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## Criteria for Rating Italian Residential Mortgage-Backed Securities

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This article aims to provide a comprehensive description of Standard & Poor's criteria for rating securities supported by residential mortgages originated in Italy. Standard & Poor's approach is based on a detailed analysis of Italian mortgage originators' underwriting and servicing procedures, the performance of residential mortgages in the Italian market, and the surveillance of Italian RMBS transactions set up according to Italian Law 130/99 (the Italian Securitization Law).

The first part of this article offers a general overview of the Italian residential-mortgage market. The second presents the analytical approach taken by Standard & Poor's in assessing the credit quality of a portfolio of residential mortgage loans originated in Italy.

### Overview of the Italian Residential Mortgage Market

The Italian residential mortgage market was among the smallest in Western Europe for many years. It experienced significant growth in the second half of the 1990s--a period in which economic recovery followed the recession of the early years of the decade and structural changes (such as banking reform) took place. Though the market is expected to continue growing, it remains small in comparison with some markets in Western European.

Historically, social and economic factors have inhibited any significant growth in the size of the market. In particular, the negative perception of debt financing by Italian consumers, the propensity to live in the family home until marriage, and the low propensity for moving from the home town, together with the traditional low LTV ratio granted by lenders and the burden represented by the high taxes and duties on house purchases, have effectively caused the Italian residential mortgage market to remain limited in size.

During the 1990s, many of these factors began to change as a result of economic developments, legislative reforms, and demographic change. Italy's participation in the EMU, which contributed to the stabilization of inflationary rates and the reduction of interest rates, and a new mortgage law that liberalized the mortgage market allowing the entrance of new domestic and international competitors, played a key role in increasing the willingness among Italian consumers to make use of personal credit products, such as residential mortgages.

After this growth, the Italian mortgage market ranks fifth in Western Europe. Not surprisingly, about 60% of the market is in the northeastern and northwestern Italian regions, which are economically more attractive and developed, and which constantly experience a greater pace of growth on a year-to-year basis, despite being less populous than the regions in southern Italy.

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### Mortgage Lenders

The mortgage market went through great reform in 1993, when new mortgage legislation was introduced. Previously, only specialized mortgage credit institutions could grant residential mortgage loans. Unlike the retail banks, which were typically short-term lenders, the specialized institutions were

allowed to lend money only on a long-term basis. It was via these "istituti di credito fondiario", which in most cases were owned by Italian deposit-taking institutions, that the retail banks could extend mortgage loans to their clients.

The Banking Act introduced on Jan. 1, 1994 eliminated the distinctions between long- and short-term credit institutions, allowing all banks to grant mortgage loans. In addition, the new law permitted any foreign lender, provided that it was a regulated credit institution within the EC, to expand its mortgage lending activity in Italy. The combination of these two factors contributed to a substantial increase in the number of market players. This, in turn, resulted in an immediate improvement in mortgage loan terms and conditions (i.e., the reduction of interest rates and prepayment penalties, the lengthening of maturities, etc.) and raised the quality of origination and loan management procedures, which became more efficient.

The market is highly concentrated, with the four largest national mortgage lenders covering more than one-half the total residential mortgage business nationwide. IntesaBci SpA (A/Negative/A-1), Sanpaolo IMI SpA (A+/Positive/A-1), UniCredito Italiano SpA (AA-/Stable/A-1+), and Banca Nazionale del Lavoro SpA (BBB+/Negative/A-2) have an aggregate market share of about 53%. With the exception of Banca Nazionale del Lavoro, which focuses mainly in central Italy, these players are based in northern Italy. The remaining share of the mortgage market is covered by a substantial number of both regional and local banks, whose portfolios show a high degree of concentration in single regions or small local areas.

Mortgage origination is still undertaken principally through each bank's branch network, given the large base of clients already dealing with the bank for other services such as current accounts, personal loans, and deposits. An intermediaries network is also a channel for loan origination, however. Although it is quite new, its usage is constantly increasing. Originators are beginning to appreciate the benefits of such a network, namely, the potential to widen their presence in the market on one side, and on the other, to reduce the cost of operating local branches.

