity that the borrower has in the property. Equity is the difference between the value of the property and the amount of all loans secured against it. The smaller the equity, the smaller the potential financial benefit the borrower can retain from the property, and the lower the incentive to maintain loan repayments.

DBRS approximates the relationship between LTV and the likelihood of default for each jurisdiction. The higher the LTV, the more likely the loans are going to default. The risk adjustments tend to increase at a faster speed when a LTV is above 80%. The penalty for LTVs increases as the LTV of a loan increases. The increase in penalty is capped once the LTV reaches 105%. In the instance where there are loans in a portfolio with an LTV greater than 105% DBRS makes adjustments on a transaction by transaction basis.

Subsidised Mortgages

DBRS considers loans granted on the basis of government subsidies or other forms of support riskier compared with standard mortgage loans due to the intrinsic weaker profile of the borrower that such subsidies imply.



Loan Purpose

Borrowers may apply for mortgages for a variety of purposes, including home purchase, re-mortgage, debt consolidation, equity release and rehabilitation.

Typically, when borrowers re-mortgage, they use the proceeds from the re-mortgage to pay down an already existing mortgage, with the same property being used as security. The main motivation for this type of re-mortgage, also referred to as refinancing, is usually to take advantage of a more favourable interest rate offered by an alternative mortgage provider.

Up to 2007 strong house price appreciation persuaded many borrowers to re-mortgage in order to release equity from their property. As such, a growing proportion of borrowers were raising capital from their properties, hence taking on more debt. Debt consolidation is a particular form of equity release re-mortgaging, where one loan (e.g. the re-mortgage) is taken to pay off other debts already existing (e.g. unsecured loans, credit lines, etc.).

DBRS considers loans granted for purposes other than buying a property to be associated with a higher likelihood of default compared with traditional mortgages. As they allow a borrower to increase their credit exposure, such loans contribute to stretching borrowers' finances, potentially compromising their ability to repay their debts.

Repayment Type

There are currently two main mortgage repayment methods in Europe: repayment and interest-only (IO), with many variations of each of these two types (e.g. a mixture of the two, where an IO reverts to repayment after a certain time period, investment-backed, etc.).

In a standard repayment mortgage, both interest and some of the capital borrowed is paid back over time to ensure the mortgage is completely paid off by the end of the term. In contrast, IO mortgages only require the repayment of the interest on the initial principal balance until maturity, when the borrower repays the principal balance.

There are a number of types of borrower who might be more likely to opt for an IO loan. Firstly, borrowers with a reduced financial capacity who seek a lower initial instalment and secondly, borrowers who require more flexibility in the way they repay their mortgages. For example, those who have fairly low earnings but expectations for extra financial income (e.g. bonuses) can benefit from smaller regular payments of interest and a more flexible approach to repaying the principal.

With high levels of unsecured consumer indebtedness, combined with high house prices, borrowers have considered IO loans as a way to afford properties that they may not be able to afford with a regular repayment scheme. As such, DBRS has some concern that IO borrowers are more likely to have stretched their financial circumstances. In addition, there are further concerns around borrowers' ability to pay back the entire balance due on the mortgage at the maturity date. Although borrowers can refinance at maturity, the market environment at that future date is unknown and, as such, exposes borrowers to refinance risk.

Loan Term

The maximum term offered by European mortgage originators varies by jurisdictions and lenders. DBRS regards repayment mortgages with a final maturity longer than typical as riskier compared with shorter amortising products. There is a general concern that a borrower may choose a long amortisation term in order to reduce monthly payments and, as with IO products, that this could be indicative of some financial vulnerability. Loans that are not interest only and have a maturity greater than the typical loan maturity for a particular jurisdiction will be penalised. Interest only loans that have a maturity longer than is typical do not have the Loan Term Penalty applied as a separate Interest Only penalty is applied.



Second Lien

A second-lien mortgage is a subordinated loan taken on a property already used as security for an existing mortgage. Lien positions differentiate levels of subordination in the rights of creditors to receive proceeds from the sale of the mortgaged property in the event of borrower default. Second-lien mortgages, although a common feature of many mortgage finance products, generally have a different purpose across European jurisdictions. In some jurisdictions, second-lien mortgages are generally taken out as an equity release tool for raising capital or to finance the down payment of a purchase. Second-lien loans that are potentially granted to borrowers who are unable to re-mortgage easily to release equity may represent a riskier profile than the benchmark.

Loan Product

DBRS applies risk adjustments to loan products where there is the potential risk of payment shock (i.e. a sharp increase in regular mortgage payments as a result of a change in the interest rate on the loan). Fixed rate (short term) loan products are seen to have the most potential for significant payment shock, as they do not adjust incrementally with increases in the base rate. If interest rates increase during the fixed period, the borrowers become exposed to a substantial and sudden increase in their regular mortgage payments at the time of the switch to standard floating rate.

Buy-to-Let (BTL)/Investment Properties

A BTL mortgage is for the purchase or re-mortgage of a residential property used for investment purposes. Here, the property is let to tenants as opposed to direct occupation by the borrower. The expansion of the BTL market in some jurisdictions is attributable to strong house price appreciation and good rental demand in the past decade. Growing volumes, however, have been accompanied by a growing number of BTL arrears and repossessions. DBRS considers that this increase has been potentially driven by a number of factors:

- A decrease in the minimum required rental coverage ratio, which is computed as the expected monthly rental income divided by the monthly mortgage repayment;
- Higher LTV ratios, mainly as a result of increases in the maximum amount lent to landlords;
- Changes in the type and experience level of borrowers accessing the residential property market; a growing proportion of new entrants are “amateur” landlords.

BTL mortgages are also exposed to the risk that the property may not be tenanted for part of the year, meaning the landlord may need to rely on alternative income to cover the loan repayment. Lenders try to mitigate the above exposure by requiring the rental coverage ratio to exceed 100%, but the surplus rent may not be sufficient to cover long terms without tenancy, as well as other repairs and maintenance costs.

Although a BTL loan attracts a multiple that increases the PD in comparison with the benchmark PD, note that these types of mortgage loans are not exposed to the employment or income multiples that are associated with owner-occupied properties but rather depend on the expected income generated by the property.

Credit Risk Layering

DBRS makes a benchmark two-year PD adjustment to account for risk layering within a single mortgage loan; that is, the simultaneous presence of multiple risk factors is assumed to have an adverse effect on PD over and above that predicted by the single multiple associated with each component. Credit risk layering has been an important contributor to the rise of arrears and defaults in the U.S. mortgage market in recent times, and although the presence of credit risk layering in the European countries has not been as prevalent as in the U.S., DBRS considers this to be an important element in ultimate default behaviour.

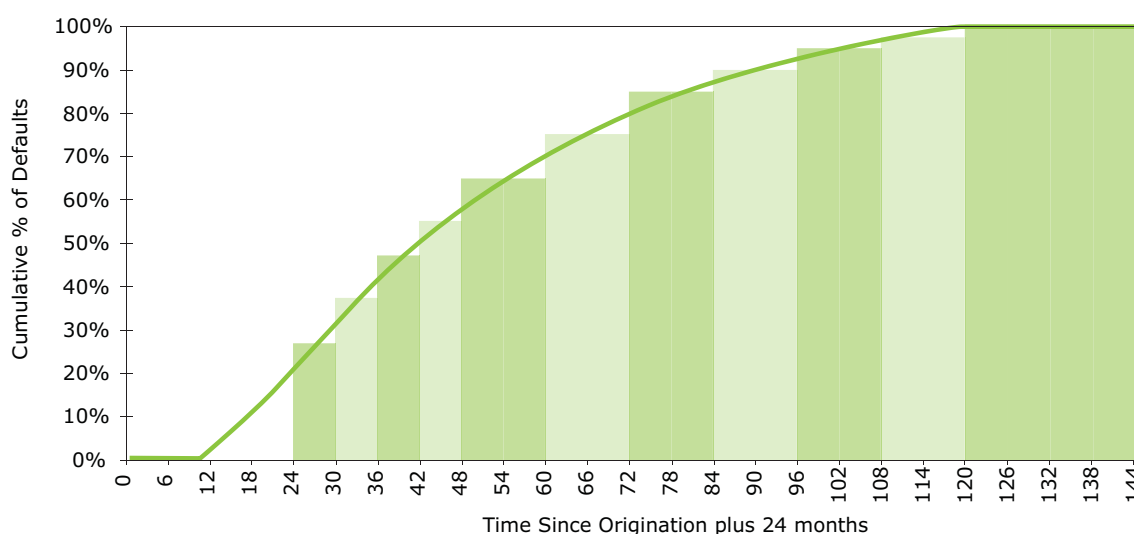
Simultaneous risk elements include combinations of high LTV (indicating minimal borrower down payments), past credit problems (e.g. past CCJ and/or bankruptcy), and high LTI ratios and/or self-certification. Additional risk layers may be assigned for specific countries and jurisdictions.



THE BASE CASE LIFETIME PD ESTIMATE

In order to expand the two-year loan PD estimates to “lifetime” expectations, the two-year estimate is extended by means of an assumed cumulative default distribution. The cumulative default curve for mortgages follows a fairly stable pattern over both time and different data sources, with the majority of defaults on a static portfolio occurring by the end of year five (60 months). The assumed cumulative default curve takes into account historically perceived cumulative default distributions. A sample cumulative default distribution is given in the graph below. Note for simplification that the fitted curve has been divided into six- to 12-month segments (this also allows for more stability in the lifetime default estimates over small changes in seasoning).

Figure 1: DBRS Sample Cumulative Default Curve



In order to calculate the lifetime PD estimate for a single loan, the percentage of cumulative defaults that should have occurred by the number of months the loan is seasoned (the number of months since origination) plus 24 months (the length of time the two-year PD estimate is predicting forward) is derived from the assumed cumulative default distribution shown in Figure 1. Consider the following example where a loan is seasoned for six months and has a current two-year PD estimate of 3%. The six-month seasoning plus the 24 months takes the loan to 30 months in the cumulative default curve. Reading from the bar chart plotted above, the percentage of cumulative default assumed to have occurred by 30 months is 37.5% (note that this percentage is the same for all loans seasoned between six months and 12 months). This means that the two-year PD estimate of 3% represents 37.5% of the lifetime PD estimate. The two-year PD estimate therefore needs to be multiplied by $100\%/37.5\%$ (or 2.67) to get the lifetime PD estimate ($3\% \times 2.67 = 8\%$).

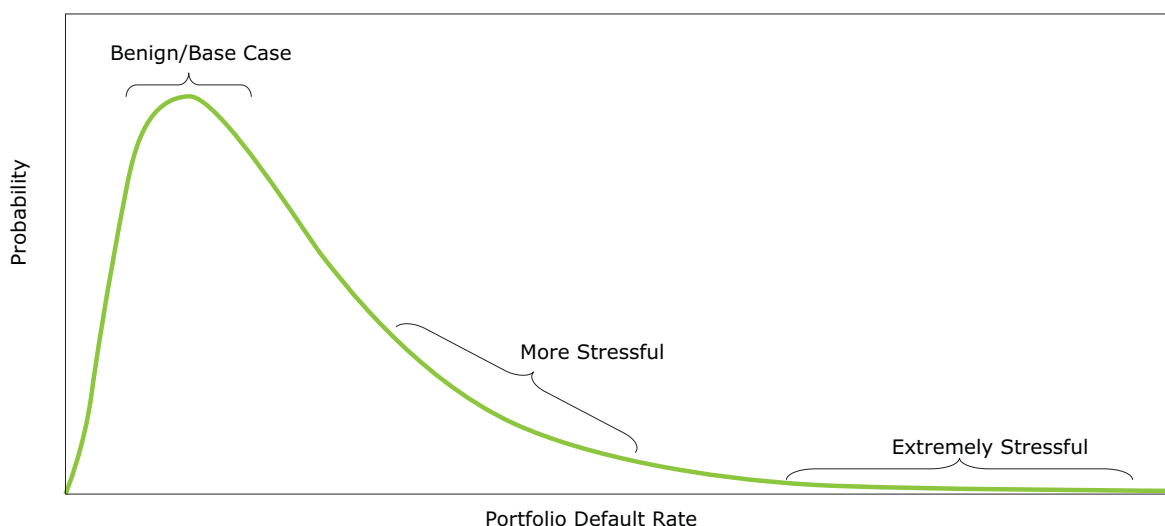
PORTFOLIO DEFAULT RATE DISTRIBUTION

The analysis described in the previous section details the approach used to project “lifetime” base case loan level PDs. DBRS considers that the results represent a “B” rating scenario or base case. Under more stressful economic conditions, however, a portfolio is expected to exhibit a higher default rate than the base case.

DBRS assumes that for a single portfolio of mortgage loans, there is a distribution of potential future portfolio default rates. The default rate that is exhibited by a portfolio is a function of the base case performance and the prevailing economic conditions, as represented in Figure 2. Given that mortgage portfolios are typically very large (e.g. greater than 1,000 loans), there is generally no need to simulate the default of each loan to create a distribution of defaults. A given loan may or may not default, but

with such a large portfolio, the loss incurred by a single loan is negligible, and the primary concern is the overall portfolio default rate. As a consequence, simple analytical models can be used to estimate the portfolio default distribution, in particular the “tail” behaviour of the distribution that extends well beyond historically observed mortgage default rates.

Figure 2: Example Distribution of Mortgage Portfolio Default Rates



The framework used to approximate a distribution of mortgage portfolio default rates is a modified version of the single factor Gaussian credit loss model first proposed by Vasicek (1987).¹ This model allows for the creation of a hypothetical distribution of mortgage defaults using two parameters: the mean (or expected) portfolio default rate and the sensitivity of borrowers to changes in the economic environment.

The mean of the portfolio default distribution can be assumed to be the weighted average of the base case lifetime PDs.² The variation in the distribution is determined by a measure of borrower sensitivity to macroeconomic effects. The influence of the economy, despite its complexity (e.g. GDP, interest rates, unemployment), can be approximated as a single factor that influences borrowers' propensity to default. Sensitivity to this factor is equivalent to assuming individual mortgage borrower performance is correlated, where the higher the sensitivity, the higher the correlation. For a more technical description of the single factor model framework, please see Vasicek (1987) or Gordy (2003).³

The single factor model approach is very similar to the Basel II methodology for large, well-diversified mortgage portfolios, with one key difference. DBRS assumes that the single factor correlation changes over base case default rates, whereas in the Basel II framework, the correlation remains constant at 15%. The correlation is capped at 25% for all portfolios with expected lifetime base case PD below 2%. It then decreases as the mean default rate increases and floors at 10% once the mean portfolio default rate reaches 8%. The decrease in correlation at high default rates can be interpreted as a decrease in the sensitivity of high-PD borrowers to macroeconomic effects relative to low-PD borrowers (i.e., high-PD borrowers are more prone to idiosyncratic (borrower-specific) effects than low-PD borrowers).

1.. Vasicek, O. (1987). “Probability of Loss on Loan Portfolio.” Working paper, Moody’s KMV.

2.. DBRS floors the base case portfolio PD estimate at 1%. In order to continue to rank-order portfolios with very low expected default rates, a scaling factor that decreases as PD increases is applied to all base case portfolio expected default rates below 2%.

3.. Gordy, Michael B. (2003). “A Risk-Factor Model Foundation for Ratings-Based Bank Capital Rules,” *Journal of Financial Intermediation*. 12, pp. 199–232.



RATING-SPECIFIC PORTFOLIO DEFAULT RATES

The analysis described in the previous section results in an analytical distribution of potential default rates for the mortgage pool. Given that a DBRS rating ultimately addresses the probability of default of a tranche backed by the mortgage pool, the distribution can be analysed to determine a portfolio default rate that is consistent with a given rating. This is done by determining the probability that a certain default rate will be exceeded and ensuring that this probability is less than or equal to the default probability of a benchmark bond. The benchmarks are derived from the DBRS published idealised default table.

Loss Given Default

This section describes the DBRS methodology used to calculate the loss given default (LGD) for European residential mortgage portfolios. This approach is primarily centered on the potential market value decline a foreclosed property could experience compared with its valuation at the time of portfolio assessment. As such, the DBRS analysis focuses both on foreclosed property values compared with the general market norm and on how they may behave under more stressful conditions.

LGD OVERVIEW

Upon default, the property is repossessed and sold to recoup the amount owed by the borrower. Upon sale, the amount owed by the borrower not only includes the loan principal balance; there will also be costs associated with the foreclosure process and the forced sale, and given that there is a lag between severe delinquency status and the actual property being sold, the borrower will also owe accrued interest. Note that, for simplicity, the LGD calculations described in this report exclude accrued interest.

LGD is calculated by taking the difference between the outstanding principal loan balance owed by the borrower (also known as exposure at default, or EAD) and the recoveries deriving from the sale of the property and any other form of credit mitigation in place (e.g. mortgage insurance payments), net of any costs and prior ranking loans. This difference is then expressed as a percentage of the EAD, which cannot be less than zero.

$$\text{LGD} = \frac{\text{EAD} - (\text{property foreclosure sale price} - \text{costs} - \text{prior ranking loans})}{\text{EAD}}$$

In Europe, with the notable exception of the Netherlands, most loans are originated with LTVs that are lower than 100%; that is, the loan principal balance advanced is less than the value of the property. Therefore, upon borrower default, the sale proceeds should cover the outstanding loan balance, and losses should be minimal. If the market value is eroded for any reason (property neglect, economic downturn) and repossession and sale costs are netted from recoveries, then more extreme losses will be observed. The decrease in the property value is commonly referred to as a market value decline (MVD) and is clearly a key factor when determining expected losses for mortgage defaults.

COMPONENTS OF LGD

The DBRS methodology for the estimation of each of the contributing components to LGD (e.g. the amount owed, the costs, the property valuation and the assumed recoveries upon sale) is described in the following pages.

Principal Amount Owed (Exposure at Default, or EAD)

DBRS expects that loans are more likely to default relatively early in their life, with the most default vulnerability occurring between 12 and 60 months. Loans defaulting within this period are unlikely to show significant decreases in the principal amount owed at origination. Loan products that do amortise tend



to show minimal decreases in the first years of their life, and there are also many non-amortising products now being originated in Europe. In addition, although certain borrowers may manage to pay off more principal balance through partial prepayments, it is less likely that this borrower type will subsequently default. Therefore, DBRS assumes that the principal amount owed at default is the same as the balance at the time of the portfolio assessment (e.g. the date of pool cut).

Current Property Value

DBRS makes adjustments to the given property valuation on the basis of the property valuation method, and may make adjustments for the time of origination in order to account for any material increase or decrease in the property valuation since the given valuation date).

Property Valuation Methods

There are a number of methods that are currently used to value properties in Europe to assess their adequacy as security for a mortgage advance. In some jurisdictions, lenders have relied on a full physical valuation, where a property expert such as a chartered surveyor would visit the property in question. The surveyor valuation is based on the condition of the interior and exterior of the property, in addition to comparative sales in the vicinity and general market activity. However, a number of alternative valuation solutions, such as Drive-by Valuation and Automated Valuation Models, have evolved in jurisdictions such as the UK and the Netherlands. In general, these alternative solutions are restricted to either less risky loan characteristics (such as low LTV loans) or situations where there is a known past physical valuation.