Although origination and mortgage applications can be done either at the intermediary or branch level, the analysis of a client's creditworthiness is done centrally (see "Origination and Underwriting" below). The responsible body will then approve or reject any credit application according to the bank's powers of authorization, which vary from institution to institution.

Some mortgage lenders are beginning to originate residential mortgage loans via Internet application. While such applications represent a very small portion of the overall originated volumes, the outlook for this innovative method appears to be positive.

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### **Mortgage Products in the Italian Market**

There are two main types of mortgages available for residential purposes: the "mutuo fondiario" and the "mutuo ipotecario". In both cases the purchased asset is secured by a mortgage lien ("ipoteca") over an asset, which represents security for the lenders. Unlike the mutuo ipotecario, as set out in Italian Law 385/93, the mutuo fondiario can be granted only for real estate purposes, the maximum permissible LTV ratio is 80%, and the only asset that may be pledged as security is the purchased property.

Another difference between these two mortgage products is in the foreclosure process. The mortgage lender of a mutuo fondiario is entitled to commence or continue foreclosure proceedings after the debtor is declared insolvent or insolvency proceedings have been commenced.

Moreover, the administrator of the bankruptcy appointed to manage the

mortgaged property in the interest of the mutuo fondiario lender pays the revenues recovered on the mortgaged property directly to the lender. After the sale of the mortgaged property, the court will order the purchaser (or the assignee in case of an assignment) to pay up to 90% of that part of the price corresponding to the mutuo fondiario lender's debt (less the deposit made with the court prior to the auction) directly to the lender.

Another difference lies in what is known as the consolidation period of the ipoteca, i.e., the period of time required for the ipoteca to become immune to claw-back risk. For the fondiario loans this period is 10 days, while in the case of ipotecario loans the relevant period is 12 months.

For both types of loans, the ipoteca value is usually set at 150%-250% of the real estate value. This is essential in determining the amount the beneficiary of the charge is entitled to receive in priority to any other borrower's lender. In fact, as long as the consolidation period has passed, the beneficiary will have priority over an amount at least equal to the lower of (i) the claim, including any foreclosure expenses and accrued interest, (ii) the sale price of the asset, and (iii) the ipoteca value.

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### **Origination and Underwriting**

Great emphasis is placed on the creditworthiness of the client in the origination and underwriting process. Although there are no rules applicable to all originators, it is common practice to determine at the client's first meeting with the branch representative or broker the mortgage type that best fits the client's needs. This will depend on the amount required to be borrowed, the final term of the loan, and the preliminary estimated value of the property, as opposed to the foreseeable monthly income of the borrower.

Additional client analysis is usually undertaken by the bank's credit department, where the client and the property to be purchased are further evaluated. Evidence of the client's current income, and information as to the client's current debt burdens and credit history, are requested.

Lenders have a variety of means to evaluate the client's creditworthiness, such as the Centrale dei Rischi, a database held by the Bank of Italy and fed by all the Italian banks with information about their clients, their current exposure, and their payment performance. The database provides evidence of any nonperforming loans of the applicant, as well as the borrower's existing obligations to Italian banks above a certain amount.

In addition, mortgage lenders are starting to incorporate an internal credit scoring system into their lending processes. Borrowers are statistically assessed using variables such as social, demographic, and economic characteristics, and receive a final mark that illustrates the client's level of risk.

On the asset side, the lenders require an asset valuation made by external appraisers, especially for large properties, as well as evidence of any existing charge over the same that would prejudice their credit rights and reduce the foreclosure value of the property itself.

Ultimately, the loan is sized in order to allow the borrower to meet the mortgage payment obligations after deducting all the personal expenses he will likely incur during the month. Although a firm underwriting rule is not applied, lending is typically on the basis of a 30%-40% debt service coverage ratio.

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### **Mortgage Loan Performance**

The performance of residential mortgage loans was at its weakest during the

early 1990s following an economic recession. Arrears and defaults are not uniformly spread throughout the country, with southern Italy experiencing worse performance than other regions.

The Bank of Italy classifies arrears into two groups, "incagli" and "sofferenze", the difference being that a loan is considered incaglio when the borrower is in a temporary state of financial difficulty, and sofferenza when this temporary state has clearly become permanent. Historically, sofferenze represent the bigger portion of the arrears, which suggests a propensity for loans that begin to experience a temporary financial difficulty to ultimately default.

From a geographic distribution perspective, clearly northern Italy performs better than any other region in the country as the sofferenze in the north represent only 34.1% of the total amount of sofferenze nationwide, while the mortgage market in this region represents 60.2% of mortgage activity nationwide. In central regions these figures are 25.3% and 24.6%, respectively, while in southern Italy and the islands, sofferenze account for 40.6% and the mortgage market 15.2%.

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### **Foreclosure Proceedings in Italy**

Italian foreclosure proceedings for mortgages can be very costly and time-consuming. It can take four to 10 years, depending on the tribunal's location, as mortgages are typically required to be enforced with the intervention of a court. Consequently, the resolution timing could be very sensitive to the scheduling of hearings, workload, and the inefficiencies of the courts (with many diversities among the Italian regions, and better historical performance in the north).

The usual process is such that the lender seeking repossession notifies the defaulted borrower via a writ of enforcement ("titolo esecutivo") and the deed of attachment on properties (properly registered with the relevant registry). The lender must then file a sale petition with the appropriate court, and must provide the judge with all the relevant property and mortgage documentation needed to assess the property's value. Obtaining the documentation from the relevant public offices can sometimes take one to two years.

It is then up to the court to schedule the hearing, request a real estate expert ("consulente tecnico d'ufficio", or CTU) to perform an appraisal of the real estate securing the loan, and authorize the lender to proceed with the forced sale at the CTU base price within a reasonable time. Traditionally, the first hearing is scheduled within one to two years after presentation of the sale petition and the court sets the date for the first public auction at least six months after the last hearing. Should no buyer be willing to purchase the asset at the CTU value, the court will schedule a second auction sale, usually between two and 12 months later, reducing the reserve price for the second auction by 20%. This process continues until the sale of the property takes place. The timing of the distribution of proceeds can vary between one and 24 months.

In some circumstances the judicial enforcement process can be faster, especially in the case of discretionary application by the court of the Italian Notary Law 302/1998. This law permits recourse to notaries for some of the initial phases of the foreclosure procedure and for mutui fondiari that benefit from enhanced rights and exceptions to the standard foreclosure process. Nevertheless, the effects of this law are not yet quantifiable.

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### **The Italian Housing Market**

The lack of national indices prevents the identification of a housing market trend in Italy. It is possible to say, however, that in the past 30 years Italian

housing prices have been highly volatile due to a number of economic and social factors. The 1970s experienced two different housing price increases, in 1974 and in 1979, following substantial increases in oil prices. In both cases, inflation and interest rates rose rapidly with consequent effects on the housing market, and the booms were followed by slumps as the national economy fell into recession.

In the late 1980s, prices increased again due to favorable economic conditions, but were immediately followed by a downturn due to the recession that took place between 1992 and 1997. A slight increase in house prices has been experienced in the past few years with growth of about 2.0% in 1998, 6.7% in 1999, and this trend continuing up to the first half of 2001. From 1999 to the first quarter of 2001 the number of transactions rose by 7.6% and the average time required for sale shortened substantially to on average 3.4 months.

The chart below shows the market cycles of new houses over the past 35 years (constant prices 2000).



The Italian economy is experiencing a period of relative stability, mainly owing to Italy's participation in the EMU, which contributed to lower real interest rates, achieved price stability, and reduced inflation rates. Housing prices have grown during this period and, although growth in house prices over the past 30 years has always been followed by periods of substantial decline, it is expected that the new economic environment will help curb house price volatility.

A slight increase in housing demand can be expected. There are several factors that can potentially contribute to the positive trend. These include increased residential construction, the positive investment trends of the late 1990s, and the tendency of single consumers not to live in their parents' home until marriage as they used to do a decade ago.

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### The Rating Process

Standard & Poor's approach is aimed at assessing the ability of a special-purpose entity (SPE) issuing residential mortgage-backed notes to use the cash flows from the securitized assets to make full and timely payment of interest and full repayment of principal in accordance with the terms and conditions of the note obligations. The rating methodology tests the interaction of structural, legal, and credit quality features of a transaction using various assumptions appropriate for the rating sought.