- **Drive-by Valuation:** A valuer visits the property and assesses it from the property boundary. Comparative sales and market activity also contribute to the final valuation.
- **Desktop Valuation and Automated Valuation Models (AVMs):** In both desktop and AVM valuations, a property is valued without any physical inspection. With a traditional desktop valuation, a house price index or a comparable property evaluation is used to estimate the property value, usually from a past known full property value. A more formalised version of the desktop valuation is derived using an AVM, which assigns a property valuation using a statistical algorithm that can run on an automated basis once certain property characteristics are entered by the user. The AVM derives values based on an analysis of comparable sales in the area and property value indexation (e.g. from repeated sales). The accuracy of an AVM generally depends on the number of suitable comparative properties and the age of their valuations. Therefore, AVM performance is best when the property comes from a densely populated homogenous area with a high number of property sales. This statement is true for all methods of valuation. AVMs, however, are unique in that each valuation produced is accompanied by an independent measure of “confidence.”

AVM confidence measures are based on the number, similarity and time of the comparable properties used to calculate the target valuation. The more similar and numerous the comparables are, and the more recent the sales data, the higher the level of certainty that can be associated with the target property valuation. Surveyor, desktop and drive-by valuations have no such measure of accuracy. This, however, does not mean they are immune to the specifics of a particular market, which can make valuations inaccurate and volatile (e.g. sparsely population regions, unique property features, or low comparable sales).

Adjustments Based on Valuation Method

DBRS considers a full surveyor valuation as the standard, despite in certain situations such valuation also being susceptible to a degree of inaccuracy. As a consequence, no adjustments are made to such valuations. The other property valuation methods, in some circumstances, are adjusted downward.

Property Indexation

Typically DBRS does not give any credit to positive property indexation. In times of significant prices rises



or declines since origination DBRS considers the appropriateness of the standard market value declines (MVDs) for each jurisdiction and may increase or decrease the standard market value declines accordingly. DBRS discloses the MVDs used in its rating disclosures.

Sale Price of the Foreclosed Property

DBRS believes a forced sale as a result of property repossession will result in a discounted sale price relative to the norm. Therefore, although average historic house price indexes are useful in estimating potential MVDs for the housing market as a whole, they do not indicate how repossessed properties performed relative to the average.

The Benchmark MVD

It is important to note that housing market cycles differ by country; hence DBRS considers a wide range of macroeconomic variables to determine the benchmark MVDs within each European jurisdiction.

Adjustments to assumed MVDs for repossessed properties are usually made to capture additional risks associated with repossession sales. Analyses of historical house price declines do not always take into account how the sale prices of repossessed properties would behave in severe economic environments, such as those experienced in several European markets over the last few years. Even in a benign housing market, DBRS generally assumes a MVD of 25% at a minimum in a 'B' rating scenario, to capture distressed sales at a time when housing markets are illiquid.

MVD Benchmark Adjustments per Property

The benchmark MVD is then altered on a property-by-property basis depending on various borrower and property factors that DBRS assumes to influence a property's resale value. The resultant MVD per loan represents the decline in the repossessed property value in a "B" rating scenario. The factors that result in MVD adjustments are property location, property size and property type.

- **Property Location Adjustments:** Historical house price trends in Europe have shown considerable and persistent regional differences. In certain geographical areas, especially those far from central cities, historical prices tend to display higher volatilities as demand weakens. DBRS may adjust the benchmark MVD where appropriate, in order to differentiate regional demands within each jurisdiction.
- **Property Size Adjustments:** Very expensive and inexpensive properties have more volatile and less liquid resale markets because of the more limited number of potential buyers. In addition, the scarcity of good comparable valuation benchmarks increases the potential for the valuation of these properties to be overestimated. DBRS increases the MVD for property valuations for such properties, computing the adjustment by comparing the subject property to an average property valuation within the region.

Sale Price of the Foreclosed Property: Overall Calculations

For every loan in the mortgage pool, DBRS determines an updated valuation and then computes the expected sale price at repossession by subtracting from this value the associated MVD.

Costs

The lender bears a number of costs associated with loan delinquency, repossession and subsequent property resale; hence, these payments need to be subtracted from the sale proceeds. Costs include legal fees (e.g. as the result of possession, eviction and property sale procedures), expenditures associated with any property maintenance the sale requires and the estate agency charge. Estate agency fees are usually calculated as a percentage of the sale price of the property and are therefore based on the assumed property value after the MVD has been taken.



Prior Ranking Loans

For second-lien mortgages, any prior ranking balance is taken into account and deducted from the property foreclosure sale price. This derives from the fact that, as mentioned earlier, lien positions differentiate levels of subordination in the rights of creditors to receive proceeds in case of foreclosure.

LOSS GIVEN DEFAULT (LGD) PER RATING LEVEL

Loan-Level and Portfolio-Level LGD Calculations

On a loan-level basis, LGDs are computed for all rating scenarios using the following process. Firstly, the property value at foreclosure is estimated by valuation adjustments, if any. The sale price at foreclosure is then derived using the appropriate loan-level MVD at each rating scenario. Given that MVDs are rating dependent, the assumed costs will then vary accordingly, because they are a function of the foreclosure sale price. LGD is then calculated by subtracting the expected foreclosure sale price from the EAD and adding costs and any existing prior ranking balance, and then dividing the remainder by the EAD. Fixed and variable costs associated with foreclosure are specific to each jurisdiction.

The portfolio-level expected loss is the balance-weighted average loan-level expected loss. The portfolio-level LGD is the ratio of the portfolio-level expected loss to portfolio-level default rate.

Cash Flow Analysis

SUMMARY

DBRS undertakes a detailed cash flow analysis to ensure timely payment of interest and ultimate payment of principal at each requested rating category. The cash flow modeling assumptions DBRS uses for rating RMBS transactions focus on the prepayment speeds, timing of defaults and recoveries and interest rate stresses. As indicated in the table below, multiple scenarios based on the combinations of these assumptions are typically applied to test the resilience of the rated bonds. The upward and downward interest rate stresses referenced below are generated for the applicable currency by the DBRS Unified Interest Rate Model Methodology.

Table 1: DBRS Standard Cash Flow Stress Scenarios*

Scenario	Prepayments	Default Timing	Interest Rate
1	Slow	Front-loaded	Upward
2	Mid	Front-loaded	Upward
3	Fast	Front-loaded	Upward
4	Slow	Back-loaded	Upward
5	Mid	Back-loaded	Upward
6	Fast	Back-loaded	Upward
7	Slow	Front-loaded	Downward
8	Mid	Front-loaded	Downward
9	Fast	Front-loaded	Downward
10	Slow	Back-loaded	Downward
11	Mid	Back-loaded	Downward
12	Fast	Back-loaded	Downward

* Additional scenarios may be necessary depending on the pool attributes and transaction capital structure.



Loss Expectation

As described in previous sections, the first step in analysing a pool of mortgage loans is to determine the loss expectations for each rating category. DBRS uses the loan-level RMBS model to derive default probabilities and loss given defaults based on a pool's collateral composition. External factors are also taken into consideration, including the origination process, the capability of the servicer and the originator's historical performance.

Excess Spread

Analysing cash flow and the presence of excess spread is the next step in the rating process. In securitisations, there often exists the potential for a sizable 'strip' of excess cash after paying bond coupons and other related fees. This strip of cash is known as excess spread.

Excess spread can be used as the first layer of protection against credit losses. It is crucial to appropriately value excess spread because it can sometimes represent a sizeable portion of total credit enhancement. DBRS considers numerous risk factors when evaluating a transaction's excess spread. These risk factors include the following:

- Prepayment speeds.
- Timing of defaults and recoveries.
- Interest rate mismatches.

It is of note that after applying the stresses addressing all of the risk factors, excess spread tends to be limited, especially at the higher investment grade ratings.

DBRS uses a dynamic cash flow analysis stressing each of these parameters, which includes applying various prepayment speeds, front- and back-loaded default timing patterns, as well as upward, flat and downward interest rate stresses to test the resilience of a bond. An appropriate rating is one that can withstand the combination of DBRS-modelled cash flow stresses without the rated class incurring any interest shortfalls or principal write-downs.

PREPAYMENT SPEEDS

Prepayment speed measures the rate at which borrowers make their principal payments prior to the scheduled maturity date. Prepayments reduce the outstanding principal balance of a mortgage pool, thus reducing excess spread. The faster the prepayment speeds, the quicker excess spread is depleted.

Historical data shows a correlation between a borrower's prepayment behaviour and interest rate movements. Generally, in a declining interest rate environment, borrowers are motivated to refinance and may do so if their credit profile allows. Conversely, prepayment speed typically slows as interest rates rise. The recent housing and economic crises in various jurisdictions have created an interesting phenomenon. Despite extremely low interest rates, voluntary prepayments remain extremely low. Faced with either blemished credit histories or insufficient home equity and tougher underwriting standards, many existing borrowers find it difficult to refinance.

The current low prepayment environment presents a challenge in stressing RMBS transactions as slow speeds could lead to overly optimistic valuations of excess spread. Conversely, high prepayment speeds stress excess spread properly, but may also deplete collateral too quickly to allow 100% of the expected losses to pass through the capital structure. As a result DBRS finds it prudent in the current environment to apply three prepayment stresses (slow, middle and fast) that range from 5% to 20% conditional prepayment rates (CPR). The stresses are also compared to the originator's actual prepayment experience.

TIMING OF DEFAULTS AND RECOVERIES

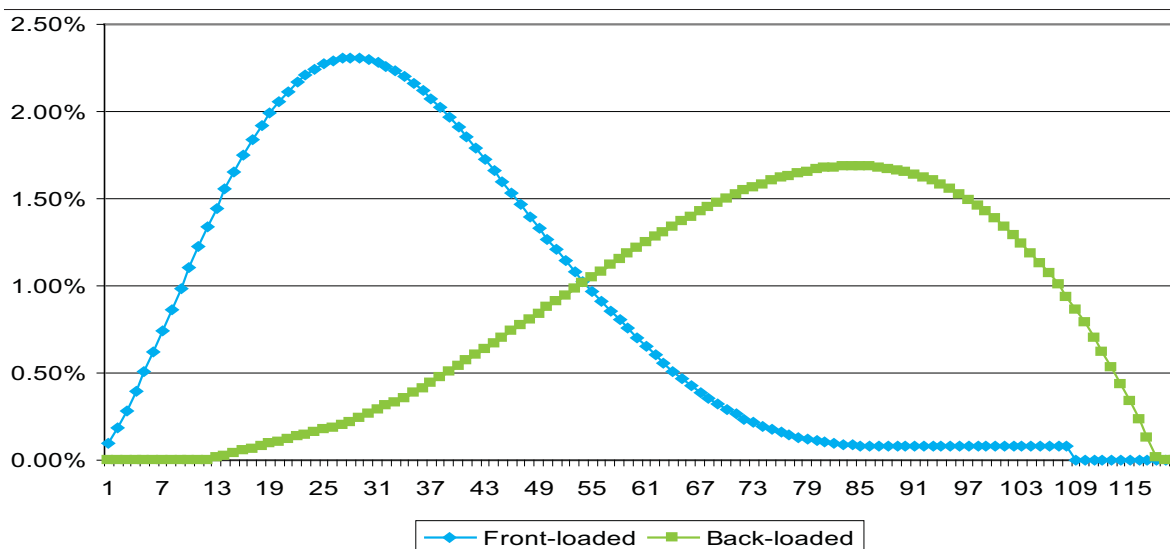
The timing of defaults is a key factor in evaluating excess spread. A defaulted loan obviously will not generate any principal and interest payments, thus depressing the amount of available excess spread.



DBRS estimates two default timing patterns: front- and back-loaded, as shown in the graph below. These curves illustrate how defaults will be distributed throughout the life of a transaction.

Because the servicers do not advance cash for mortgages in arrears, any principal and interest payments will be shut off as soon as a loan becomes delinquent. Under the assumptions DBRS uses to model cash flows once the cash flow is shut off, any recoveries or liquidation proceeds will not be available for an extended period of time. The length of this period is dependent on the foreclosure and liquidation timeline within each jurisdiction and varies by transaction.

DBRS Standard Default Timing Pattern



INTEREST RATE AND BASIS RISK

Interest rate risk occurs when the interest rate on the underlying mortgage loans adjusts differently from the interest coupon on the bonds. For example, assume that the underlying mortgage loans are either fixed-rate or fixed rate (short-term),⁴ and the bonds are based on the European Interbank Offered Rate (EURIBOR), if EURIBOR rises, excess spread decreases. Interest rate mismatches also exist for securitisations in which the mortgage loans and bonds adjust based upon different indices (Basis Risk) If the two indices were to converge, excess spread would decrease. It is important to quantify the effect of this mismatch by stressing interest rates.

When stressing interest rates in some European RMBS transactions, DBRS often notices that under a few extremely conservative stress scenarios, namely high interest rate stresses coupled with a front-loaded default timing pattern, the rated bonds tend to come under a significant amount of pressure. In such scenarios, front-loaded defaults shut off a considerable amount of interest payments from the mortgage assets, causing an interest shortfall to the bonds.

When this happens, the principal portion of the mortgage payment, which otherwise would have been used to amortise the bond balances, will likely be “borrowed” to cover these interest shortfalls, thus prolonging the paydown of the rated bonds. The more principal cash used to cover interest shortfalls, the longer it takes to retire the rated notes. Under such scenarios, credit enhancement levels, which are greater than the expected losses, may be insufficient for such ratings on account of “borrowed principal” to cover interest shortfalls.

4. Fixed rate (short-term) pays a fixed-rate coupon for a short-term (commonly between two and five years), then switch to a variable rate for the remaining years until the maturity date.



Jurisdictional Specific Addenda

The DBRS Master European Residential Mortgage-Backed Securities Methodology sets forth the analytical framework for the DBRS credit analysis of European RMBS. DBRS has published a number of country-specific addenda to this master methodology (appended hereto) that detail the factors and multipliers of each of the PD and LGD drivers for given jurisdictions.



*Master European Residential
Mortgage-Backed Securities
Rating Methodology:
Addendum - Netherlands*



Netherlands Residential Mortgage Addendum

This report details the specific risks of Dutch residential mortgages and DBRS analytical treatment of these risks when projecting default probability, loss given default and expected losses for such loans. The addendum can also be applied to the analysis of cover pools in covered bond transactions backed by residential mortgage loans in the Netherlands.

As noted in the master methodology, DBRS residential mortgage-backed securities (RMBS) loss analysis is divided into two distinct segments. The first segment determines the probability of default of each underlying borrower which is then aggregated to derive a pool level default probability. The second segment of the analysis derives the estimated loss given default of each mortgage followed by an aggregation to an overall pool level loss projection. The product of the default probability and loss given default gives the total expected losses for the pool.

Dutch Mortgage Market

The Dutch mortgage market is strongly influenced by its government policies and initiatives to promote home ownership and social stability in the Netherlands. The most influential characteristic is the Dutch tax system which incentivises home owners to maximise leverage on property purchases through the tax deductibility of mortgage interest payments. In addition, there exists a national mortgage guarantee for eligible borrowers called Nationale Hypotheek Garantie (NHG Guarantee). The NHG Guarantee is administered by a central privatised entity (“Stichting Waarborgfonds Eigen Woningen, the “WEW”) under strict eligibility criteria and covers losses suffered by lenders upon default by borrowers of qualifying residential mortgages assets (described further under the NHG Guarantee section).

Under the tax system, interest payments on mortgage loans for primary residences are tax deductible. Borrowers tend to take full advantage of the tax incentive which usually results in a high Loan-to-Value ratio (LTV) at origination (up to 125% of market value). Borrowers also opt to maintain the tax advantage over the life of the loan through non-amortising mortgage products. Such products, which maintain the maximum interest payments over the term of the loan, include Interest-Only Loans, Investment Mortgage Loans, Savings Mortgage Loans and Life Insurance Loans. Each product is therefore subject to balloon risk at maturity but is usually structured with a different feature to repay the loan at maturity (all except Interest-Only Loans). In addition to the interest only component, borrowers will make a premium payment under each of the loans as described below:

- *Investment Mortgage Loans:* Premiums are used to purchase units in investment funds designed to accrue capital for the eventual payoff of the mortgage loan principal at maturity.
- *Savings Mortgage Loans:* Premiums are made to a savings insurance company in a manner such that on an annuity basis, the amount contributed by the borrower over the life of the loan is equal to principal due at maturity.
- *Life Insurance Mortgages:* Premiums are paid to a life insurance policy taken out by the borrower with a life insurance company where the capital built up under the policy is applied towards principal redemption at maturity.

Each product introduces a level of set-off risk to an RMBS transaction which will be described in more detail below.



The Dutch market tends to be a short term fixed rate market with the bulk of lending being offered for owner occupation, rather than investment/buy-to-let purposes. Although lending to self-certified borrowers is not unheard of, the vast majority of the loans are made to income-verified employed borrowers. Likewise, lending to self-employed borrowers is also a feature of the Dutch market, but income and affordability typically need to be demonstrated. Origination is dominated by large banks with intermediaries playing a significant role in the administration and servicing of loans.

SET-OFF RISK

Set-off risk is introduced to Dutch RMBS transactions through the different types of mortgage products described above. In the case of seller insolvency, borrowers may invoke set-off for the total premium paid under each product towards the principal balance of the mortgage outstanding. Features of set-off risk under each product type are as follows:

- *Investment Mortgage Loans:* Units in the investment fund are typically held on a bankruptcy remote basis from the trust, with the rights under the investments pledged to the relevant seller as security for repayment of the mortgage loan. As a result, the insolvency of the investment administrators should not result in any loss of the investment amount to the borrower. Consequently, risk of set-off is deemed remote for this loan type.
- *Savings Mortgage Loans:* Set-off risk for this loan type could be alleviated by a sub-participation agreement between the asset purchasers and the relevant savings providers. Under a sub-participation agreement, the insurance provider uses the savings premium on a monthly basis to acquire a sub-participation in the mortgage loan from the asset purchaser/issuer. This sub-participation is also increased monthly by the interest paid by the borrower on the portion of the sub-participation, which essentially accretes the sub-participation amount at the same rate as a savings account with a guaranteed rate. The increase in the sub-participation amount each month becomes a principal receipt, and as such, these loans are essentially standard repayment loans. If the borrower invokes set-off, the sub-participation amount is reduced accordingly from the loan principal, without any risk to the loan principal, as it has already been received.
- *Life Insurance Mortgages:* Unlike the savings and investment mortgage loans, there is no structural feature such as account bankruptcy remoteness or sub-participation within the transaction that reduces the potential set-off exposure. DBRS understands that the risk of set-off claims being successful is higher when the mortgage provider and life insurer are linked. There are a number of potential mitigants to life insurance set-off including: 1.) the size of the potential exposure relative to the structure, 2.) the financial strength and the number of insurance companies, and 3.) the prepayment by borrowers before the legal final maturity of their loans. Given that the risk can be mitigated in a number of ways and that each transactions differs in this respect, DBRS assesses each transaction on a case by case basis and summarises its analysis in its rating disclosure.

Construction Deposits

In addition, set-off risk exists for construction deposits. Construction deposits are loan amounts that have been advanced by the lender to either build or improve on the property, but have not yet been fully released to the borrower. If the initial seller were to go insolvent prior to the release of the remaining loan to the borrower, the borrower would not be considered to be liable for the full outstanding loan amount. The borrower could then set-off the un-drawn loan on deposit (the construction deposit) against the full outstanding loan amount. In order to mitigate this risk, the balance of the construction loans is retained at the asset purchaser level, as opposed to being paid in full to the seller. Typically, this amount is only disbursed to the seller once the borrower draws fully on the loan, and as such removes the set-off risk associated with the construction deposits.