The rating process usually follows the steps described below.

**Step 1 - Initial Meeting with the Arranger**

A preliminary discussion of the characteristics of the transaction (type of assets, legal structure, etc.) is held with the arrangers. At this stage Standard & Poor's illustrates the process and outlines to the arranger/originator the specific information typically needed from the mortgage pool (see "Appendix 1"). For each loan the information requested includes the loan balance, the value of the underlying asset, and the ipoteca value, among others.

**Step 2 - Corporate Overview**

A one-day visit is conducted at the originator's offices to review the procedures that have a major effect on a securitization, namely, origination, management and collection of the loans, and the foreclosure process after a loan has become delinquent or has defaulted. Given that the originator is also the servicer of the transaction, the servicing procedure and the information technology systems are reviewed as well. The agenda that is usually followed on such visit is outlined in "Appendix 2".

**Step 3 - Risk Analysis**

Standard & Poor's risk analysis involves a review of the credit quality of the portfolio, the cash flows forecasted from the assets, and the legal aspects of the structure. This phase is based on the characteristics of the pool, the results of the corporate overview, and the documents available (at this stage the offering circular is generally the only document provided). The analyst will present the transaction and all its credit and legal aspects to ratings committees, which will then review the transaction structure and the proposed class sizes. The committees may require amendments to the structure and/or tranching in order to cover any further risk.

**Step 4 - Publication of the Presale Report**

Once the committees have agreed on the structure, the analyst will write a report on the transaction, describing the characteristics of the transaction and the preliminary ratings on the notes to be issued. Presale reports are published on RatingsDirect, Standard & Poor's Web-based credit analysis system, as well as on Standard & Poor's Web-site, and are accessible to the public.

**Step 5 - Documentation and Legal Review**

Standard & Poor's ascertains that the documentation is drafted to effectively mirror what the committees and the counterparties to the transaction have agreed upon. Standard & Poor's legal counsel will also expect to see appropriate legal opinions dealing with all issues of law raised by the structure that are relevant to the ratings.

**Step 6 - Issuance of the Rating Letter**

The rating letter sets out the ratings Standard & Poor's has assigned to the notes issued by the SPE. It is issued on the day of the settlement of the notes.

**Step 7 - Publication of the Postsale Report**

This report describes the transaction as finally agreed and is published after the transaction has closed.

**Step 8 - Surveillance**

The final step is to transfer the transaction to Standard & Poor's surveillance department, which is responsible for the ongoing monitoring of the transaction.

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**Credit Analysis**

Standard & Poor's conducts a loan-by-loan analysis to assess the credit quality of the mortgage pools to be securitized in order to estimate the amount of potential losses that could occur as a result of foreclosures. This estimate

of potential losses is the amount of loss protection required over the value of the relevant portfolio in the absence of additional mitigating factors.

To determine credit risk, two amounts must be calculated for each loan in the pool:

- The foreclosure frequency, which represents the likelihood that a given loan will default; and
- The loss severity, which quantifies the loss realized on a defaulted loan.

The potential loss associated with a loan can therefore be calculated by multiplying the foreclosure frequency with the loss severity. The potential loss associated with the entire pool is obtained by multiplying the weighted-average foreclosure frequency (WAFF) by the weighted-average loss severity (WALS) at each rating level. The product of these two amounts estimates the required loss protection for the pool in the absence of additional mitigating factors (a cash reserve or excess spread, for example).

The probability of foreclosure is a function of both borrower and loan characteristics. Therefore, to determine the loss protection for the pool, Standard & Poor's requests that the following information be provided by the originator/arranger (see "Appendix 1") for each loan in the pool:

- Loan balance to be securitized;
- Loan balance at origination;
- Asset valuation and valuation date;
- Ipoteca value;
- Mortgage completion date;
- Repayment method (principal and interest repayment, bullet, etc.);
- Interest rate (fixed, floating, and actual);
- Loan purpose (purchase, remortgage, other);
- Whether the loan is for a second or holiday home;
- Asset location;
- Payment frequency;
- Whether the asset is owner/tenant occupied;
- Arrears (number of months, amount of arrears); and
- Whether the borrower is self-employed.