NHG GUARANTEE

WEW guarantees mortgage lenders against losses incurred following defaults and repossessions on eligible loans. The NHG Guarantee covers losses of principal, interest and costs associated with foreclosure. There are two significant circumstances where the NHG Guarantee either does not pay out at all or does not pay out the full claimed amount.

- **Amortisation:** The NHG Guarantee assumes that the loan amortises, typically over a 30-year period. However, many Dutch mortgage loan parts, including those underwritten with the NHG Guarantee, are either explicitly Interest Only or are effectively Interest Only in that capital is paid into an investment vehicle designed to redeem the loan at the legal final maturity of the loan rather than paid against the capital amount on a monthly basis. Therefore, there is a mismatch between the mortgage (non-amortising) and NHG Guarantee (30 year amortisation schedule) as the mortgage seasons.
- **Non-Compliance with the NHG Guarantee:** The NHG Guarantee has prescriptive eligibility rules. In the event that the loan was underwritten in breach of eligibility rules all or part of the claim amount may not be paid by the NHG. Typical reasons for non-payment are borrowers were found to have negative credit that was undetected at the point of origination, or that income was incorrectly recorded at the time of origination. In the case of proven fraud the NHG Guarantee will not pay out any of the claim amount.

DBRS requests NHG payout history for all transactions where there is a material portion of NHG loans. Based on the amortisation profile and calculated payout rates, DBRS applies benefit to the NHG Guarantee accordingly. Details of the portion of benefit that is applied is published in the rating disclosure.

Data Request

When estimating mortgage losses for a pool of residential mortgage assets originated in the Netherlands, DBRS requests static pool performance data from each issuer. This data is expected to be representative of the asset pool that is to collateralise the proposed RMBS transaction or covered bond programme. DBRS prefers data that is stratified by product type and/or by loan-to-value. If various vintages show markedly different performance relative to each other, DBRS assesses the reasons for such performance. For more details please refer to page 7.

PROBABILITY OF DEFAULT ANALYSIS

Benchmark Two-Year Probability of Default Estimate

DBRS calculates the benchmark two-year Probability of Default (PD) for each pool based on issuer specific historical performance. The calculation of the two-year PD is typically weighted by the corresponding two-year PD for that particular year of origination. For example, if the origination vintages of a pool being analysed were evenly distributed across four years (for example 2004, 2005, 2006 and 2007), DBRS calculates the two-year PD for each vintage of historical data and apply the respective calculations to the vintage weighting.

Example:

	% of Pool	2-Yr PD
2004	25%	1.00%
2005	25%	1.50%
2006	25%	2.50%
2007	25%	3.00%
Estimated Pool Two-Year PD		2.00%



MORTGAGE LOAN AND PRODUCT SPECIFIC DEFAULT PENALTIES

Having established a two-year PD for a particular issuer, DBRS then applies borrower, mortgage loan and property characteristic-specific default penalties to each loan to derive a base case two-year PD. The list of typical assumptions used when assessing default risk in Dutch mortgages are listed at the end of this addendum. The numbers presented are not prescriptive and the actual figures used may differ by transaction. The default penalties used for the analysis of Dutch mortgages were validated by performance data outside of the jurisdiction. As a result, DBRS conducts additional analysis of issuer vintage performance data as a reasonableness check against the base case portfolio default rate. In cases where deemed necessary, DBRS adjusts the base case portfolio default rate accordingly. Disclosure of the assumptions used for each transaction is available on www.dbrs.com.

MORTGAGE LOAN CHARACTERISTICS

Loan-to-Value (LTV)

LTV is the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The input used by DBRS in the default model is the LTV at the time of securitisation (current balance over original valuation). In the Netherlands, the market practice is to obtain a 'foreclosure value', which is typically 90% of the market value. As the foreclosure value is lower than the market value, it leads to a higher calculated LTV. However, as with all European jurisdictions DBRS typically uses the market value to calculate LTV. Furthermore, the LTV is calculated by summing all of the outstanding balances from every loan secured by the same property (e.g. first-lien and second-ranking mortgages) and dividing the total by an estimate of the current market value of the property. The tax advantages of leverage within the Netherlands means that loan portfolios typically have a LTV of in excess of 95% and very often over 100%. Given the high LTV lending environment in the country, DBRS penalises high LTV loans in a less stressful manner relative to other European jurisdictions.

Subsidised Mortgages

Subsidised loans are rare in the Netherlands (note that NHG loans are not considered subsidised in the DBRS analysis). Notwithstanding this, DBRS considers loans granted on the basis of government subsidies or other forms of support riskier compared with standard mortgage loans due to the intrinsic weaker profile of the borrower that such subsidies imply.

Loan Purpose

Increased default penalties are applied to loans where the loan is for debt consolidation of unsecured borrower debt. DBRS reviews underwriting procedures and product specifications to assess whether, in its opinion, a particular loan product has been used to fund lifestyle expenditures rather than to fund acquisition of residential property to inhabit.

Repayment Type:

There are two additional risks with Interest Only loans:

i) Balloon Payment

Penalties apply for loans where there exists a complete absence of a repayment vehicle or where the repayment vehicle will not be sufficient to repay all of the capital of a loan. Given the tax incentives associated with maintaining a high outstanding principal balance in the Netherlands, a number of loans will not prepay, but will have an associated prepayment vehicle that is intended to pay off the principal balance at maturity. DBRS considers the terms of the repayment vehicle and optionality on the part of the borrower to pay into the vehicle when assessing whether to increase default probability for such product. DBRS requests details of borrowers who are in arrears with payments to their repayment vehicle for the purposes of its initial rating and also for surveillance purposes.



ii) Stretching Income

As Interest Only loans have lower installment payments as compared with repayment loans, there is risk that borrowers are unable to afford a repayment loan. For this reason, the Interest Only penalty is designed to cover both risks. DBRS views 'part and part' loans (loans where part of the balance is part repayment and part interest only) as Interest Only loans.

Loan Term

DBRS applies a penalty for loan terms that are longer than typically seen in the market if it concludes that the reason for such a long loan term is to arbitrage affordability assessments made at the underwriting stage. DBRS assumes that this is the case unless there is detailed credit rationale for longer than average loan terms. DBRS has observed that the typical loan term in Holland is 25 years.

Second Lien

DBRS applies penalties to second lien loans. In certain jurisdictions there can be something of an ambiguity as to the difference between a second charge and a further advance structured as a separate loan to the initial advance. DBRS makes an assessment on a case by case basis by analysing factors such as the cost of the additional loan relative to the initial loan, the maturity profile and the purpose of the loan.

Loan Product

DBRS applies risk adjustments to loan products where there is the potential risk of payment shock (i.e. a sharp increase in regular mortgage payments as a result of a change in the interest rate on the loan). Fixed rate (short term) loan products are seen to have the most potential for significant payment shock, as they do not adjust with increases in the base rate. If interest rates increase during the fixed period, the borrowers become exposed to a substantial increase in their regular mortgage payments at the time of the switch to standard floating rate.

Investment Properties

DBRS applies additional penalties to any loans that are not for residential owner occupation on the basis that the majority of default data for residential mortgages is based on owner occupation. The affordability of investment properties is based on rental income.

Credit Risk Layering

DBRS makes a base case PD adjustment to account for risk layering within a single mortgage loan; that is, the simultaneous presence of multiple risk factors is assumed to have an adverse effect on PD over and above that predicted by the single multiple associated with each component.

Simultaneous risk elements include combinations of high LTV (indicating minimal borrower down payments), past credit problems (e.g. past BKR entry), and high loan to income (LTI) ratios and/or self-certification.

Despite the high LTV market, risk layering of the characteristics mentioned above tends to be limited in the Netherlands.

Construction Loans

Typically the lender will withhold the full loan amount on proviso that certain construction works are performed. When there is satisfactory evidence that the work has been completed (usually in the form of an appraiser's certification) the lender will advance the remaining balance of the loan. There are a number of risks associated with construction loans. The most pertinent risk addressed is the dissatisfaction of the borrower regarding the work product upon completion and the risk the borrower attempts to withhold payment or renege on the mortgage contract.



Flexible Loans

Flexible loans vary markedly in their features; however, are not common in Holland. Certain flexible loans allow payment holidays, others allow for the repayment of over paid principal, while other types of flexible loans allow for the full re-draw back to a pre-defined limit. DBRS reviews the specific underwriting policies of the loans being analysed when assessing its opinion of the increased default risk associated with flexible loans.

Loans to Foreign Nationals

Loans to foreign nationals are also not commonly included in most Dutch RMBS deals. DBRS considers the treatment of foreign nationals for each transaction.

BORROWER CHARACTERISTICS AND CREDIT RISK

Credit Risk Band and Adverse Credit History

DBRS allocates each loan to a credit risk band. The allocation process is based upon a number of factors including:

- Previous credit impairments as evidenced by Bureau Krediet Registratie (BKR codes)
- Any prior bankruptcy or the equivalent.
- Historical and current arrears on the mortgages.

Depending on the data provided for each of the above factors, DBRS assigns each loan to a credit risk band which ranges from A-E. Credit risk band A is considered the best credit quality with E considered the worst credit quality. A successively higher default penalty is assigned to each successively higher credit risk band.

Self-Certification

DBRS applies additional penalties to loans where the borrower has not proven stated income levels. The penalty is applied on the basis that (in the absence of any checks) borrowers may be incentivised to overstate their income. DBRS also applies penalties to loans where the lender has elected not to check income levels.

Self Employed Borrowers

DBRS employs an additional default penalty to borrowers who are self employed. DBRS analyses each issuer's underwriting policies with regards to income documentation for self employed borrowers to determine if further penalties may be warranted as self employed borrowers' monthly income stream tend to be unsteady.

Loan to Income (LTI)

DBRS applies penalties to certain loans where the borrower's affordability is considered in DBRS opinion to be worse than the average. When assessing the application penalties for higher LTIs, DBRS assesses the income that the lender takes into account during the underwriting process. If income is not provided, DBRS assesses a borrower's income based on debt-to-income and other affordability metrics as described in the issuer's underwriting policies. For additional detail, please refer to pages 10 -11.

Single Income

Loans advanced to only one borrower are subject to an increase in default probability as obligors with two income streams tend to show more financial flexibility in periods of economic stress.

LOSS GIVEN DEFAULT

In DBRS opinion, the most robust mortgage valuation is by means of a full internal and external inspection by a qualified valuer. The valuation needs to be sufficient to allow the underwriter a comparison of the property in question to that of other comparable recently sold properties. For other valuation methods,



such as drive-by valuations, Automated Valuation Models, or desk top valuations, DBRS reduces the stated foreclosure value. The quantum of the valuation adjustment is calculated for each transaction and is based on DBRS assessment of the robustness of the validation procedures implemented by the particular lender. DBRS uses the foreclosure value (LTFV) in its assessment of loss severity. Typically the foreclosure value is 90% of the open market value.

TYPICAL MARKET VALUE DECLINES

DBRS assumes the following standard market value declines (MVDs) to the appraised value (or the valuation, post any adjustment) for each rating level for Dutch RMBS:

AAA	50.3%
AA (high)	44.7%
AA	43.5%
AA (low)	42.5%
A (high)	41.1%
A	40.0%
A (low)	39.0%
BBB (high)	37.2%
BBB	35.2%
BBB (low)	32.7%
BB (high)	31.5%
BB	29.5%
BB (low)	27.8%
B (high)	26.0%
B	25.0%

Costs of Foreclosure

Standard costs of foreclosure in the Netherlands are assumed to be €2,500 and 8.5% of the post MVD value of the property. DBRS requests lender specific data for each transaction to assess if a different cost of foreclosure assumptions is required.

Foreclosure Timing

DBRS assumes that the typical time it takes to take possession of, sell and realise the cash from the sale of residential a property in the Netherlands is 24 months from the point of first arrears. This assumption is standard to both loans where the recovery is solely from the sale of the property and also for loans where there is the possibility of additional recovery from the Dutch NHG guarantee.

DBRS requests lender specific data on both the time it takes to enact foreclosure proceedings and sell a property for each transaction to assess if a transaction specific adjustment is warranted. As part of the operational risk review, DBRS also reviews the controls that are in place to evaluate the likelihood that NHG payments are received in a timely manner.

Indexation

Owing to concerns regarding the timeliness and accuracy of updates to housing indices at a time of stagnating/falling prices, DBRS does not apply indexation to property values in its assessment of loss severity. Rather, DBRS applies the MVD assumptions to the appraised value (or the valuation, post any adjustment). For seasoned transactions where loans have experienced significant price appreciation or depreciation, DBRS may adjust property values on a case by case basis.



Appendix: Dutch Loan-Level Risk Adjustments

Risk Characteristic	Characteristic Value	Base Multiple
Loan-to-Value	<=60	0.60
	65	0.73
	70	0.88
	75	1.04
	80	1.23
	85	1.45
	90	1.69
	95	1.96
	>=100	2.25
Loan Purpose	Debt/Equity Re-Mortgage	1.25
Repayment Type	IO	1.35
Loan Term	>25 Years	1.20
Second Lien	2nd Ranking Loan	1.50
Credit Risk Layering	LTV>=95 & Self Cert/High LTI	1.35
	LTV>=90 & Prior DQ	1.75
	LTV>=90 & Prior DQ & Self Cert/High LTI	1.85
Construction Loans	Yes	1.10
Credit Risk Band	A	1.00
	B	1.00
	C	2.00
	D	4.00
	E	8.00
Employment/Income	Self-Certification (Employed)	1.75
	Self-Certification (Self-Employed)	1.35
	Self-Employed	1.15
	Loan-to-Income > 3.5	1.25
	Single Income	1.25



*Master European Residential
Mortgage-Backed Securities
Rating Methodology:
Addendum - Spain*



Spanish Residential Mortgage Addendum

This report details the specific risks of Spanish residential mortgages and DBRS analytical treatment of these risks when projecting default probability, loss given default and expected losses for such loans. The addendum can also be applied to the analysis of cover pools in covered bond transactions backed by residential mortgage loans in Spain.

As noted in the master methodology, DBRS residential mortgage-backed securities (RMBS) loss analysis is divided into two distinct segments. The first segment determines the probability of default of each underlying borrower which is then aggregated to derive a pool level default probability. The second segment of the analysis derives the estimated loss given default of each mortgage followed by an aggregation to an overall pool level loss projection. The product of the default probability and loss given default gives the total expected losses for the pool.

Spanish Mortgage Market

The Spanish residential mortgage market tends to be a floating rate market with the bulk of lending tied to either 1 year EURIBOR or the IRPH mortgage loan reference index (*Índice de Referencia de Préstamos Hipotecarios*) published by the Bank of Spain. IRPH is an average of mortgage loan rates with terms of over three years offered by Spanish banks and savings banks.

The vast majority of lending is to income verified employed borrowers. Lending to self employed borrowers (*Autonomos*) is also a feature of the Spanish market, but income and affordability typically need to be demonstrated. Some Spanish RMBS pools may have up to 10-15% of self employed borrowers.

Property valuation at the time of loan origination is by means of a full internal and external inspection by an approved appraiser. In addition, the property in question will be compared to other recently sold properties in the area. All valuations must be performed by an appraiser approved by the Bank of Spain.

Spain has a long-standing tradition of providing social or subsidised owner-occupancy housing, generally referred to in Spain by the acronym VPO, *Vivienda de Protección Oficial* or Officially Protected Housing.

VPO housing in Spain is primarily provided via owner-occupied properties that are sold at below-market prices to households with low and middle incomes. For a period of time, typically 20 to 30 years, (the "qualification period") VPO housing maintains a protected status, meaning it may not be sold at free market prices. VPO housing prices are set by the government.

The construction and sale of VPO housing is coordinated through various subsidised loans and grants for both real estate developers and buyers. The amount of subsidies to homebuyers is on a sliding scale depending on income. The details of the subsidies (i.e. income limits/qualification period/amount of subsidy) are published every two to three years in a VPO plan set by the government (both National and Regional).

SET-OFF RISK

There is the potential for set-off risk in Spanish transactions in the event of insolvency of the originator. A borrower may invoke the right to set-off the amount he/she owes the originator at any given time, by any amounts due and payable to the borrower from the originator. The potential set-off amount is limited to amounts due and payable in both directions at the time the set-off occurs. DBRS evaluates the potential set-off risk for each transaction and makes adjustments to the loss analysis on a case by case basis.



Data Request

When estimating mortgage losses for a pool of residential mortgage assets originated in Spain, DBRS requests static pool performance data from each issuer requesting a rating. This data is expected to be representative of the asset pool that is to collateralise the proposed RMBS or covered bond programme. DBRS prefers data that is stratified by product type and/or by loan to value. If various vintages show markedly different performance relative to each other, DBRS assesses the reasons for such performance. For more details please refer to page 7.

PROBABILITY OF DEFAULT ANALYSIS

Benchmark Two-Year Probability of Default Estimate

DBRS calculates the benchmark two-year Probability of Default (PD) for each pool based on historical issuer specific data. The calculation of the two-year PD is typically weighted by the corresponding two-year PD for that particular year of origination. For example, if the origination vintages of a pool being analysed were evenly distributed across four years (for example 2004, 2005, 2006 and 2007), DBRS calculates the two-year PD for each vintage of historical data and applies the respective calculations to the vintage weighting.

Example:

	% of Pool	2-Yr PD
2004	25%	1.00%
2005	25%	1.50%
2006	25%	2.50%
2007	25%	3.00%
Estimated Pool Two-Year PD		2.00%

MORTGAGE LOAN AND PRODUCT SPECIFIC DEFAULT PENALTIES

Having established a two-year PD for a particular issuer, DBRS then applies borrower, mortgage loan and property characteristic specific default penalties to each loan to arrive at a base case two-year PD. The list of typical assumptions used when assessing default risk in Spanish residential mortgages appears at the end of this addendum. The numbers presented are not prescriptive and the actual figures used may differ by transaction. The default penalties used for the analysis of Spanish mortgages were validated by performance data outside of the jurisdiction. As a result, DBRS conducts additional analysis of issuer vintage performance data as a reasonableness check against the base case portfolio default rate. In cases where deemed necessary, DBRS adjusts the base case portfolio default rate accordingly. Disclosure of the assumptions used for each transaction is available on www.dbrs.com.

MORTGAGE LOAN CHARACTERISTICS

Loan-to-Value (LTV)

LTV is the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The input used by DBRS in the default model is the LTV at the time of securitisation (current balance over original valuation).

Subsidised Mortgages

Subsidised loans have traditionally been a larger part of the Spanish mortgage market. Notwithstanding this, DBRS considers loans granted on the basis of government subsidies or other forms of support as riskier compared with standard mortgage loans due to the intrinsic weaker profile of the borrower that such subsidies imply. However, this is mitigated to some degree by the stronger affordability profile of VPO loans resulting from the below market purchase prices.



Loan Purpose

Increased default penalties are applied to loans where the loan is for debt consolidation of unsecured borrower debt. DBRS reviews underwriting procedures and product specifications to assess whether, in its opinion, a particular loan product has been used to fund lifestyle expenditures rather than to fund acquisition of residential property to inhabit.

Repayment Type:

Interest only loans in Spain tend to be of a short term nature, typically five years or less, and a small percentage of total originations. The loans do not have the risk of a balloon payment at maturity but are viewed as having more risk than a fully amortising loan due to the payment shock at the end of the interest-only period.