Additionally, since Italian transactions sometimes include mortgage loans for the purchase of small commercial properties (i.e., stores where the borrower runs his business), a brief description of the largest 10 to 20 assets and of the relevant borrowers is also required to verify whether the pool carries a different foreclosure risk.

Should the originator not be able to provide some of the details noted above, Standard & Poor's will make an assumption regarding the missing information based on its experience and knowledge of the Italian mortgage market. The foreclosure frequency and the loss severity will then be derived from each loan's characteristics as fully described in the following paragraphs.

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### **Foreclosure Frequency**

Standard & Poor's assumes a base foreclosure frequency at each rating level that reflects the probability of foreclosure for each loan of a benchmark pool under each rating scenario. The higher base foreclosure frequencies at the higher rating levels capture the increase in foreclosure risk in more stressful economic conditions.

Standard & Poor's has developed its hypothesis of base foreclosure frequency after detailed discussions with many Italian residential mortgage originators rather than on the basis of pure analysis of historical data. There is very little historical performance data for the Italian mortgage market. This is mainly due to the numerous mergers that have changed the banking environment. Such mergers have also raised the problem of integrating and making homogeneous information collected in different ways for different purposes by individual banks.

Table 1 shows the base foreclosure frequencies for a Standard & Poor's benchmark pool, which is composed of loans having the following characteristics:

- Performing status;
- Residential purpose;
- First home function;
- Secured by a first-charge mortgage;
- Maximum LTV ratio of 80%;
- Non-self-employed borrower;
- Geographically distributed throughout Italy;
- Loan amount below €150,000;
- Originated at branch level;
- Nonmodular: fixed/floating for life; and
- Seasoned less than 18 months.

<b>Rating</b>	<b>Base foreclosure frequency (%)</b>
AAA	15
AA	10
A	8
BBB	6
BB	4

Whenever a loan in the portfolio being securitized presents characteristics that deviate from the benchmark pool, Standard & Poor's will assume that the subject loan will have an increased, or sometimes a decreased, foreclosure risk in comparison with the base assumptions. The base foreclosure frequency will be modified depending on the underwriting characteristics of the single loan as opposed to the benchmark pool.

Table 2 shows the base foreclosure frequency adjustment guidelines that Standard & Poor's follows when dealing with nonbenchmark portfolios. It is worth underlining that the following adjustments can be tailored on a case-by-case basis in order to reflect the actual loan/portfolio characteristics.



<b>Characteristic</b>	<b>Affect on base foreclosure frequency</b>
Commercial properties	Base multiplied by 1.5 to 2.0
Second home	Base multiplied by up to 1.3
Non-first-charge mortgages	Base multiplied by up to 1.5
LTV ratio < 50%	Base multiplied by 0.8
LTV ratio > 80% and < 90%	Base multiplied by 1.0 to 2.0
LTV ratio > 90% and < 95%	Base multiplied by 2.0 to 3.5
LTV ratio > 95% and < 100%	Base multiplied by 3.5 to 5.0
LTV ratio > 100%	Base multiplied by 5.0
Self-employed borrower	Up to 25% addition to base
Geographic concentration	See relevant section in the text, below
"Jumbo" loans (> €150,000)	Up to 20% addition to base
Originators' penalty	See relevant section in the text, below
Modular loans	See relevant section in the text, below
Seasoning > 18 months	Final foreclosure frequency reduced by 10%-25%
Seasoning > 60 months	Final foreclosure frequency reduced by 25%

In table 2 the characteristics affecting the foreclosure frequency of a loan are ranked in the same order as the benchmark pool's definition. Nevertheless, the way to determine the adjusted foreclosure frequency of a nonbenchmark loan is to start from the base foreclosure frequency, apply the multiples and, on the resulting number, apply the additions. Seasoning is an exception to this rule, as any required adjustment is made to the foreclosure frequency resulting after applying multiples and additions. An example of a foreclosure frequency calculation for an individual loan is shown in table 3.

#### **Foreclosure Frequency Calculation Example at the 'AAA' Level**

Assume the subject loan has a size of €160,000 and was granted to purchase a holiday apartment. Its current LTV ratio is 45%, and it is 20 months seasoned. Table 3 shows how the actual foreclosure frequency is calculated using these hypothetical variables.

	<b>Adjustments</b>	<b>Calculations</b>	<b>Foreclosure frequency (%)</b>
Base foreclosure frequency			15.0
<i>Multiples to base foreclosure frequency</i>			
Second home	x 1.30	15.0% x 1.30	19.5
LTV ratio < 50%	x 0.80	19.5% x 0.80	15.6
Adjusted foreclosure frequency			15.6
<i>Additions</i>			
Jumbo loan	+ 4.0%	15.6% + (4.0% x 15.6%)	16.2
Adjusted foreclosure frequency			16.2
Seasoning > 18 months	x 0.90	16.2% x 0.90	14.6
Actual foreclosure frequency			14.6

Standard & Poor's recognizes the need for market participants to construct models that are able to replicate these base foreclosure frequency

modifications. Table 2 above therefore outlines the loan characteristics that are considered to have an effect on foreclosure frequency, and provides the associated adjustments that Standard & Poor's typically suggests. It is strongly emphasized, though, that these are guidelines only, and foreclosure adjustments will be increased or decreased after an analysis of originator-specific underwriting and servicing characteristics, and/or performance data, as the case may be. In addition, Standard & Poor's will continue to monitor and assess Italian mortgage credit risk, and will refine and add criteria accordingly.

The following paragraphs seek to clarify the rationale behind the modifications to the base foreclosure frequency assumptions as well as the potential changes that might be applied to these base assumptions in all those cases where a discretionary approach is appropriate.

### ***Commercial Properties***

In its analysis of the market, Standard & Poor's has found that in some cases mortgage lenders do not keep complete records of whether the mortgage loans are granted to purchase an exclusively residential property or to finance the acquisition of a store where the borrower – who in any case is a private individual – runs the family business. On other occasions, the purchased property consists of both a shop and a flat, both being part of the same asset acquired with the loan. Standard & Poor's assesses these loans differently given that the underlying assets are closer in nature to commercial properties than residential ones.

Commercial properties are exposed to different foreclosure risk than owner-occupied houses mainly for two reasons. Firstly, the borrower's ability to meet his payment obligations is linked to the risk of the market or sector in which he operates. Secondly, the likelihood of timely payment of the residential mortgage is much higher than for a commercial mortgage, especially in Italy where there is a strong home-ownership culture. The different risk perception is quantified in a higher foreclosure frequency, which, on a case-by-case basis, ranges between 50% and 100% of the base.

Standard & Poor's usually requires a description of the 10-20 largest loans in the pool in order to have a better understanding of their nature. Based on the results of this sample analysis and of the corporate overview, Standard & Poor's may increase the foreclosure frequency of a number of loans as suggested by the sample or of the actual loans that the originator has flagged as commercial loans.

### ***Second Homes***

Although the second/holiday house market is active in Italy, few mortgage lenders keep records of residential mortgages extended for the purpose of purchasing this type of property. Statistically, the LTV ratio associated with these loans is lower than that of first-home mortgages but the risk of foreclosure is higher. For second homes, in fact, the higher foreclosure risk reflects the borrower's reliance on rental receipts to meet mortgage payments (buy-to-let loans), while in the case of a holiday house, it reflects that the borrower cannot even rely on rents for this purpose.

Standard & Poor's applies a penalty to the foreclosure frequency on second homes, up to 30% of the base assumption. The penalty is applied to a number of loans, as determined on a case-by-case basis. If the originator is able to provide information on the purpose for which the borrower uses his funds, the penalty will be applied to only those loans actually granted to purchase a residential home that is not a first home. Alternatively, Standard & Poor's will assume that a certain percentage of the portfolio is made up of loans disbursed to buy second or holiday homes. This percentage will typically depend on the location of the borrowers.

### ***Non-First-Charge Mortgages***

Standard & Poor's assumes an increased risk in foreclosure frequency for all those loans not secured by a first-lien mortgage. For this purpose, a first-lien mortgage is a charge over real property that is senior to any other charge, or one that ranks junior to another charge, the underlying debt obligation of which has been discharged in full even though the ipoteca (charge registration) has not yet been cancelled.