Loan Term

DBRS applies a penalty for loan terms that are longer than typically seen in the market if it concludes that the reason for such a long loan term is to arbitrage affordability assessments made at the underwriting stage. DBRS assumes that this is the case unless there is detailed credit rationale for longer than average loan terms.

Second Lien

DBRS applies penalties to second lien loans where it is of the opinion that the second lien is being utilised as a financing tool by the borrower for personal consumption rather than the purchase of the property.

Loan Product

DBRS applies risk adjustments to loan products where there is the potential risk of payment shock (i.e. a sharp increase in regular mortgage payments as a result of a change in the interest rate on the loan). Fixed rate (short term) loan products are seen to have the most potential for significant payment shock, as they do not adjust with increases in the base rate. If interest rates increase during the fixed period, the borrowers become exposed to a substantial increase in their regular mortgage payments at the time of the switch to standard floating rate. Loans that track the ongoing changes in interest rates over time are not subject to this risk adjustment.

Investment Properties

DBRS applies additional penalties to any loans that are not for residential owner occupation on the basis that the majority of default data for residential mortgages is based on owner occupation. The affordability of investment properties is based on rental income.

Credit Risk Layering

DBRS makes a base case PD adjustment to account for risk layering within a single mortgage loan; that is, the simultaneous presence of multiple risk factors is assumed to have an adverse effect on PD over and above that predicted by the single multiple associated with each component.

Simultaneous risk elements include combinations of high LTV (indicating minimal borrower down payments), past credit problems (e.g. prior arrears), and high loan to income (LTI) ratios and/or self-certification.

Flexible Loans

Flexible loans vary markedly in their features. Certain flexible loans allow payment holidays, others allow for the repayment of over paid principal, while other types of flexible loans allow for the full re-draw back to a pre-defined limit. DBRS reviews the specific underwriting policies of the loans being analysed when assessing its opinion of the increased default risk associated with flexible loans.



Loans to Foreign Nationals

Loans to foreign nationals are allowed under Spanish law and tend to be a small percentage of securitisation pools. DBRS considers the treatment of foreign nationals for each transaction.

BORROWER CHARACTERISTICS AND CREDIT RISK

Credit Risk Band and Adverse Credit History

DBRS allocates each loan to a credit risk band. The allocation process is based upon a number of factors including:

- Any prior bankruptcy or the equivalent.
- Historical and current arrears on the mortgages.

Depending on the data provided for each of the above factors, DBRS assigns each loan to a credit risk band which ranges from A-E. Credit risk band A is considered the best credit quality with E considered the worst credit quality. A successively higher default penalty is assigned to each successively higher credit risk band.

Self-Certification

DBRS applies additional penalties to loans where the borrower has not proven stated income levels. The penalty is applied on the basis that (in the absence of any checks) borrowers may be incentivised to overstate their income. DBRS also applies penalties to loans where the lender has elected not to check income levels.

Self Employed Borrowers

DBRS employs an additional default penalty to borrowers who are self employed. DBRS analyses each issuer's underwriting policies with regards to income documentation for self employed borrowers to determine if further penalties may be warranted as self employed borrowers' monthly income stream tend to be unsteady.

Loan to Income (LTI)

DBRS applies penalties to certain loans where the borrower's affordability is considered in DBRS opinion to be worse than the average. When assessing the application penalties for higher LTIs, DBRS assesses the income that the lender takes into account during the underwriting process. If income is not provided, DBRS assesses a borrower's income based on debt-to-income and other affordability metrics as described in the issuer's underwriting policies. For additional detail, please refer to pages 10 -11.

Single Income

Loans advanced to only one borrower are subject to an increase in default probability as obligors with two income streams tend to show more financial flexibility in periods of economic stress.

LOSS GIVEN DEFAULT

In DBRS opinion, the most robust mortgage valuation is by means of a full internal and external inspection by a qualified valuer. The valuation needs to be sufficient to allow the underwriter a comparison of the property in question to that of other comparable recently sold properties. For other valuation methods, such as drive-by valuations, Automated Valuation Models, or desk top valuations, DBRS reduces the stated foreclosure value. The quantum of the valuation adjustment is calculated for each transaction and is based on DBRS assessment of the robustness of the validation procedures implemented by the particular lender.



TYPICAL MARKET VALUE DECLINES

DBRS assumes the following standard market value declines (MVDs) to the appraised value (or the valuation, post any adjustment) for each rating level for Spanish RMBS.

AAA	60.0%
AA (high)	53.3%
AA	51.9%
AA (low)	50.7%
A (high)	49.0%
A	47.7%
A (low)	46.5%
BBB (high)	44.4%
BBB	42.0%
BBB (low)	39.0%
BB (high)	37.6%
BB	35.2%
BB (low)	33.2%
B (high)	31.0%
B	29.8%

Costs of Foreclosure

Standard costs of foreclosure in Spain are assumed to be €2,500 and 3.0% of the post MVD value of the property. DBRS requests lender specific data for each transaction to assess if a different cost of foreclosure assumptions is appropriate.

Foreclosure Timing

DBRS assumes that the typical time it takes to take possession of, sell and realise the cash from the sale of residential a property in Spain is between 30-36 months from the point of first arrears. DBRS requests lender specific data on both the time it takes to enact foreclosure proceedings and sell a property and assesses if a transaction specific adjustment is warranted.

Indexation

Owing to concerns regarding the timeliness and accuracy of updates to housing indices at a time of stagnating/ falling prices, DBRS does not apply indexation to property values in its assessment of loss severity. Rather, DBRS applies the MVD assumptions to the appraised value (or the valuation, post any adjustment). For seasoned transactions where loans have experienced significant price appreciation or depreciation, DBRS may adjust property values on a case by case basis.



Appendix: Spanish Loan-Level Risk Adjustments

Risk Characteristic	Characteristic Value	Base Multiple
Loan-to-Value	<=40	0.60
	50	0.80
	60	1.00
	70	1.30
	80	1.65
	90	2.10
	95	2.35
	100	2.65
	>=105	3.00
Loan Purpose	Debt/Equity Re-Mortgage	1.25
Repayment Type	IO	1.35
Loan Term	>25 Years	1.20
Second Lien	2nd Ranking Loan	1.50
Credit Risk Layering	LTV>=95 & Self Cert/High LTI	1.35
	LTV>=90 & Prior DQ	1.75
	LTV>=90 & Prior DQ & Self Cert/High LTI	1.85
Credit Risk Band	A	1.00
	B	1.00
	C	2.00
	D	4.00
	E	8.00
Employment/Income	Self-Certification (Employed)	1.75
	Self-Certification (Self-Employed)	1.35
	Self-Employed	1.15
	Loan-to-Income > 3.5	1.25
	Single Income	1.25



*Master European Residential
Mortgage-Backed Securities
Rating Methodology:
Addendum - Italy*



Italian Residential Mortgage Addendum

This report details the specific risks of Italian residential mortgages and DBRS analytical treatment of these risks when projecting default probability, loss given default and expected losses for such loans. The addendum can also be applied to the analysis of cover pools in covered bond transactions backed by residential mortgage loans in Italy.

As noted in the master methodology, DBRS residential mortgage-backed securities (RMBS) loss analysis is divided into two distinct segments. The first segment determines the probability of default of each underlying borrower which is then aggregated to derive a pool level default probability. The second segment of the analysis derives the estimated loss given default of each mortgage followed by an aggregation to an overall pool level loss projection. The product of the default probability and loss given default gives the total expected losses for the pool.

Italian Mortgage Market

Italy has a high rate of home ownership relative to other European jurisdictions and home ownership accounts for a considerable amount of Italian households' net wealth. The Bank of Italy estimates that c.60% of Italian individual wealth is in the form of housing. The housing market in Italy has demonstrated the same overall trends as many other European countries over the last decade. However, the Italian market was categorised by many relatively modest house price increases and limited excess. Consequently Italy has not suffered the same level of house price declines experienced in other countries in Europe. In spite of the fast growth seen in the past decade, the Italian market for housing finance remains relatively conservative in terms of product offerings and underwriting procedures.

Banks account for almost all originations, and the centralised lenders that did appear in the middle part of the last decade have, by and large, ceased operations. Accordingly, the origination of mortgages in Italy is mainly bank-branch driven, and origination through independent advisers and other direct channels (e.g. internet) form only a small share of the market. The most notable credit feature of the Italian market is that the loan recovery procedures are long and costly. Although the recovery time differs from region to region and from lender to lender, the recovery process can take as long as five to seven years.

Mortgage lending in Italy is subject to prudential regulation and to the rules governing financial contracts. Under these regulations, the loan-to-value ratio is capped at 80%. This ceiling can be exceeded only if additional personal guarantees are provided. The typical LTV ratios range from 60%-70%.

In legal terms, there is more than one type of mortgage in Italy. They differ based on the purpose of the loan, as well as on the characteristics of the charge and its enforcement. For the purpose of residential letting, there are two main types as follows:

- *Mutuo Fondiario*: As set out in Law No. 385 of 1993, this is a loan that can only be granted for real estate purposes (residential or commercial), with the property in question serving as the guarantee charged by a first ranking mortgage. The maximum LTV permissible for this kind of mortgage is 80% (unless personal guarantees are provided).
- *Mutuo Ipotecario*: this is also a secured loan, but differs from the *fondiario*. First, while only real estate can be pledged as security for *fondiario*, *ipotecario* allow for registered assets, such as machinery. Thus, unlike *fondiario*, the *ipotecario* is not exclusively used for residential letting. Second, the LTV for the loan is not capped at 80%.



Banks offer a variety of mortgages with interest rates that can be fixed, variable, mixed (allowing the borrower to switch from fixed to variable and vice versa at a specified date), capped, or balanced (partly fixed rate and partly indexed). Contracts generally range from five to 20 years, although longer maturities are also granted.

The Italian mortgage market is not spread uniformly across the country. The market is still primarily concentrated in the industrial areas of the north rather than the less populous regions of the south. DBRS assumptions assume that the properties show geographical distribution that is standard to the market and any variation from this standard is considered on a case by case basis.

SET-OFF RISK

There is the potential for set-off in Italian transactions in the event of insolvency of the originator. A borrower may invoke the right to set-off to the extent of the monies due and payable to him by the originator at the date of assignment of the loan to the issuer. This is a fixed amount set at closing of a transaction. DBRS requests information on the amount of potential set-off for each transaction and will make adjustments to the loss analysis on a case by case basis.

Data Request

When estimating mortgage losses for a pool of residential mortgage assets originated in Italy, DBRS requests static pool performance data from each issuer requesting a rating. This data is expected to be representative of the asset pool that is to collateralise the proposed RMBS or covered bond programme. DBRS prefers data that is stratified by product type and/or by loan to value. If various vintages show markedly different performance relative to each other, DBRS assesses the reasons for such performance. For more details please refer to page 7.

PROBABILITY OF DEFAULT ANALYSIS

Benchmark Two-Year Probability of Default Estimate

DBRS calculates the benchmark two-year Probability of Default (PD) for each pool based on historical issuer specific data. The calculation of the two-year PD is typically weighted by the corresponding two-year PD for that particular year of origination. For example, if the origination vintages of a pool being analysed were evenly distributed across four years (for example 2004, 2005, 2006 and 2007), DBRS calculates the two-year PD for each vintage of historical data and apply the respective calculations to the vintage weighting.

Example:

	% of Pool	2-Yr PD
2004	25%	1.00%
2005	25%	1.50%
2006	25%	2.50%
2007	25%	3.00%
Estimated Pool Two-Year PD		2.00%

MORTGAGE LOAN AND PRODUCT SPECIFIC DEFAULT PENALTIES

Having established a two-year PD for a particular issuer, DBRS then applies borrower, mortgage loan and property characteristic specific default penalties to each loan to arrive at a base case two-year PD. The list of typical assumptions used when assessing default risk in Italian residential mortgages appears at the end of this addendum. The numbers presented are not prescriptive and the actual figures used may



differ by transaction. The default penalties used for the analysis of Italian mortgages were validated by performance data outside of the jurisdiction. As a result, DBRS conducts additional analysis of issuer vintage performance data as a reasonableness check against the base case portfolio default rate. In cases where deemed necessary, DBRS adjusts the base case portfolio default rate accordingly. Disclosure of the assumptions used for each transaction is available on www.dbrs.com.

MORTGAGE LOAN CHARACTERISTICS

Loan-to-Value (LTV)

LTV is the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The input used by DBRS in the default model is the LTV at the time of securitisation (current balance over original valuation).

Subsidised Mortgages

Subsidised loans are rare in Italy. Notwithstanding this, DBRS considers loans granted on the basis of government subsidies or other forms of support as riskier compared with standard mortgage loans due to the intrinsic weaker profile of the borrower that such subsidies imply.

Loan Purpose

Increased default penalties are applied to loans where the loan is for debt consolidation of unsecured borrower debt. DBRS reviews underwriting procedures and product specifications to assess whether, in its opinion, a particular loan product has been used to fund lifestyle expenditures rather than to fund acquisition of residential property to inhabit.

Repayment Type

Interest only loans in Italy tend to be of a short term nature, typically five years or less, and a small percentage of total originations. The loans do not have the risk of a balloon payment at maturity, but are viewed as having more risk than a fully amortising loan due to the payment shock at the end of the interest-only period.

Loan Term

DBRS applies a penalty for loan terms that are longer than typically seen in the market and if the reason for such a long loan term is to arbitrage affordability assessments made at the underwriting stage. DBRS assumes that this is the case unless there is detailed credit rationale for longer than average loan terms. DBRS has observed that the typical loan term in Italy is 25 years.

Second Lien

DBRS applies penalties to second lien loans where it is of the opinion that the second lien is being utilised as a financing tool by the borrower to fund personal consumption rather than the purchase of the property.

Loan Product

DBRS applies risk adjustments to loan products where there is the potential risk of payment shock (i.e. a sharp increase in regular mortgage payments as a result of a change in the interest rate on the loan). Fixed rate (short term) loan products are seen to have the most potential for significant payment shock, as they do not adjust with increases in the base rate. If interest rates increase during the fixed period, the borrowers become exposed to a substantial increase in their regular mortgage payments at the time of the switch to standard floating rate.

Investment Properties

DBRS applies additional penalties to any loans that are not for residential owner occupation on the basis that the majority of default data for residential mortgages is based on owner occupation. The affordability of investment properties is based on rental income.



Credit Risk Layering

DBRS makes a base case PD adjustment to account for risk layering within a single mortgage loan; that is, the simultaneous presence of multiple risk factors is assumed to have an adverse effect on PD over and above that predicted by the single multiple associated with each component.

Simultaneous risk elements include combinations of high LTV (indicating minimal borrower down payments), past credit problems (e.g. prior arrears), and high loan to income (LTI) ratios and/or self-certification.

Flexible Loans

Flexible loans vary markedly in their features; however, are not common in Italy. Certain flexible loans allow payment holidays, others allow for the repayment of over-paid principal, while other types of flexible loans allow for the full re-draw back to a pre-defined limit. DBRS reviews the specific underwriting policies of the loans being analysed when assessing its opinion of the increased default risk associated with flexible loans.

Loans to Foreign Nationals

Loans to foreign nationals are also not commonly included in most Italian RMBS transactions. DBRS considers the treatment of foreign nationals for each transaction.

BORROWER CHARACTERISTICS AND CREDIT RISK

Credit Risk Band and Adverse Credit History

DBRS allocates each loan to a credit risk band. The allocation process is based upon a number of factors including:

- Any prior bankruptcy or the equivalent of the borrower.
- Historical and current arrears on the mortgages.

Depending on the data provided for each of the above factors, DBRS assigns each loan to a credit risk band which ranges from A-E. Credit risk band A is considered the best credit quality with E considered the worst credit quality. A successively higher default penalty is assigned to each successively higher credit risk band.

Self-Certification

DBRS applies additional penalties to loans where the borrower has not proven stated income levels. The penalty is applied on the basis that (in the absence of any checks) borrowers may be incentivised to overstate their income. DBRS also applies penalties to loans where the lender has elected not to check income levels.

Self Employed Borrowers

DBRS employs an additional default penalty to borrowers who are self employed. DBRS analyses each issuer's underwriting policies with regards to income documentation for self employed borrowers to determine if further penalties may be warranted as self employed borrowers' monthly income stream tend to be unsteady.

Loan to Income (LTI)

DBRS applies penalties to certain loans where the borrower's affordability is considered in DBRS's opinion to be worse than the average. When assessing the application penalties for higher LTIs, DBRS assesses the income that the lender takes into account during the underwriting process. If income is not provided, DBRS assesses a borrower's income based on debt-to-income and other affordability metrics as described in the issuer's underwriting policies. For additional detail, please refer to pages 10 -11.



Single Income

Loans advanced to only one borrower are subject to a higher default probability as obligors with two income streams tend to show better financial flexibility in periods of economic stress.

LOSS GIVEN DEFAULT

In DBRS's opinion, the most robust mortgage valuation is by means of a full internal and external inspection by a qualified valuer. The valuation needs to be sufficient to allow the underwriter a comparison of the property in question to that of other comparable recently sold properties. For other valuation methods, such as drive-by valuations, Automated Valuation Models, or desk top valuations, DBRS reduces the stated foreclosure value. The quantum of the valuation adjustment is calculated for each transaction and is based on DBRS assessment of the robustness of the validation procedures implemented by the particular lender.

TYPICAL MARKET VALUE DECLINES

DBRS assumes the following market value declines (MVDs) to the appraised value (or the valuation, post any adjustment) for each rating level for Italian RMBS:

AAA	55.1%
AA (high)	53.6%
AA	52.0%
AA (low)	50.4%
A (high)	48.8%
A	47.3%
A (low)	45.7%
BBB (high)	44.1%
BBB	42.5%
BBB (low)	41.0%
BB (high)	39.4%
BB	37.8%
BB (low)	36.2%
B (high)	34.7%
B	33.1%

Costs of Foreclosure

Standard costs of foreclosure in Italy are assumed to be €4,000 and 3.0% of the post MVD value of the property. DBRS requests lender specific data for each transaction to assess if a different cost of foreclosure assumptions is appropriate.

Foreclosure Timing

DBRS assumes that the typical time it takes to take possession of, sell and realise the cash from the sale of a residential property in Italy is 60 months from the point of first arrears. DBRS requests lender specific data on the time it takes to enact foreclosure proceedings and sell a property for each transaction to assess if a transaction specific adjustment is warranted.

Indexation

Owing to concerns regarding the timeliness and accuracy of updates to housing indices at a time of stagnating/falling prices, DBRS does not apply indexation to property values in its assessment of loss severity. Rather, DBRS applies the MVD assumptions to the appraised value (or the valuation, post any adjustment). For seasoned transactions where loans have experienced significant price appreciation or depreciation, DBRS may adjust property values on a case by case basis.