Standard & Poor's does not classify as first-lien equivalents any junior charges securing loans whose amount outstanding, when aggregated with the outstanding amounts of any loans granted by senior charges over the same asset, still produces an LTV ratio below or equal to 80%. An exception is made where the senior liens are also included in the pool to be securitized.

The foreclosure frequency for junior charge mortgages is determined by multiplying the base foreclosure frequency by up to 1.5.

#### ***LTV Ratio***

The amount of the direct borrower investment in the property (the borrower's equity) has an effect on the likelihood of foreclosure, i.e., the lower the level of equity, the higher the risk of foreclosure. The amount of borrower investment is quantified by the amount of the current LTV ratio, which Standard & Poor's calculates by dividing the outstanding loan to be securitized by the lower of the ipoteca and the asset valuation at origination.

Standard & Poor's associates lower risk of foreclosure with those loans that have an LTV ratio below 50%, but assumes that foreclosure frequency increases as the LTV ratio rises above 80% (see table 2). The legal framework for Italian mortgage lending is such that under a fondiario loan the allowable LTV ratio is capped at 80%, while under the ipotecario loans this limit can be exceeded.

#### ***Self-Employed Borrowers***

Self-employed workers derive their salaries from their own business rather than from a permanent job contract. The income documentation provided by these borrowers therefore consists mainly of annual tax declarations based on self-assessment of their yearly income.

The risk here is in determining whether the self-assessment effectively represents the borrower's actual income for the previous year or whether it represents a lower amount declared for tax purposes. Given that the affordability of this type of loan cannot be objectively verified, it is considered to potentially carry an increased risk of foreclosure.

Standard & Poor's approach to these loans varies depending on the analysis of the originator's underwriting procedures. If the originator relies on the actual income of the borrower for the previous year, consisting of both officially declared and undeclared income, Standard & Poor's assumes that these loans effectively carry a higher foreclosure risk. The base foreclosure frequency for these loans can be increased up to 25%. The magnitude of the adjustment will be determined following a corporate overview of the mortgage lenders.

No base foreclosure frequency increase is assumed when the originator sizes the loan based on the income declared by the borrower for tax purposes. In this case, the higher foreclosure frequency risk associated with these borrowers is balanced by no credit being given to the borrower's "unofficial" (i.e., undeclared) revenues. Additionally, the undeclared income can eventually provide further comfort on the borrower's ability to repay the loan.

#### ***Geographic Concentration***

Unlike in other European jurisdictions, geographic concentration in Italy does not necessarily give rise to an increase in foreclosure frequency risk. In fact,

although a local economic downturn can adversely affect the cash flows from the mortgage pool, the Italian economic environment varies greatly throughout the country. Northern regions in particular are characterized by a robust economy, while in the southern regions and the islands the market is weak. Central Italy's economy is somewhere in between the two.

As a general rule, Standard & Poor's does not apply any penalty for a mortgage pool concentrated in the north and/or in the center of Italy, unless the borrowers are located within a small area, e.g., only one region, or in a limited number of towns. Good industry diversification at the macro-regional level is usually accompanied by local business concentration. In these cases, and in cases where the borrowers are located in the south, the base foreclosure frequency is penalized.

In general, the concentration limit is set at 25% of the pool, which, across the board, results in a 1% base foreclosure frequency increase for all the loans in the concentration. Penalties for borrower distribution can, however, be varied after a qualitative and detailed analysis of the portfolio distribution, weighted by the wealth of the relevant economic environments.

#### ***Jumbo Loans***

Large loans are considered to have more inherent risk than smaller loans owing to the increased sensitivity of the borrowers to changes in their financial situation in times of recession. A jumbo loan is defined as a loan exceeding €150,000.

#### ***Originator's Adjustments***

An increased foreclosure frequency risk is assumed for loans the originators of which have origination, underwriting, and credit management procedures that deviate from common market practice. In addition, the originator penalty can be applied in cases where the mortgage lenders do not have a proven track record to demonstrate their delinquency and default experience and/or their ability to effectively service the transaction. In contrast, loans originated by mortgage lenders with particularly sound procedures will benefit from a reduced foreclosure frequency.