Appendix: Italian Loan-Level Risk Adjustments

Risk Characteristic	Characteristic Value	Base Multiple
Loan-to-Value	<=40	0.60
	50	0.80
	60	1.00
	70	1.30
	80	1.65
	90	2.10
	95	2.35
	100	2.65
	>=105	3.00
Loan Purpose	Debt/Equity Re-Mortgage	1.25
Repayment Type	IO	1.35
Loan Term	>25 Years	1.20
Second Lien	2nd Ranking Loan	1.50
Credit Risk Layering	LTV>=95 & Self Cert/High LTI	1.35
	LTV>=90 & Prior DQ	1.75
	LTV>=90 & Prior DQ & Self Cert/High LTI	1.85
Credit Risk Band	A	1.00
	B	1.00
	C	2.00
	D	4.00
	E	8.00
Employment/Income	Self-Certification (Employed)	1.75
	Self-Certification (Self-Employed)	1.35
	Self-Employed	1.15
	Loan-to-Income > 3.5	1.25
	Single Income	1.25



*Master European Residential
Mortgage-Backed Securities
Rating Methodology:
Addendum - Portugal*



Portuguese Residential Mortgage Addendum

This report details the specific risks of Portuguese residential mortgages and DBRS analytical treatment of these risks when projecting default probability, loss given default and expected losses for such loans. The addendum can also be applied to the analysis of cover pools in covered bond transactions backed by residential mortgage loans in Portugal.

As noted in the master methodology, DBRS residential mortgage-backed securities (RMBS) loss analysis is divided into two distinct segments. The first segment determines the probability of default of each underlying borrower which is then aggregated to derive a pool level default probability. The second segment of the analysis derives the estimated loss given default of each mortgage followed by an aggregation to an overall pool level loss projection. The product of the default probability and loss given default gives the total expected losses for the pool.

Portuguese Mortgage Market

Prior to liberalisation of the mortgage market in 1991, there were three institutions that were authorised to provide mortgage financing in Portugal. Since then, the market has become highly competitive dominated by Portuguese banks and large international institutions. Home ownership rates have been relatively high driven by a government subsidy program initiated in the 1970s (ended in 2002) which targeted first-time buyers and lower income individuals, as well as a stagnant rental market characterised by tenancy laws in favour of renters (long controlled rents and protection against eviction).

Loan originations are almost exclusively at the branch level where borrowers are often offered mortgages in tandem with other banking and financial products and services (deposit accounts, credit cards, pension management, etc.). Some loans are sourced through third parties (real estate agents, insurance agents, etc.) but underwriting and loan approval take place at the branch. Origination standards are very consistent across originators, all requiring standardised income tax returns, tax identification, recent pay slips, and proof of employment. Additionally, all originators report to and check adverse borrower credit with the Bank of Portugal's credit risk database. Guarantors may be required due to a primary borrower being of young age or having a low income.

Portuguese mortgages tend to be variable rate loans indexed to either three month or six month EURIBOR. A small percentage of loans have a short-term fixed rate period. Loan terms are generally between 30 and 40 years with fully amortising repayment schedules. A small percentage of loans may have short-term interest only periods. Banks will lend up to 100% of a property's value to borrowers under certain circumstances. Portuguese securitisations tend to have weighted average loan-to-value (LTV) ratios above 80% as loans with lower LTVs will be secured in an issuer's covered bond program. Owner occupied loans are most prevalent with a small percentage being second homes. Investment loans are very rare mainly due to the inefficiencies of owning a rental property because of tenancy laws in favour of renters.

Securitisations have a percentage of Permitted Variations allowed in a pool (typically 15-20%). As way of customer retention in the competitive lending environment, lenders will offer borrowers a reduction in the mortgage rate or an extension of the loan term as a way to lower the mortgage payment. Permitted Variations are typically limited to two per loan after the closing date of the transaction and have limitations to the amount the spread that can be reduced and length the term can be extended. Borrowers are required to be current on the contractual terms of the mortgage in order to receive a Permitted Variations. If terms of the Permitted Variations exceed the loan level threshold or percentage allowable in the pool, the originator is required to repurchase the loan from the trust (some transactions allow for loan substitutions).



SET-OFF RISK

There is the potential for set-off risk in Portuguese transactions in the event of insolvency of the originator. A borrower may invoke the right to set-off by any amounts due and payable to the borrower from the originator at the date of assignment of the loan to the issuer. This is a fixed amount set at closing of the transaction. DBRS requests the amount of potential set-off for each transaction and will make adjustments to the loss analysis on a case by case basis.

Data Request

When estimating mortgage losses for a pool of residential mortgage assets originated in Portugal, DBRS requests static pool performance data from each issuer requesting a rating. This data is expected to be representative of the asset pool that is to collateralise the proposed RMBS or covered bond programme. DBRS prefers data that is stratified by product type and/or by loan to value. If various vintages show markedly different performance relative to each other, DBRS assesses the reasons for such performance. For more details please refer to page 7.

PROBABILITY OF DEFAULT ANALYSIS

Benchmark Two-Year Probability of Default Estimate

DBRS calculates the benchmark two-year Probability of Default (PD) for each pool based on historical issuer specific data. The calculation of the two-year PD is typically weighted by the corresponding two-year PD for that particular year of origination. For example, if the origination vintages of a pool being analysed were evenly distributed across four years (for example 2004, 2005, 2006 and 2007), DBRS calculates the two-year PD for each vintage of historical data and applies the respective calculations to the vintage weighting.

Example:

	% of Pool	2-Yr PD
2004	25%	1.00%
2005	25%	1.50%
2006	25%	2.50%
2007	25%	3.00%
Estimated Pool Two-Year PD		2.00%

MORTGAGE LOAN AND PRODUCT SPECIFIC DEFAULT PENALTIES

Having established a two-year PD for a particular issuer, DBRS then applies borrower, mortgage loan and property characteristic specific default penalties to each loan to arrive at a base case two-year PD. The list of typical assumptions used when assessing default risk in Portuguese residential mortgages appears at the end of this addendum. The numbers presented are not prescriptive and the actual figures used may differ by transaction. The default penalties used for the analysis of Portuguese mortgages were validated by performance data outside of the jurisdiction. As a result, DBRS conducts additional analysis of issuer vintage performance data as a reasonableness check against the base case portfolio default rate. In cases where deemed necessary, DBRS adjusts the base case portfolio default rate accordingly. Disclosure of the assumptions used for each transaction is available on www.dbrs.com.



MORTGAGE LOAN CHARACTERISTICS

Loan-to-Value (LTV)

LTV is the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The input used by DBRS in the default model is the LTV at the time of securitisation (current balance over original valuation).

Subsidised Mortgages

Subsidised loans were granted by the Portuguese government up until 2002. Loans that had a subsidy prior to the end of the program were grandfathered and are still covered by the subsidy program. Notwithstanding this, DBRS considers loans granted on the basis of government subsidies or other forms of support as riskier compared with standard mortgage loans due to the intrinsic weaker profile of the borrower that such subsidies imply.

Loan Purpose

Increased default penalties are applied to loans where the loan is for debt consolidation of unsecured borrowed debt. DBRS reviews underwriting procedures and product specifications to assess whether, in its opinion, a particular loan product has been used to fund lifestyle expenditures rather than to fund acquisition of residential property to inhabit.

Repayment Type

Interest only loans in Portugal tend to be of a short term nature, typically three years or less, and a small percentage of total originations. The loans do not have the risk of a balloon payment at maturity, but are viewed as having more risk than a fully amortising loan due to the payment shock at the end of the interest-only period.

Loan Term

DBRS applies a penalty for loan terms that are longer than typically seen in the market if it concludes that the reason for such a long loan term is to arbitrage affordability assessments made at the underwriting stage. DBRS assumes that this is the case unless there is detailed credit rationale for longer than average loan terms. DBRS has observed that the typical loan term in Portugal is approximately 30 years.

Second Lien

DBRS applies penalties to second lien loans where it is of the opinion that the second lien is being utilised as a financing tool by the borrower for personal consumption rather than the purchase of the property.

Loan Product

DBRS applies risk adjustments to loan products where there is the potential risk of payment shock (i.e. a sharp increase in regular mortgage payments as a result of a change in the interest rate on the loan). Fixed rate (short term) loan products are seen to have the most potential for significant payment shock, as they do not adjust with increases in the base rate. If interest rates increase during the fixed period, the borrowers become exposed to a substantial increase in their regular mortgage payments at the time of the switch to standard floating rate. Loans that track the ongoing changes in interest rates over time are not subject to this risk adjustment.

Investment Properties

DBRS applies additional penalties to any loans that are not for residential owner occupation on the basis that the majority of default data for residential mortgages is based on owner occupation. The affordability of investment properties is based on rental income.



Credit Risk Layering

DBRS makes a base case PD adjustment to account for risk layering within a single mortgage loan; that is, the simultaneous presence of multiple risk factors is assumed to have an adverse effect on PD over and above that predicted by the single multiple associated with each component.

Simultaneous risk elements include combinations of high LTV (indicating minimal borrower down payments), past credit problems (e.g. prior arrears), and high loan to income (LTI) ratios and/or self-certification.

Flexible Loans

Flexible loans vary markedly in their features; however, are not common in Portugal. Certain flexible loans allow payment holidays, others allow for the repayment of over-paid principal, while other types of flexible loans allow for the full re-draw back to a pre-defined limit. DBRS reviews the specific underwriting policies of the loans being analysed when assessing its opinion of the increased default risk associated with flexible loans.

Loans to Foreign Nationals

Loans to foreign nationals are allowed under Portuguese law and tend to be a small percentage of securitisation pools. DBRS considers the treatment of foreign nationals for each transaction.

BORROWER CHARACTERISTICS AND CREDIT RISK

Credit Risk Band and Adverse Credit History

DBRS allocates each loan to a credit risk band. The allocation process is based upon a number of factors including:

- Any prior bankruptcy or the equivalent.
- Historical and current arrears on the mortgages.

Depending on the data provided for each of the above factors, DBRS assigns each loan to a credit risk band which ranges from A-E. Credit risk band A is considered the best credit quality with E considered the worst credit quality. A successively higher default penalty is assigned to each successively higher credit risk band.

Self-Certification

DBRS applies additional penalties to loans where the borrower has not proven stated income levels. The penalty is applied on the basis that (in the absence of any checks) borrowers may be incentivised to overstate their income. DBRS also applies penalties to loans where the lender has elected not to check income levels.

Self Employed Borrowers

DBRS employs an additional default penalty to borrowers who are self employed. DBRS analyses each issuer's underwriting policies with regards to income documentation for self employed borrowers to determine if further penalties may be warranted as self employed borrowers' monthly income stream tend to be unsteady.

Loan to Income (LTI)

DBRS applies penalties to certain loans where the borrower's affordability is considered in DBRS opinion to be worse than the average. When assessing the application penalties for higher LTIs, DBRS assesses the income that the lender takes into account during the underwriting process. If income is not provided, DBRS assesses a borrower's income based on debt-to-income and other affordability metrics as described in the issuer's underwriting policies. For additional detail, please refer to pages 10 -11.



Single Income

Loans advanced to only one borrower are subject to an increase in default probability as obligors with two income streams tend to show more financial flexibility in periods of economic stress.

LOSS GIVEN DEFAULT

In DBRS opinion, the most robust mortgage valuation is by means of a full internal and external inspection by a qualified valuer. The valuation needs to be sufficient to allow the underwriter a comparison of the property in question to that of other comparable recently sold properties. For other valuation methods, such as drive-by valuations, Automated Valuation Models, or desk top valuations, DBRS reduces the stated foreclosure value. The quantum of the valuation adjustment is calculated for each transaction and is based on DBRS assessment of the robustness of the validation procedures implemented by the particular lender.

TYPICAL MARKET VALUE DECLINES

DBRS assumes the following standard market value declines (MVDs) to the appraised value (or the valuation, post any adjustment) for each rating level for Portuguese RMBS:

AAA	50.3%
AA (high)	44.7%
AA	43.5%
AA (low)	42.5%
A (high)	41.1%
A	40.0%
A (low)	39.0%
BBB (high)	37.2%
BBB	35.2%
BBB (low)	32.7%
BB (high)	31.5%
BB	29.5%
BB (low)	27.8%
B (high)	26.0%
B	25.0%

Costs of Foreclosure

Standard costs of foreclosure in Portugal are assumed to be €2,500 and 3.0% of the post MVD value of the property. DBRS requests lender specific data for each transaction to assess if a different cost of foreclosure assumptions is appropriate.

Foreclosure Timing

DBRS assumes that the typical time it takes to take possession of, sell and realise the cash from the sale of residential a property in Portugal is 36 months from the point of first arrears. DBRS requests lender specific data on both the time it takes to enact foreclosure proceedings and sell a property and assesses if a transaction specific adjustment is warranted.

Indexation

Owing to concerns regarding the timeliness and accuracy of updates to housing indices at a time of stagnating/falling prices, DBRS does not apply indexation to property values in its assessment of loss severity. Rather, DBRS applies the MVD assumptions to the appraised value (or the valuation, post any adjustment). For seasoned transactions where loans have experienced significant price appreciation or depreciation, DBRS may adjust property values on a case by case basis.



Appendix: Portuguese Loan-Level Risk Adjustments

Risk Characteristic	Characteristic Value	Base Multiple
Loan-to-Value	<=40	0.60
	50	0.80
	60	1.00
	70	1.30
	80	1.65
	90	2.10
	95	2.35
	100	2.65
	>=105	3.00
Loan Purpose	Debt/Equity Re-Mortgage	1.25
Repayment Type	IO	1.35
Loan Term	>25 Years	1.20
Second Lien	2nd Ranking Loan	1.50
Credit Risk Layering	LTV>=95 & Self Cert/High LTI	1.35
	LTV>=90 & Prior DQ	1.75
	LTV>=90 & Prior DQ & Self Cert/High LTI	1.85
Credit Risk Band	A	1.00
	B	1.00
	C	2.00
	D	4.00
	E	8.00
Employment/Income	Self-Certification (Employed)	1.75
	Self-Certification (Self-Employed)	1.35
	Self-Employed	1.15
	Loan-to-Income > 3.5	1.25
	Single Income	1.25



*Master European Residential
Mortgage-Backed Securities
Rating Methodology:
Addendum - UK*



UK Residential Mortgage Addendum

This report details the specific risks of UK residential mortgages and DBRS analytical treatment of these risks when projecting default probability, loss given default and expected losses for such loans. The addendum can also be applied to the analysis of cover pools in covered bond transactions backed by residential loans in the United Kingdom.

As noted in the master methodology, DBRS RMBS loss analysis is divided into two distinct segments. The first segment determines the probability of default of each underlying borrower which is then aggregated to derive a pool level default probability. The second segment of the analysis derives the estimated loss given default of each mortgage followed by an aggregation to an overall pool level loss projection. The product of the default probability and loss given default gives the total expected losses for the pool. For details on DBRS methodology on European RMBS cash flow modelling please refer to page 19 of the main addendum.

UK Mortgage Market and Housing Market

The UK mortgage market has historically been amongst the most innovative and dynamic in Europe. The early part of the decade from 2000 to 2010 was categorised by significant product innovation and price competition amongst mortgage lenders. The increased appetite for mortgage credit risk in the UK had the effect of increasing the supply of credit, improving the terms at which credit was available for borrowers and increasing the number of people in the UK who could access mortgage credit. The overall impact of the change in the availability and cost of finance was that house prices increased significantly in the period up to October 2007. According to data from Nationwide Building Society (NBS) house prices increased by approximately 135% from January 2000 to October 2007, and meant that by October 2007 the average house price in the UK was significantly above the long term average relative to income.

In this period leading up to 2007 the UK mortgage market was generally divided into two broad categories; the prime mortgage market and the non-conforming mortgage market.

THE PRIME MORTGAGE MARKET

The UK does not have prescriptive rules/ criteria as to what does and what does not constitute a prime mortgage loan. Consequently, investors and other interested parties are left to define their own criteria of the typical characteristics of what is a prime mortgage loan and what is not a prime mortgage loan. Whilst such a task may appear to be straightforward it is not facilitated by the sometimes grey area between the prime and sub-prime markets. For example, in the period leading up to 2007, all prime lenders had some tolerance to adverse credit of borrowers. The extent of the tolerance to adverse credit differed from lender to lender and changed throughout this period. Typically, recent and non de-minimis adverse credit would not be tolerated by lenders and borrowers exhibiting such characteristics would see their applications rejected by prime lenders. For example, recent County Court Judgements (CCJs) over a certain pound amount would result in a loan being declined. Most lenders would grant loans to borrowers where the adverse credit event was not recent and the scale of the adverse credit was minimal. Prime lenders do not tend to publish guidance as to what level of adverse credit will and will not be tolerated. However, policies employed by most prime lenders meant that borrowers who had taken out a sub-prime loan a number of years before would be eligible to remortgage to a prime lender (at a better rate) if they had maintained punctual payments on their mortgage loan and had 'repaired' their previous poor credit record.

In addition to loan characteristics and lender categorisation of a loan being defined as prime, DBRS expects performance data for a portfolio of loans to demonstrate that the portfolio is performing in a



manner that is consistent with that exhibited by experienced Prime UK mortgage lenders.

THE NON-CONFORMING MORTGAGE MARKET

DBRS views a non-conforming mortgage loan as any mortgage loan that does not fall within the definition of a prime loan. This can be driven by either the characteristics of the loan and/ or the performance of the loan portfolio. The non-conforming sector has different sub-sectors, with the main ones of relevance to RMBS being sub-prime, Buy-to-Let (BTL) and second charge lending.

THE SUB-PRIME MARKET

The sub-prime sector can broadly be defined as lending to borrowers that have exhibited certain negative credit events in the past that are of such scale they rendered the borrower ineligible to obtain a loan from a prime lender. The sub-prime market, which had its origins in the UK in the 1990's, grew considerably in the period from 2000-2007, with a number of new entrants emerging throughout this period. The expansion of sub-prime lending was facilitated by two factors. Firstly, the risk appetite of banks (probably encouraged by the predictable and reasonable performance of sub-prime loans) increased and banks increasingly made available more and larger wholesale/ warehousing loans to mortgage originators. These loans were used by lenders to make loans to individuals in the first place. The second factor facilitating the boom in sub-prime lending was the appetite of investors for the securitised debt backed by sub-prime loans, again encouraged by the predictable and reasonable performance of sub-prime loans. The presence of an active and growing securitisation market facilitated the re-financing of the initial wholesale loan facilities provided by banks in the first place. The securitisation markets therefore created an exit route for banks that had provided the wholesale loan facilities. As investor demand improved throughout the period up to 2007 the cost of issuing debt backed by sub-prime mortgage also fell and this saving was partly passed onto the borrower. The main lenders in the sub-prime market were investment banks and also non-bank lenders.

BUY-TO-LET

BTL is a specific mortgage product aimed at financing the private residential market in the UK that uses an estimate of the rental income that the property will generate rather than income earned from employment as the means by which the affordability/ loan servicing of the loan is assessed. As such, as a specific product, it is relatively new first appearing in 1996. In the period to 2007, the availability of BTL finance, significant house price appreciation, the tax deductibility of interest payments and a relatively modest tax on capital gains all facilitated a boom in BTL lending.

The Buy-to-Let market is often characterised as a single market where all loans exhibit the same or similar risk characteristics. In reality the lending that was performed up to 2007 contains loans with significantly different credit risk. At the riskier end of the BTL spectrum are loans to inexperienced borrowers that were used to finance speculation and which, in some locales, notably in certain inner city areas such as Leeds and Manchester, led to localised asset bubbles. At the more credible end of the BTL credit scale was lending in established residential areas, with a moderate loan-to-value, to borrowers with a proven ability to manage a property portfolio. The main lenders in the buy-to let market were major high street banks and also non- bank lenders.

SECOND OR FURTHER LIEN LENDING.

Second Lien lending is where a lender makes an advance to a borrower when there are typically one, but conceivably more, charge holders with prior ranking charges on the security property. Second charge lending in the UK was a niche product. Given the inferior security position that a second charge borrower has relative to a first charge holder, second charge lending borrowers often paid a significant uplift to interest rates charged to first charge borrowers. Indeed some second charge lending was written at in excess of 10% above Libor, meaning that for many borrowers, it represented either the lending of last resort or was being used as a substitute for even more expensive bridging finance. Despite this, not all second charge lending in the period up to 2007 was speculative or lending of the last resort. For certain prime borrowers, the short maturity date of second charge lending meant that they were sometimes more



economical that using a further advance as a way of funding home improvements, and the fact that it was secured meant that the loan size available was often bigger than available from an unsecured loan.

The onset of the global financial crisis meant that as risk appetites contracted the vast majority of second charge lenders exited the market. DBRS observes that loss severities on UK second charge lending tends to be significantly higher than on first charge lending of the same/ similar combined Loan to Value. DBRS also notes that prepayment rates of second charges, being usually the highest priced debt, tend to be higher than first charges with similar characteristics.

DBRS expects second charge lending to be minimal in the short to medium term. Given observed increased loss severities on second charge lending DBRS requests loan by loans loss severity analysis for second charge lending portfolios it is requested to rate.

THE LANDSCAPE POST 2007

Mortgage market

The overall market for new origination contracted significantly from 2008 to date. The reasons and consequences of this contraction are varied.

Non-Conforming

In the wake of the global financial crisis the landscape of the UK mortgage market changed almost overnight. Rocked by house price declines that had not been seen since the early 1990's and robbed of an exit route as the securitisation markets dried up, the appetite of investment banks to lend to centralised lenders evaporated. This caused the almost complete closure of the sub-prime market and the second charge lending market.

The BTL market suffered a similar although not as dramatic fate. Although by and large credit performance of the bulk of BTL loans has remained good (albeit in a low interest rate environment) the disappearance of funding opportunities for lenders has severely limited the volume of BTL lending. This has also, like the sub-prime sector, severely limited the refinancing opportunities for existing borrowers leading to lower than anticipated prepayment rates in existing transactions.

Although the impact of the financial crisis on the sub-prime and BTL markets was significant, their impact on the overall contraction of origination volumes should not be over-estimated as their share of the overall market at the peak is estimated to be 10-15% of new originations.

Prime

The prime mortgage market has also seen significant evolution in the wake of the financial crisis. The main changes in the prime sector saw many originators tighten product specification and tighten underwriting. The overall cumulative impact of these developments was that, generally, the maximum loan to values that loans that were available to borrowers at reduced, the cost of lending increased, score card cut offs were increased (thereby increasing the score borrowers needed to obtain a loan) and affordability assessments were made stricter. The overall impact of this was that the number of borrowers who were eligible for mortgage credit and could access it reduced, stifling demand for house purchases.

House Prices

The contraction in mortgage credit in the period from 2007 onwards was against a backdrop of steep house price declines. In the period from October 2007 (the peak month for UK house prices) to the end of the first quarter of 2009, according to data from the NBS UK house prices fell approximately 18.50%. As at the end of quarter 2 2011, according to NBS data, house prices are on average still down approximately 10.00% from their October 2007 peak.



House prices are currently showing significant regional variation with certain areas recording increases whilst others continue to fall.

DBRS believes that the overall economic landscape in the UK, exacerbated by the limited availability of credit mean that both further house prices declines are likely in most areas.

SET-OFF RISK

Set-off risk is introduced to UK RMBS transactions where the borrower has a deposit and a mortgage loan with the same institution. The assignment of a loan to a securitisation vehicle does not limit or cancel set-off rights. In the case of seller insolvency, and in the event that a borrower was not notified of the assignment of their mortgage loan to the securitisation vehicle prior to insolvency borrowers may be able to invoke set-off for the total amount of the deposits held with that bank.

There are mitigants to the potential set off exposure that face UK RMBS transactions. The main mitigant is the UK Government's Financial Services Compensation Scheme (FSCS). The FSCS is similar to other deposit guarantee schemes that operate in European countries in that it in effect underwrites the depositor for the first €100,000 of a deposit with a given bank. This translates to £85,000 for UK depositors. The UK guarantee scheme differs from other European deposit guarantee schemes in that it does not require depositors to net off the amounts they are owed by a specific bank against the amounts that they owe a specific bank. This means that the full amount, up to the £85,000 limit, is guaranteed. Given that the majority of borrowers have deposits less than £85,000 the FSCS offers significant protection to RMBS transactions against potential set-off. In addition to the amount of the guarantee the timing of the cash flows is also of importance. It is DBRS understanding that the FSCS intends to reimburse depositors after seven days following the bank's insolvency, meaning that disruption of payments by aggrieved depositors is likely to be minimised.

Data Request

When estimating mortgage losses for a pool of residential mortgage assets originated in the United Kingdom, DBRS requests static pool performance data from each issuer. This data is expected to be representative of the asset pool that is to collateralise the proposed RMBS transaction or covered bond programme. DBRS prefers data that is stratified by product type and/or by loan-to-value. If various vintages show markedly different performance relative to each other, DBRS assesses the reasons for such performance.

PROBABILITY OF DEFAULT ANALYSIS

Benchmark Two-Year Probability of Default Estimate

DBRS calculates the benchmark two-year Probability of Default (PD) for each pool based on issuer specific historical performance. The calculation of the two-year PD is typically weighted by the corresponding two-year PD for that particular year of origination. For example, if the origination vintages of a pool being analysed were evenly distributed across four years (for example 2004, 2005, 2006 and 2007), DBRS calculates the two-year PD for each vintage of historical data and apply the respective calculations to the vintage weighting.



Example:

	% of Pool	2-Yr PD
2004	25%	1.00%
2005	25%	1.50%
2006	25%	2.50%
2007	25%	3.00%
Estimated Pool Two-Year PD		2.00%

Estimated Pool two-Year PD 2.00%

Mortgage Loan and Product Specific Default Penalties

Having established a two-year PD for a particular issuer, DBRS then applies borrower and mortgage loan default penalties to each loan to derive a base case two-year PD. Typical assumptions used when assessing default risk in UK mortgages are listed at the end of this addendum. The numbers presented are not prescriptive and the actual figures used may differ by transaction. DBRS conducts additional analysis of issuer vintage performance data as a reasonableness check against the base case portfolio default rate. In cases where deemed necessary, DBRS adjusts the base case portfolio default rate accordingly. Disclosure of the assumptions used for each transaction is available on www.dbrs.com.

MORTGAGE LOAN CHARACTERISTICS

Loan-to-Value (LTV)

LTV is the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The input used by DBRS in the default model is the LTV at the time of securitisation (current balance over original valuation). Furthermore, the LTV is calculated by summing all of the outstanding balances from every loan secured by the same property (e.g. first-lien and second-ranking mortgages) and dividing the total by an estimate of the market value of the property.

Subsidised Mortgages

Subsidised loans are rare in the United Kingdom. Notwithstanding this, DBRS considers loans granted on the basis of government subsidies or other forms of support riskier compared with standard mortgage loans due to the intrinsic weaker profile of the borrower that such subsidies imply.

Loan Purpose

Increased default penalties are applied to loans where the loan is for debt consolidation of unsecured borrower debt. DBRS reviews underwriting procedures and product specifications to assess whether, in its opinion, a particular loan product has been used to fund lifestyle expenditures rather than to fund acquisition of residential property to inhabit.

Repayment Type:

There are additional risks with Interest Only loans:

i) Balloon Payment

Penalties apply for loans where there exists a complete absence of a repayment vehicle or where the repayment vehicle will not be sufficient to repay all of the capital of a loan. DBRS considers the terms of the repayment vehicle and optionality on the part of the borrower to pay into the vehicle when assessing whether to increase default probability for such product. DBRS request details of borrowers who are in arrears with payments to their repayment vehicle for the purposes of its initial rating and also for surveillance purpose.



ii) Stretching Income

As Interest Only loans have lower installment payments as compared with repayment loans, there is risk that borrowers are unable to afford a repayment loan. For this reason, the Interest Only penalty is designed to cover both risks. DBRS views 'part and part' loans (loans where part of the balance is part repayment and part interest only) as Interest Only loans.

Loan Term

DBRS applies a penalty for loan terms that are longer than typically seen in the market if it concludes that the reason for such a long loan term is to arbitrage affordability assessments made at the time of underwriting. DBRS assumes that this is the case unless there is detailed credit rationale for longer than average loan terms.

Loan Size

Given that mortgage providers generally limit the maximum loan size based on income multiples, larger loan amounts are only available to borrowers with higher incomes. DBRS regards larger loans (jumbo loans) as riskier than smaller loans. The rationale behind this view is that higher incomes are subject to greater volatility in the event of an economic downturn. Typically, these borrowers are more likely to rely on significant bonuses and may find it difficult to maintain their financial position.

Second Lien

DBRS applies penalties to all second lien loans where it views the additional loan as a second charge rather than a further advance and the additional loan has a junior security position. Characteristics that may indicate that a loan is in character a second charge are the interest rate on the latest advance is higher than that of other previous advances, the loan term is shorter or the product is underwritten to materially different criteria to that of the earlier senior charge.

Loan Product

DBRS applies risk adjustments to loan products where there is the potential risk of payment shock (i.e. a sharp increase in regular mortgage payments as a result of a change in the interest rate on the loan). Fixed rate (short term) loan products are seen to have the most potential for significant payment shock, as they do not adjust incrementally with increases in the base rate. If interest rates increase during the fixed period, the borrowers become exposed to a substantial and sudden increase in their regular mortgage payments at the time of the switch to standard floating rate. Loans that track the ongoing changes in interest rates over time are not subject to this risk adjustment.

Buy-to-Let (BTL)

DBRS applies additional penalties to any loans that are not for residential owner occupation on the basis that it expects performance of BTL to be inferior to that of residential property in a stressed macro economic environment. DBRS believes that owning and managing a residential investment property/ portfolio requires a borrower to have a higher degree of financial expertise and discipline than are required to own a single property for owner occupation. For example, a landlord has to deal with issues such as legislation, void periods, non-paying tenants, and furnishing. DBRS also expect that in times of significant stress that landlords would stop paying commitments on BTL mortgages prior to commitments on the house that they lived in.

Credit Risk Layering

DBRS makes a base case PD adjustment to account for risk layering within a single mortgage loan; that is, the simultaneous presence of multiple risk factors is assumed to have an adverse effect on PD over and above that predicted by the single multiple associated with each component.

Simultaneous risk elements include combinations of high LTV (indicating minimal borrower down payments), past credit problems (e.g. past CCJ entry), and high loan to income (LTI) ratios and/or self-certification.



Despite the high LTV market, risk layering of the characteristics mentioned above tends to be limited in Prime UK RMBS transactions but is likely to be significant in certain non-conforming transaction.

Flexible Loans

Flexible loans vary markedly in their features; they can offer any one or all of the following features; payment holidays, the repayment of overpaid principal, or the full re-draw back to a re-defined limit. DBRS reviews the specific underwriting policies of the loans being analysed when assessing its opinion of the increased default risk associated with flexible loans.

Loans to Foreign Nationals

Loans to foreign nationals are also not commonly included in most UK RMBS transactions. DBRS considers the treatment of foreign nationals for each transaction.

BORROWER CHARACTERISTICS AND CREDIT RISK

Credit Risk Band and Adverse Credit History

DBRS allocates each loan to a credit risk band. The allocation process is based upon a number of factors including:

- Previous credit impairments as evidenced by County Court Judgements
- Any prior bankruptcy or the equivalent.
- Historical and current arrears on the mortgages.

Depending on the data provided for each of the above factors, DBRS assigns each loan to a credit risk band which ranges from A to E. Credit risk band A is considered the best credit quality and E is considered the worst credit quality. A successively higher default penalty is assigned to each successively higher credit risk band.

Self-Certification

DBRS applies additional penalties to loans where the borrower has not proven stated income levels. The penalty is applied on the basis that (in the absence of any checks) borrowers may be incentivised to overstate their income. DBRS also applies penalties to loans where the lender has elected not to check income levels, often referred to as 'Fast Track' in the UK. DBRS views borrowers who are employed and elect to self-certify their income as particularly risky and penalties are applied accordingly.

Self Employed Borrowers

DBRS employs an additional default penalty to borrowers who are self-employed. DBRS analyses each issuer's underwriting policies with regards to income documentation for self-employed borrowers to determine if further penalties may be warranted as self-employed borrowers' monthly income stream tend to be unsteady.

Loan to Income (LTI)

DBRS applies penalties to certain loans where the borrower's affordability is considered in DBRS opinion to be worse than average. When assessing the application penalties for higher LTIs, DBRS assesses the income that the lender takes into account during the underwriting process. If income is not provided, DBRS assesses a borrower's income based on debt-to-income and other affordability metrics as described in the issuer's underwriting policies.

Single Income

Loans advanced to only one borrower are subject to an increase in default probability as obligors with two income streams tend to show more financial flexibility in periods of economic stress.



Right-to-Buy (RTB)

The RTB scheme was originally introduced in the United Kingdom in 1980. Under the scheme, council tenants and tenants of registered social landlords or housing associations can buy their own homes at a low price, because part of the rent paid over the previous years of tenancy is discounted from the full market value. Borrowers who exercise their RTB typically have more fragile economic backgrounds and are likely to have relied on some form of financial support in the past. As owner-occupiers, however, these borrowers do not receive any additional housing benefit to assist them with their mortgage repayment. For this reason, DBRS considers loans granted on the basis of this scheme as riskier compared with standard mortgage loans.

LOSS GIVEN DEFAULT

In DBRS opinion, the most robust property valuation is by means of a full internal and external inspection by a qualified valuer. The valuation needs to be sufficient to allow the underwriter a comparison of the property in question to that of other comparable properties sold recently. For other valuation methods, such as drive-by valuations, Automated Valuation Models, or desk top valuations, DBRS reduces the stated foreclosure value. The quantum of the valuation adjustment is calculated for each transaction and is based on DBRS assessment of the robustness of the validation procedures implemented by the particular lender. DBRS uses the market value (LTV) in its assessment of loss severity.

TYPICAL MARKET VALUE DECLINES

DBRS assumes the following standard market value declines (MVDs) to the appraised value (or the valuation, post any adjustment) for each rating level for UK RMBS:

AAA	50.3%
AA (high)	44.7%
AA	43.5%
AA (low)	42.5%
A (high)	41.1%
A	40.0%
A (low)	39.0%
BBB (high)	37.2%
BBB	35.2%
BBB (low)	32.7%
BB (high)	31.5%
BB	29.5%
BB (low)	27.8%
B (high)	26.0%
B	25.0%

Costs of Foreclosure

Costs of foreclosure assumptions for RMBS transactions in the UK will be derived on a transaction by transaction basis based on an analysis of transaction specific data provided to DBRS.

Foreclosure Timing

Time to foreclosure assumptions for RMBS transactions in the UK will be derived on a transaction by transaction basis based on an analysis of transaction specific data provided to DBRS.

Indexation

Owing to concerns regarding the timeliness and accuracy of updates to housing indices at a time of stagnating/ falling prices, DBRS does not apply indexation of property values as a matter of routine



in its assessment of loss severity. It applies its MVD to the appraised value (or the valuation, post any adjustment). For seasoned transactions where loans have experienced significant price appreciation or depreciation, DBRS may adjust property values on a case by case basis. In addition, DBRS may also adjust original property valuations on a case by base basis where data provided indicates that observed recovery rates on property foreclosure are lower than expected.

Appendix: UK Loan-Level Risk Adjustments

Risk Characteristic	Characteristic Value	Base Multiple
Credit Risk Band	A	n/a
	B	1.00
	C	2.00
	D	4.00
	E	8.00
Adverse Credit History	CCJs <= GBP 100	1.00
	GBP 100 < CCJs <= GBP 2,000	2.45
	GBP 2,000 < CCJs <= GBP 5,000	2.80
	CCJs > GBP 5,000	3.55
	Prior Bankruptcy/IVA	3.55
Loan-to-Value (LTV)	<=40	0.60
	50	0.80
	60	1.00
	70	1.30
	80	1.65
	90	2.10
	95	2.35
	100	2.65
>=105	3.00	
Employment/Income	Self-Certified Employed	1.75
	Self-Certified Self Employed	1.35
	Fast Track	1.10
	Loan-To-Income > 3.5	1.25
	Single Income	1.25
	Self Employed	1.15
Buy-to-Let	Yes	2.00
Right to Buy	Yes	1.10
Purpose	Debt/Equity Re-mortgage	1.25
Repayment Type	IO	1.35



Term	Repayment Loan >25 yrs	1.20
Loan Size	Jumbo (Region Specific)	1.10
2nd Lien	2nd Ranking Loan	1.50
Loan Product	Tracker (For Life with Teaser)	1.05
	Tracker (Short Term)	1.05
	Discount (Short Term)	1.05
	Fixed (Short Term)	1.10
	Other	1.00



Criteria for RMBS Re-Securitisations in UK

Re-securitisations in the UK can be broadly defined as the repackaging of the cash flows that are due from an RMBS note, selling those cash flows into another special purpose vehicle, adding additional structural features or enhancing current structural features and issuing debt backed by the cash flows.

In this section DBRS details its methodology for analysing re-securitisation transactions backed by RMBS notes in the UK.

The criteria cover transactions where one securitised RMBS note is re-securitised into a new vehicle. The rating analysis includes Part 1 – the manner in which DBRS projects the mortgage pool’s losses for the underlying RMBS transaction; Part 2 – the cash flow modelling assumptions used to review the underlying RMBS transaction and Part 3 – the cash flow modelling assumptions used to review the proposed re-securitisation.

PART 1 - ESTIMATION OF MORTGAGE LOSS ON THE UNDERLYING TRANSACTION.

The first stage in DBRS analysis is to estimate the mortgage loss on the underlying RMBS transaction. The analytical approach adopted by DBRS is dependent on the data that is received;

A) Instances where DBRS has been provided with the loan by loan data tape for the underlying transaction.

If DBRS has received the underlying loan by loan data tape for the underlying RMBS transaction, then the estimation of mortgage loss is undertaken using the DBRS Master European Residential Mortgage-Backed Securities Rating Methodology with specific adjustments for UK mortgages, as detailed on pages 54 to 63 of that addendum.

B) Instances where DBRS has not been provided with the loan by loan data tape for the underlying transaction.

The ability of DBRS to rate a proposed transaction in the absence of loan by loan data depends on the quality and sufficiency of available investor reports in addition to the data sources described below. Typically, investor reporting for UK sub-prime RMBS transactions tends to be amongst the best in European RMBS due to the data being sufficiently stratified and detailed. However, whilst DBRS anticipates that the data contained within the investor reports for the majority of UK subprime transactions will typically be of sufficient quality to facilitate rating a transaction in the absence of loan by loan data, there is a minimum level of detail that is required. DBRS expects the underlying transaction to have at least 3-5 years of investor reporting before it can rely on investor reporting as a surrogate for loan by loan data on the underlying pool.

Examples of data sources considered by DBRS in addition to investor reports may include:

- Aggregate transaction level performance data for the underlying transaction.
- Aggregate transaction level payment data for the underlying transaction.
- Proxy loan by loan data for similar transactions, which may include some or all of the following:
 - Month-by-month payment history for each loan
 - Delinquencies tracked on a monthly or quarterly basis by cohorts for number of months delinquent
 - Defaulted loans and definition of default
- Foreclosure information on similar loans foreclosed.



In circumstances where DBRS concludes that it has sufficient data in order to estimate mortgage loss the following approach is adopted.

Step 1 - Estimation of Portfolio Default Rate

The total lifetime projected default rate for proposed pool is calculated as follows:

Defaults to date + estimate of future defaults = total lifetime defaults.

Step 2 - The estimate of future defaults is calculated using the following table

Arrears Bucket	Assumed Roll rate
90 Days Plus	100%
All Other Loans	Calculated using DBRS Loan by Loan Mortgage Loan Analysis Model

A) 90 Days plus in arrears

DBRS assumes all loans reported as 90 plus days in arrears will default. This assumption is based on an analysis of eighteen thousand UK sub-prime mortgage loans originated in 2007 which showed that the cure rate for loans that have been 90 days in arrears is poor. DBRS calculated that only approximately 14% of loans that were ever 90 or more days in arrears were ‘cured’ (i.e. subsequently ended up less than 3 months in arrears). For loans that were ever three months or more into arrears, therefore, 86% either remained in arrears, were repossessed or prepaid whilst in arrears. Furthermore, as this historical performance data reflected performance in a low interest rate environment, DBRS expects the cure rate to be negligible in more stressful scenarios where refinancing opportunities are limited and higher interest rates prevail.

B) Analysis of the performing pool and early stage delinquency pool

DBRS analyses the loan portfolio that is not 90 days in arrears by simulating the mortgage portfolio using the Master European Residential Mortgage Backed Securities Rating Methodology. DBRS simulates the loan by loan data based on pool data available in investor reports. Consequently DBRS expects the following fields to be reported in investor reports.

- Weighted Average (WA) Loan to value
- WA origination date
- WA maturity
- Stratification of loans by interest rate type
- WA margin of the pool
- % of loans with CCJ >£100
- % of right to buy loans
- % of Loan that are buy-to-let
- % of loans that are owner occupied
- % of loans that are self-certified
- % of loans that are income verified
- % of loans that are flexible (if any)
- % of loans to self-employed borrowers
- % of loans 0-1 month in arrears or % of loans 0-2 months in arrears
- % of loans 1-2 months in arrears
- % of loans 2-3 months in arrears
- % of loans with loans to borrowers with an IVA/Bankruptcy Order.



Simulating the underlying pool in the Loan by Loan Mortgage Loan Analysis Model inevitably means that the analysis lacks a level of detail compared to the analysis if loan by loan data was available. To compensate for this, DBRS may make adjustments to the loan pool with the nature and materiality of the adjustments varying based on the detail that is contained within the investor reports and the loan characteristics of the underlying pool. Each transaction's press release and pre-sale report/rating report will contain details of the adjustments and the rationales for the adjustments made.

DBRS makes an assessment of the two-year default probability of the loans that are not recorded as 90 days in arrears. Although it may be contested that the two-year default probability for a portfolio of loans with two or more years of seasoning where none of the loans are more than 3 months plus in arrears is nil, in reality, as investor reports report only loans that are currently 90 or more days in arrears, rather than loans that were ever 90 days in arrears DBRS makes an assessment of the percentage of the portfolio that may have ever reached 90 days in arrears. This assessment is based on an analysis of loan by loan data that DBRS has obtained from the UK sub-prime market. The data set allows DBRS to project default rates for a mortgage loan portfolio based on a definition of default equal to a loan ever having been more than 90 or more days in arrears. In estimating the two-year default probability for the pool DBRS compares the overall similarity of the underlying transaction that backs the re-securitisation, including both borrower and loan features, to the loan performance data it has gathered from the sub-prime market.

Step 3 - Estimation of Loss Given Default

The market value declines (MVDs) used for re-securitisations are different from the market value declines published in DBRS Master European Residential Mortgage-Backed Securities Rating Methodology. The market value declines are assumed to be higher for re-securitisations to account for the use of transaction level data from investor reports versus detailed visibility of the following relevant features:

- Type of valuation (surveyor, drive by, indexation etc.)
- Quality and oversight of the valuation process
- The property types in the portfolio
- Exposure to illiquid properties (higher and low value properties)
- The servicing procedures and their impact on the forced sale adjustment

DBRS typically assumes the following:

Rating Scenario	Market Value Decline Assumption
AAA	64.700%
AA (high)	59.100%
AA	57.900%
AA (low)	56.900%
A (high)	55.500%
A	54.400%
A (low)	53.400%
BBB (high)	51.600%
BBB	49.600%
BBB (low)	47.100%
BB (high)	45.900%
BB	43.900%
BB (low)	42.200%
B (high)	40.400%
B	39.400%



The MVDs above have been derived from data from repossession data from UK sub-prime RMBS originations and incorporate general house price declines, adjustments for a forced sale in a stressed environment and estimates of costs incurred in selling property.

Loss Given Default is calculated as the average valuation for the pool multiplied by the MVD for the rating category. This gives a value for the collateral in the pool. This is divided by the loan amount.

Portfolio Expected Loss for each rating level is calculated as Portfolio Default Rate*Loss Given Default

Note that for the purposes of cash flow modelling for each transaction, adjustments are made to the Portfolio Default Rate in situations where amortisation of the pool has occurred.

PART 2 – CASH FLOW MODELING OF THE UNDERLYING RMBS TRANSACTION.

From the analysis explained in Part 1 DBRS arrives at a Portfolio Default Rate and a Loss Given Default expectation for each rating level. Following this part of the rating analysis, DBRS performs cash flow modelling of the underlying RMBS transaction using its standard stresses explained in the main body of the DBRS Master European Residential Mortgage-Backed Securities Rating Methodology the DBRS Unified Interest Rate Model Methodology for interest rate stresses.

Cash Flow Stress	Description of stresses	Number of scenarios
Prepayments	Slow / Mid / Fast	3
Interest Rates	Rising / Stable	2
Default timing	Front loaded / back loaded	2
Total Number of Cash Flow Modelling Scenarios per rating level	-	12

PART 3 - CASH FLOW MODELING OF THE RE-SECURITISATION.

The outcome of the analysis undertaken in Part 2 forms the basis of the cash flow analysis on the new securitisation vehicle.

Each of these cash flow scenarios represents the estimated income in the given scenario for the re-securitisation asset. As the stress scenarios already factor in interest rate stresses and payments on the underlying bond are contractual, no further stresses are applied to the income from the underlying assets.

DBRS runs standard interest rate stresses as described in the DBRS Unified Interest Rate Model Methodology on the liability cash flows of the re-securitisation vehicle.

Depending on the structure and hedging arrangements DBRS may run additional stresses which are disclosed in each transaction's press release and pre-sale/rating report.



*Master European Residential
Mortgage-Backed Securities
Rating Methodology:
Addendum - Belgium*



Belgian Residential Mortgage Addendum

This report details the specific risks of Belgian residential mortgages and DBRS analytical treatment of these risks when projecting default probability, loss given default and expected losses for such loans. The addendum can also be applied to the analysis of cover pools in covered bond transactions backed by residential loans in Belgium.

As noted in the master methodology, DBRS RMBS loss analysis is divided into two distinct segments. The first segment determines the probability of default of each underlying borrower which is then aggregated to derive a pool level default probability. The second segment of the analysis derives the estimated loss given default of each mortgage followed by an aggregation to an overall pool level loss projection. The product of the default probability and loss given default gives the total expected losses for the pool.

Belgian Mortgage Market

The Belgian market tends to be a long term fixed rate market with the bulk of lending being offered for owner occupation, rather than for investment/rental purposes. Although lending to self-certified borrowing is not unheard of, the vast majority of lending is to income-verified employed borrowers. Likewise, lending to self-employed borrowers tends to be done on a conservative basis with income and affordability typically needing to be supported by documentary or other verifiable evidence. Overall origination volumes in Belgium are dominated by four large banks (KBC Bank, ING, Dexia and Delta Lloyd).

According to data from 'Statistics Belgium', house prices showed positive nominal growth throughout the past decade except for a brief period in 2009. Since 2009 house prices have reversed minor losses from this period and prices movements are now positive. Whilst the factors that have influenced the wider European mortgage market (low interest rates and increased credit availability) have impacted the Belgian market, the market is also affected by a number of idiosyncratic factors.

Firstly, according to data from obtained by DBRS, Belgium has owner-occupation levels that are higher than neighbouring European countries at 71%, compared to 55% for France and 53% for the Netherlands. This is partly as a result of the house price growth over the last decade outstripping the commensurate growth in rental return. It is also influenced by the fact that Belgium has very high property purchase transaction costs (both buying and selling property) relative to other European jurisdictions. DBRS understands that purchase costs are routinely in the range of 10-20% of the property cost. Both these factors combined have meant that investment in property for speculative purposes is relatively unattractive as the rental yield is, comparative to other European jurisdictions, low, and day one cash outlay is high.

Secondly, the tax amnesty (Declaration Libératoire Unique – DLU), introduced in December 2003, led to money that had been held outside Belgium being repatriated. Consequently, an element of this repatriated capital was spent on real estate assets, including residential property. This caused a spike in house prices during the period through to 2005. However, whilst house prices in Belgium showed significant appreciation in the past decade, the market, generally, is categorised by lower volatility than is seen in certain other European jurisdictions..

MORTGAGE PRODUCTS AND CHARACTERISTICS

In Belgium fixed rate mortgages represent the majority of the market and the majority of the loans have a fixed rate of interest for 10 years or more or for the entire term of the loan. Variable rate loans also feature



and differ from the completely variable rate loans found in other jurisdictions in that their variability is restricted by caps and floors in the interest rate. Rate caps offer borrowers some protection from spikes in interest rates by limiting the potential mortgage payments due by borrowers regardless of prevailing interest rates.

The mechanics of the Belgian mortgage market means that idiosyncratic mortgage products have evolved.

ALL MONIES MORTGAGES

Under the terms of this product, the residential property acts as security for a range of different borrowings of the borrower, which can include borrowings made for personal consumption or debt consolidation as well as for purchasing a property for residential purposes. The ranking of rights to the security prior to securitisation is equal, and therefore the loan for residential purposes ranks pro-rata with all other loans secured on that property pursuant to the all-monies mortgage. However, it is typical that, under Belgian law, once a loan is securitised, all loans provided to the borrower after closing of the securitisation transaction, rank junior to a securitised loan.

MORTGAGE MANDATES

As mentioned earlier the transaction costs of buying residential property in Belgium are high and as a consequence of this the Belgian market has developed certain structural features in an attempt to mitigate the overall cost of residential property transactions. Two types of loan are possible:

- A registered mortgage
- A notary mandate

As stamp duty is only payable on the registered mortgage, the use of a mortgage mandate lowers the overall cost to the borrower. The notary mandate is an agreement between the borrower or a party closely linked to the borrower that commits the borrower not to take out any further liens on the property. In the event of default the mandate can be converted into a mortgage and the security would be perfected.

A further complexity of the mortgage mandate is that following securitisation it is possible that the mandate cannot be legally converted into a mortgage, therefore leaving the amounts that are covered by the mortgage mandate as unsecured borrowings. In absence of legal comfort that mortgage mandates constitute effective security DBRS treats them as unsecured loans in its loss analysis.

DBRS default probability estimates are driven by the current loan-to-value (LTV) of a loan and in its analysis takes into account the combined value of the registered mortgage and any mortgage mandate when estimating the default probability of an individual borrower.

MULTIPLE LOAN PARTS AND SHARED SECURITY.

A further complexity of the Belgian market is that it is common for multiple mortgage parts to be secured by one property and for one or more loan parts to be secured by more than one property. In such situations DBRS requests data to be provided that allows calculation of the overall position of the borrower with respect to the security.

SET-OFF RISK

Deposit Set-off

Under Belgian law, debts which are due and payable between a borrower and a lender can be set-off. In the case of securitised mortgage loans, a borrower will typically not be notified of the assignment of the seller's rights against the borrower. Belgian law allows for set-off by the borrower until the date the borrower is notified of the assignment.



Belgium has a deposit guarantee scheme which guarantees a deposit up to EUR100,000 per depositor per bank. In the event of insolvency of a bank, a borrower would still have the right of set-off for any amounts due and payable by the bank over and above the deposit guarantee amount of EUR100,000.

In Belgium set-off by a borrower is also possible post insolvency of a bank if due and payable debts are judged to be closely linked. Please refer to the Belgian addendum to the DBRS Legal Criteria for European Structured Finance Transactions.

CONSTRUCTION DEPOSITS

In addition, set-off risk exists for construction deposits. Construction deposits are loan amounts that have been advanced by the lender to either build or improve a property, but have not yet been fully released to the borrower. If the initial seller were to go insolvent prior to the release of the remaining loan to the borrower, the borrower would not be considered to be liable for the full outstanding loan amount. The borrower could then set-off the un-drawn loan on deposit (the construction deposit) against the full outstanding loan amount. In order to mitigate this risk, the balance of the construction loans is retained at the asset purchaser level, as opposed to being paid in full to the seller. Typically, this amount is only disbursed to the seller once the borrower draws fully on the loan, and as such removes the set-off risk associated with the construction deposits.

DBRS requests an estimation of set-off for each transaction and will assume that, in absence of any structural mitigant, the potential loss posed by possible set-off is treated as a loss of principal in its analysis.

Data Request

When estimating mortgage losses for a pool of residential mortgage assets originated in the Belgium, DBRS requests static pool performance data from each issuer requesting a rating. This data is expected to be representative of the asset pool that is to collateralise the proposed residential mortgage-backed securitisation or covered bond programme. DBRS prefers data that is stratified by product type and/or by loan to value. If various vintages show markedly different performance relative to each other, DBRS assesses the reasons for such performance. For more details please refer to page 7 of the main report.

PROBABILITY OF DEFAULT ANALYSIS

Benchmark Two-Year Probability of Default Estimate

DBRS calculates the benchmark two-year Probability of Default (PD) for each pool based on historical issuer specific data. The calculation of the two-year PD is typically weighted by the corresponding two-year PD for that particular year of origination. For example, if the origination vintages of a pool being analysed were evenly distributed across four years (for example 2004, 2005, 2006 and 2007), DBRS calculates the two-year PD for each vintage of historical data and applies the respective calculations to the vintage weighting.

Example:

	% of Pool	2-Yr PD
2004	25%	1.00%
2005	25%	1.50%
2006	25%	2.50%
2007	25%	3.00%
Estimated Pool Two-Year PD		2.00%



Mortgage Loan and Product Specific Default Penalties

Having established a two-year PD for a particular issuer, DBRS then applies borrower-, and mortgage loan characteristic specific default penalties to each loan to arrive at a base case two-year PD. The list of typical assumptions used when assessing default risk in Belgian residential mortgages appears at the end of this addendum. However, the numbers presented are not prescriptive and the actual figures used may differ by transaction. The default penalties used for the analysis of Belgian mortgages were validated by performance data outside of the jurisdiction. As a result, DBRS conducts additional analysis of issuer vintage performance data as a reasonableness check against the base case portfolio default rate. In the absence of loan level data for historical performance, DBRS assesses the origination trends and underwriting guidelines of the issuer to estimate a portfolio default rate of the underlying pool. In cases where deemed necessary, DBRS adjusts the base case portfolio default rate accordingly. Disclosure of the assumptions used for each transaction is available on www.dbrs.com.

MORTGAGE LOAN CHARACTERISTICS

Loan-to-Value (LTV)

LTV is the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The input used by DBRS in the default model is the LTV at the time of securitisation (current balance over original valuation).

For loans where a credit limit is approved for a borrower, the credit limit amount is considered for the calculation of LTV, assuming a full draw down under the limit. For loans where the loan amount provided to the borrower can increase based on the security i.e. mortgage plus security mandates, the loan amount assumed for the LTV calculation would equal the value of the mortgage plus any security mandates. DBRS thus assumes the loan amount to equal the maximum amount drawable by the borrower, under both the above cases, for calculation of LTV.

Subsidised Mortgages

Subsidised loans are rare in Belgium. Notwithstanding this, DBRS considers loans granted on the basis of government subsidies or other forms of support as riskier compared with standard mortgage loans due to the intrinsic weaker profile of the borrower that such subsidies imply.

Loan Purpose

Increased default penalties are applied to loans where the loan is for debt consolidation of unsecured borrower debt. DBRS reviews underwriting procedures and product specifications to assess whether, in its opinion, a particular loan product has been used to fund lifestyle expenditures rather than to fund acquisition of residential property to inhabit.

Repayment Type:

There are additional risks associated with Interest Only loans:

i) Balloon Payment

Penalties apply for loans where there is a complete absence of a repayment vehicle or where the repayment vehicle will not be sufficient to repay all of the capital of a loan at maturity. DBRS considers the terms of the repayment vehicle and optionality on the part of the borrower to pay into the vehicle when assessing whether to increase default probability for such product. DBRS requests details of borrowers who are in arrears with payments to their repayment vehicle for the purposes of its initial rating and also for surveillance purposes.

ii) Stretching Income

As Interest Only loans have lower instalment payments as compared with repayment loans, there is risk that borrowers taking out Interest Only loans may in reality be unable to afford a repayment loan.



The Interest Only penalty in the DBRS loan-by-loan default model is designed to cover both risks. DBRS views ‘part and part’ loans (loans where part of the balance is part repayment and part interest only) as Interest Only loans.

Loan Term

DBRS applies a penalty for loan terms that are longer than typically seen in the market if it concludes that the reason for such a long loan term is to arbitrage affordability assessments made at the time of underwriting. DBRS assumes that this is the case unless there is detailed credit rationale for longer than average loan terms.

Second Lien

DBRS applies penalties to second lien loans where it is of the opinion that the second lien is being utilised as a financing tool by the borrower for personal consumption rather than for the purchase of the property.

Loan Product

DBRS applies risk adjustments to loan products where there is the potential risk of payment shock (i.e. a sharp increase in regular mortgage payments as a result of a change in the interest rate on the loan). Fixed rate (short term) loan products are seen to have the most potential for significant payment shock, as they do not adjust with increases in the base rate. If interest rates increase during the fixed period, the borrowers become exposed to a substantial increase in their regular mortgage payments at the time of the switch to standard floating rate. Loans that track the ongoing changes in interest rates over time are not subject to this risk adjustment.

Belgian lenders do offer a loan type where the monthly repayments increase over a period of time wherein the principal repayment increases and the interest portion of the monthly repayment decreases. Such progressive increase in repayments expose the borrower to payment shock and thus DBRS applies a PD adjustment to account for the higher risk of default for this mortgage product.

Investment Properties

DBRS applies additional penalties to any loans that are not for residential owner occupation on the basis that it expects performance of BTL to be inferior to that of residential property in a stressed macro-economic environment. DBRS believes that owning and managing a residential investment property/ portfolio requires a borrower to have a higher degree of financial expertise and discipline than is required to own a single property for owner occupation. For example, a landlord has to deal with issues such as legislation, void periods and non-paying tenants. DBRS also expects that in times of significant stress landlords would stop paying commitments on BTL mortgages prior to commitments on the house that they lived in.

Credit Risk Layering

DBRS makes a base case PD adjustment to account for risk layering within a single mortgage loan; that is, the simultaneous presence of multiple risk factors is assumed to have an adverse effect on PD over and above that predicted by the single multiple associated with each component.

Simultaneous risk elements include combinations of high LTV (indicating minimal borrower down payments), past credit problems (e.g. credit register entry), and high loan to income (LTI) ratios and/or self-certification.

Despite the high LTV market, risk layering of the characteristics mentioned above tends to be limited in Belgium.

Construction Loans

Typically the lender will withhold the full loan amount on proviso that certain construction works are performed. When there is satisfactory evidence that the work has been completed (usually in the form of



an appraiser's certification) the lender will advance the remaining balance of the loan. There are a number of risks associated with construction loans. The most pertinent risk is the dissatisfaction of the borrower regarding the work product upon completion and the risk the borrower attempts to withhold payment or renege on the mortgage contract.

Flexible Loans

Flexible loans are not common in Belgium, but where encountered, may vary markedly in their features. Certain flexible loans allow payment holidays, others allow for the repayment of overpaid principal, while other types of flexible loans allow for lower monthly payments initially which increase across the tenure of the loan. DBRS reviews the specific underwriting policies of the loans being analysed when assessing its opinion of the increased default risk associated with flexible loans.

Loans to Foreign Nationals

DBRS considers the treatment of foreign nationals for each transaction separately based on the degree of scrutiny employed in the underwriting process.

BORROWER CHARACTERISTICS AND CREDIT RISK

Credit Risk Band and Adverse Credit History

DBRS allocates each loan to a credit risk band. The allocation process is based upon a number of factors including:

- Previous credit impairments as evidenced by central individual credit register.
- Any prior bankruptcy or the equivalent.
- Historical and current arrears on the mortgages.

Depending on the data provided for each of the above factors, DBRS assigns each loan to a credit risk band which ranges from A-E. Credit risk band A is considered the best credit quality with E considered the worst credit quality. A successively higher default penalty is assigned to each successively higher credit risk band.

Self-Certification

DBRS applies additional penalties to loans where the borrower has not proven stated income levels. The penalty is applied on the basis that (in the absence of any checks) borrowers may be incentivised to overstate their income. DBRS also applies penalties to loans where the lender has elected not to check income levels.

Self Employed Borrowers

DBRS employs an additional default penalty to borrowers who are self-employed. DBRS analyses each issuer's underwriting policies with regards to income documentation for self-employed borrowers to determine if further penalties may be warranted as self-employed borrowers' monthly income stream tend to be unsteady.

Loan to Income (LTI)

DBRS applies penalties to certain loans where the borrower's affordability is considered in DBRS opinion to be worse than the average. When assessing the application penalties for higher LTIs, DBRS assesses the income that the lender takes into account during the underwriting process. If income is not provided, DBRS assesses a borrower's income based on debt-to-income and other affordability metrics as described in the issuer's underwriting policies.

Single Income

Loans advanced to only one borrower are subject to an increase in default probability as obligors with two income streams tend to show more financial flexibility in periods of economic stress.



LOSS GIVEN DEFAULT

In DBRS opinion, the most robust mortgage valuation is by means of a full internal and external inspection by a qualified valuer. The valuation needs to be sufficient to allow the underwriter a comparison of the property in question to that of other comparable recently sold properties. For other valuation methods, such as drive-by valuations, Automated Valuation Models, or desk top valuations, DBRS reduces the stated foreclosure value. The quantum of the valuation adjustment is calculated for each transaction and is based on DBRS assessment of the robustness of the validation procedures implemented by the particular lender. DBRS uses the LTV in its assessment of loss severity.

TYPICAL MARKET VALUE DECLINES

DBRS assumes the following standard market value declines (MVDs) to the appraised value (or the valuation, post any adjustment) for each rating level for Belgian RMBS:

Rating Scenario	Market Value Decline Assumption
AAA	52.80%
AA (high)	46.92%
AA	45.66%
AA (low)	44.61%
A (high)	43.14%
A	41.99%
A (low)	40.94%
BBB (high)	39.05%
BBB	36.95%
BBB (low)	34.33%
BB (high)	33.07%
BB	30.97%
BB (low)	29.18%
B (high)	27.29%
B	26.24%

Costs of Foreclosure

Standard costs of foreclosure in Belgium are assumed to be a fixed cost of €5,000. For loans which have a mortgage mandate an additional cost is incurred which is 2% of the mortgage mandate required to be converted to a registered mortgage. DBRS requests lender specific data for each transaction to assess if a different cost of foreclosure assumptions is required.

Foreclosure Timing

DBRS assumes that the typical time it takes to take possession of, sell and realise the cash from the sale of residential a property in Belgium is 24 months from the point of first arrears. This assumption is standard to both loans where the recovery is solely from the sale of the property.

DBRS requests lender specific data on both the time it takes to enact foreclosure proceedings and sell a property for each transaction to assess if a transaction specific adjustment is warranted.

Indexation

Owing to concerns regarding the timeliness and accuracy of updates to housing indices at a time of stagnating/ falling prices, DBRS does not apply indexation of property values as a matter of routine in its assessment of loss severity. It applies its MVD to the appraised value (or the valuation, post any adjustment). For seasoned transactions where loans have experienced significant price appreciation or



depreciation, DBRS may adjust property values on a case-by-case basis. In addition, DBRS may also adjust original property valuations on a case-by-case basis where data provided indicates that observed recovery rates on property foreclosure are lower than expected.

Appendix: Belgium Loan-Level Risk Adjustments

Risk Characteristic	Characteristic Value	Base Multiple
Loan-to-Value	<=40	0.60
	50	0.80
	60	1.00
	70	1.30
	80	1.65
	90	2.10
	95	2.35
	100	2.65
	>=105	3.00
Loan Purpose	Debt/Equity Re-Mortgage	1.25
Repayment Type	IO	1.35
Loan Term	>25 Years	1.20
Second Lien	2nd Ranking Loan	1.50
Credit Risk Layering	LTV>=95 & Self Cert/High LTI	1.35
	LTV>=90 & Prior DQ	1.75
	LTV>=90 & Prior DQ & Self Cert/High LTI	1.85
Credit Risk Band	A	1.00
	B	1.00
	C	2.00
	D	4.00
	E	8.00
Employment/Income	Self-Certification (Employed)	1.75
	Self-Certification (Self-Employed)	1.35
	Self-Employed	1.15
	Loan-to-Income > 3.5	1.25
	Single Income	1.25



*Master European Residential
Mortgage-Backed Securities
Rating Methodology:
Addendum - France*



French Residential Mortgage Addendum

This addendum details the specific risks of French residential mortgages and DBRS analytical treatment of these risks when projecting default probability, loss given default and expected losses for such loans. The addendum can also be applied to the analysis of cover pools in covered bond transactions backed by residential loans in France.

As noted in the master methodology, DBRS RMBS loss analysis is divided into two distinct segments. The first segment determines the probability of default of each underlying borrower which is then aggregated to derive a pool level default probability. The second segment of the analysis derives the estimated loss given default of each mortgage followed by an aggregation to an overall pool level loss projection. The product of the default probability and loss given default gives the total expected losses for the pool. For details on DBRS methodology on European RMBS cash flow modelling please refer to page 19 of the master methodology.

French Mortgage Market

The overall trend of the French mortgage market in the period leading up to the onset of the financial crisis in 2007 was similar to that of other European mortgage markets with both demand for mortgage credit and house prices seeing steady and significant rises throughout the period. The catalyst for this growth in France was the overall decrease in interest rates throughout the 1990s and through to the 2000s. This increased the availability and reduced the cost of mortgage credit and made progressively larger loans affordable. Long term interest rates that were in the high teens in the early 1980s declined steadily to the point where current rates are just above 3%. Outstanding household debt as a percentage of gross domestic product (GDP) has increased over the last decade, but housing expenses as a percentage of disposable income have hovered around 20% due to the low interest rate environment, according to data from General Council Of The Environment And Sustainable Development.

According to data from Insee the housing market in France is characterised by owner-occupation levels that are lower than other European countries at approximately 56%, compared to a European average of approximately 60%. The French Government has made various attempts to encourage home ownership in France, most recently with the 'prêt à taux zero' (interest-free mortgage). The eligibility for the prêt à taux zero is restricted to certain types of buyers, such as first-time buyers and buyers with qualifying income below a certain level. Furthermore, the loan cannot be used to finance the entire property.

French home prices experienced steady, but non dramatic gains leading up to 2003 when annual home price growth increased to over 10%, peaking above 17% in 2005, subsequently slowing down before registering negative rates in 2009.

By late 2009 prices had fallen approximately 10% from the peak of early 2008 before showing positive growth again in mid-2010. Since then, French house prices have shown remarkable resilience and have started to appreciate once again, approaching double digit gains in 2011. Although there have been concerns of a speculative bubble in French housing based on the high and volatile levels of home price appreciation since the late 1990s, a lack of housing stock and strong economic fundamentals have helped support the quick rebound in price.

The French mortgage market is dominated by the high street banks that offer standard mortgage products at very low cost in order to lock in long term banking clients. There has, however, been a growing trend in recent years of specialist centralised lenders with no branch network originating loans through brokers.



SET-OFF RISK

There is the potential for set-off risk in French transactions in the case of insolvency of the originator. A borrower may invoke the right to set-off in respect of amounts due and payable to the borrower from the originator at the date of assignment of the loan to the issuer. DBRS requests an analysis of the amount of potential set-off for each transaction and makes adjustments to the loss analysis by transaction based on the estimated amount of potential set-off exposure. Please refer to the French addendum to DBRS Legal criteria for Structured Finance Transactions for further information on set-off in France.

Data Request

When estimating mortgage losses for a pool of residential mortgage assets originated in France, DBRS requests static pool performance data from each issuer requesting a rating. This data is expected to be representative of the asset pool that is to collateralise the proposed residential mortgage-backed securitisation or covered bond programme. DBRS prefers data that is stratified by product type and/or by loan to value. If various vintages show markedly different performance relative to each other, DBRS assesses the reasons for such performance. For more details please refer to page 7 of main report.

PROBABILITY OF DEFAULT ANALYSIS

Benchmark Two-Year Probability of Default Estimate

DBRS calculates the benchmark two-year Probability of Default (PD) for each pool based on historical issuer-specific data. The calculation of the two-year PD is typically weighted by the corresponding origination volume for that particular year of origination. The two-year PD concentration for a particular transaction is calculated by DBRS using the loan-by-loan data tape, or by reference to portfolio level stratifications provided for a particular transaction. For example, if the origination vintages of a pool being analysed were evenly distributed across four years (for example 2004, 2005, 2006 and 2007), DBRS calculates the two-year PD for each vintage of historical data and applies the respective calculations to the vintage weighting.

Example:

	% of Pool	2-Yr PD
2004	25%	1.00%
2005	25%	1.50%
2006	25%	2.50%
2007	25%	3.00%
Estimated Pool Two-Year PD		2.00%

Mortgage Loan and Product Specific Default Penalties

Having established a two-year PD for a particular transaction, DBRS then applies borrower, mortgage loan and property characteristics specific default penalties to each loan to arrive at a base case two-year PD. The list of typical assumptions used when assessing default risk in French residential mortgages appears at the end of this addendum. The numbers presented are not prescriptive and the actual figures used may differ by transaction. The default penalties used for the analysis of French mortgages were validated by performance data outside of the jurisdiction. As a result, DBRS conducts additional analysis of issuer vintage performance data as a reasonableness check against the base case portfolio default rate. In cases where deemed necessary, DBRS adjusts the base case portfolio default rate accordingly. Disclosure of the assumptions used for each transaction is available on www.dbrs.com.



MORTGAGE LOAN CHARACTERISTICS

Loan-to-Value (LTV)

LTV is the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The input used by DBRS in the default model is the LTV at the time of securitisation (current balance over original valuation).

Loan Purpose

Increased default penalties are applied to loans where the loan is for debt consolidation of non-secured lending. DBRS reviews underwriting procedures and product specifications to assess whether, in its opinion, a particular loan product has been used to fund lifestyle expenditures rather than to fund acquisition of residential property to inhabit.

Repayment Type:

Interest-only loans in France tend to be of the short term nature, typically 3 years or less, and a small percentage of total originations. The loans have the risk of a balloon payment at maturity, and additionally are viewed as having more risk than a fully amortising loan due to the payment shock at the end of the interest-only period.

Loan Term

DBRS applies a penalty for loan terms that are longer than typically seen in the market if it concludes that the reason for such a long loan term is to arbitrage affordability assessments made at the time of underwriting unless the issuer provides a credit rationale for longer than average loan terms.

Second Lien

DBRS applies penalties to all second lien loans where it views the additional loan as a second charge rather than a further advance and the loan has a junior security position. Characteristics that may indicate that a loan is in character a second charge are the interest rate on the latest advance is higher than that of other previous advances, the loan term is shorter or the product is underwritten to materially different criteria to that of the earlier senior charge.

Loan Product

DBRS applies risk adjustments to loan products where there is the potential risk of payment shock (i.e. a sharp increase in regular mortgage payments as a result of a change in the interest rate on the loan). Fixed rate (short term) loan products are seen to have the most potential for significant payment shock, as they do not adjust with increases in the base rate. If interest rates increase during the fixed period, the borrowers become exposed to a substantial increase in their regular mortgage payments at the time of the switch to standard floating rate.

Investment Properties

DBRS applies additional penalties to any loans that are not for residential owner occupation on the basis that it expects performance of investment properties to be inferior in terms of performance to residential properties in a stressed macro-economic environment. DBRS believes that owning and managing a residential investment property/portfolio requires a borrower to have a higher degree of financial expertise and discipline than is required to own a single property for owner occupation. For example, a landlord has to deal with issues such as legislation, void periods, non-paying tenants. DBRS also expect that in times of significant stress landlords would stop paying commitments on investment property mortgages prior to commitments on the house in which they reside.

Credit Risk Layering

DBRS makes a base case PD adjustment to account for risk layering within a single mortgage loan; that is, the simultaneous presence of multiple risk factors is assumed to have an adverse effect on PD over and above that predicted by the single multiple associated with each component.



Simultaneous risk elements include combinations of high LTV (indicating minimal borrower down payments), past credit problems (e.g. prior arrears), and high loan to income (LTI) ratios and/or self-certification.

Flexible Loans

Flexible loans are not common in France. However, where encountered, they can vary markedly in their features. Certain flexible loans allow payment holidays, others allow for the repayment of over paid principal, while other types of flexible loans allow for the full re-draw back to a pre-defined limit. DBRS reviews the specific underwriting policies of the loans being analysed when assessing its opinion of the increased default risk associated with flexible loans.

Loans to Foreign Nationals

Loans to foreign nationals are allowed under French law although they tend not to be a material component of French RMBS transactions. DBRS believes that these types of loans pose greater risk, all other things being equal, than loans to established French nationals. This is because, firstly, the credit profile of the borrower may be lacking in detail or history relative to a borrower who has been established in the country for a longer period. Consequently, there is a possibility that, even if a less complete picture is compensated for in the origination process by factors such as lower LTV lending, that the risk, as measured by probability of default, is higher. In addition, DBRS believes that there is potential for foreign nationals to repatriate themselves in a situation where a property enters negative equity, thus leading to default. As the strength of the underwriting process is critical in mitigating risks associated with lending to foreign nationals the scale of the penalty may vary by transaction

BORROWER CHARACTERISTICS AND CREDIT RISK

Credit Risk Band and Adverse Credit History

DBRS allocates each loan to a credit risk band. The allocation process is based upon a number of factors including:

- Any prior bankruptcy or the equivalent.
- Historical and current arrears on the mortgages.

Depending on the data provided for each of the above factors, DBRS assigns each loan to a credit risk band which ranges from A-E. Credit risk band A is considered the best credit quality with E considered the worst credit quality. A successively higher default penalty is assigned to each successively higher credit risk band.

Self-Certification

DBRS applies additional penalties to loans where the borrower has not proven stated income levels. The penalty is applied on the basis that (in the absence of any checks) borrowers may be incentivised to overstate their income. DBRS also applies penalties to loans where the lender has elected not to check income levels.

Self-Employed Borrowers

DBRS applies an additional default penalty to borrowers who are self-employed. DBRS analyses each issuer's underwriting policies with regards to income documentation for self-employed borrowers to determine if further penalties may be warranted as self-employed borrowers' monthly income streams tend to be more volatile than for those in employment.

Loan to Income (LTI)

DBRS applies penalties to certain loans where the borrower's affordability is considered in DBRS opinion to be worse than the average. When assessing the application penalties for higher LTIs, DBRS assesses the income that the lender takes into account during the underwriting process. If details of income are not



provided, DBRS assesses a borrower's income based on debt-to-income and other affordability metrics as described in the issuer's underwriting policies.

Single Income

Loans advanced to only one borrower are subject to an increase in default probability as obligors with two income streams tend to show more financial flexibility in periods of economic stress.

LOSS GIVEN DEFAULT

In DBRS opinion, the most robust mortgage valuation is by means of a full internal and external inspection by a qualified valuer. The valuation needs to be sufficient to allow the underwriter a comparison of the property in question to that of other comparable recently sold properties. For other valuation methods, such as drive-by valuations, Automated Valuation Models, or desktop valuations, DBRS reduces the stated market value. The quantum of the valuation adjustment is calculated for each transaction and is based on DBRS assessment of the robustness of the validation procedures implemented by the particular lender.

TYPICAL MARKET VALUE DECLINES

DBRS assumes the following standard market value declines (MVDs) to the appraised value (or the valuation, post any adjustment) for each rating level for French RMBS:

Rating Scenario	Market Value Decline Assumption
AAA	55.300%
AA (high)	49.700%
AA	48.500%
AA (low)	47.500%
A (high)	46.100%
A	45.000%
A (low)	44.000%
BBB (high)	42.200%
BBB	40.200%
BBB (low)	37.700%
BB (high)	36.500%
BB	34.500%
BB (low)	32.800%
B (high)	31.000%
B	30.000%

Costs of Foreclosure

DBRS requests lender specific data for each transaction to assess whether different cost of foreclosure assumption should be used..

Foreclosure Timing

DBRS requests lender specific data on both the time it takes to enact foreclosure proceedings and sell a property to assess if a transaction specific adjustment is warranted. Therefore, assumptions on the time to foreclosure may vary by transaction and disclosed in DBRS rating commentary.

Indexation

Owing to concerns regarding the timeliness and accuracy of updates to housing indices at a time of stagnating/falling prices DBRS does not apply indexation of property values, as a matter of routine,



in its assessment of loss severity. It applies its MVD to the appraised value (or the valuation, post any adjustment). For seasoned transactions where loans have experienced significant price appreciation or depreciation, DBRS may adjust property values on a case-by-case basis. In addition, DBRS may also adjust original property valuations on a case-by-case basis where data provided indicates that observed recovery rates on property foreclosure are lower than expected.

Appendix: French Loan-Level Risk Adjustments

Risk Characteristic	Characteristic Value	Base Multiple
Loan-to-Value	<=40	0.60
	50	0.80
	60	1.00
	70	1.30
	80	1.65
	90	2.10
	95	2.35
	100	2.65
	>=105	3.00
Loan Purpose	Debt/Equity Re-Mortgage	1.25
Repayment Type	IO	1.35
Loan Term	>25 Years	1.20
Second Lien	2nd Ranking Loan	1.50
Credit Risk Layering	LTV>=95 & Self Cert/High LTI	1.35
	LTV>=90 & Prior DQ	1.75
	LTV>=90 & Prior DQ & Self Cert/High LTI	1.85
Credit Risk Band	A	1.00
	B	1.00
	C	2.00
	D	4.00
	E	8.00
Employment/Income	Self-Certification (Employed)	1.75
	Self-Certification (Self-Employed)	1.35
	Self-Employed	1.15
	Loan-to-Income > 3.5	1.25
	Single Income	1.25

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