A penalty may also be applied for broker-originated mortgages. An analysis of the originator's credit approval process is key in understanding the degree of reliability the lender attributes to a broker's proposal as opposed to a procedure whereby the borrower is analyzed by the lender's credit department. In Italy, the broker market is still very young and there is no historical information on the performance of mortgages originated through brokers.

Standard & Poor's will adjust the foreclosure frequency on a case-by-case basis in order to reflect any additional risk associated with the pool.

Standard & Poor's will continue to monitor these issues and will further refine credit criteria as necessary.

#### ***Seasoning***

Historical data shows that the most likely period in which a borrower potentially defaults is the first five years following completion. A mortgage that has been outstanding for a significant period of time and is not in arrears is considered to have a lower likelihood of foreclosure. Additionally, the borrower's income will typically increase over time, thereby increasing the borrower's ability to service the debt.

For loans originated more than 18 months prior to the transaction, Standard & Poor's reduces the base foreclosure frequency to 25% from 10%. For loans seasoned more than five years, a 25% reduction is applied.

#### ***Modular Loans***

Modular loans are those for which the interest rate profile can be switched to floating from fixed and vice versa at a future date or dates during the mortgage amortization. This change can occur either following a pre-agreed plan, or at the borrower's option.

Standard & Poor's assumes a higher foreclosure frequency risk for mortgage loans under which the borrower is obliged to change the interest formula on the mortgaged amount, since the borrower may be exposed to payment shocks. On the other hand, no such risk is assumed when the interest switch can be exercised at the option of the borrower.

Given that these types of loans are quite rare in the market, Standard & Poor's determines the need for any payment shock penalty and the relevant increase to the base foreclosure frequency on a case-by-case basis and continues to monitor the performance of these types of loans.

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### **Loss Severity**

Loss severity is the estimated loss that will be realized on a defaulted loan if the proceeds realized through the sale of the repossessed property do not cover the costs associated with enforcing the mortgage, the interest accrued during the foreclosure period, and the remaining loan balance.

The loss severity is a function of three variables: the residual value of the property (which will be recovered through the sale of the assets), the outstanding loan balance, and the foreclosure costs incurred for the repossession of the property itself.

The loss experienced on a loan, divided by the loan balance, is the loss severity, expressed as a percentage (subject to a minimum of 0% and 100% for each loan).

### **Residual Value – Market Value Declines**

Proceeds from the sale of a property are assumed to be less than the original valuation of the property, owing to a recessionary market value decline. The market value decline assumed by Standard & Poor's for Italian residential properties is shown in table 4.

<b>Rating</b>	<b>Market value decline (%)</b>
AAA	35
AA	30
A	26
BBB	22
BB	20

The residual value is assumed to be equal to the difference between 100% and the market value decline at each rating level.

To the extent that the portfolio to be securitized is highly concentrated in the southern regions, or a substantial part of the mortgage loans were originated in the 1990s, Standard & Poor's may assume different market value declines to reflect the different economic environments in which the loans were originated. Similarly, a higher market value decline is assumed for nonresidential properties (see "Commercial Properties" above).

### **Foreclosure Costs**

The fixed costs associated with foreclosures are assumed to be, on average, 10% of the loan balance for each defaulted loan. This figure includes all costs

and fees resulting from the pursuit of arrears, litigation, administration, maintenance, and sale of the property.

Table 5 gives an example of the calculation of the loss severity for a loan in a 'AAA' scenario.

Original property value	100,000
Market value decline	(35,000)
Residual value	65,000
Loan balance (80% LTV)	(80,000)
Market loss	(15,000)
Assumed foreclosure costs (i.e., legal fees and costs at 10% of loan balance)	(8,000)
Total loss (market loss plus foreclosure costs)	(23,000)
Loss severity (23,000/80,000)	28.75%

### ***Jumbo Valuations***

Properties with high valuations are assumed to experience higher loss severities owing to the smaller and less liquid market for these types of properties. Standard & Poor's assumes that a property with a valuation greater than €187,500 will attract up to 20% increased market value decline.

### ***Second-Charge Mortgage***

Standard & Poor's loss severity calculations also account for prior-ranking mortgages not included in the securitization. Proceeds of the sale of the property are used to fulfill prior-ranking obligations (including the loan balance, costs of foreclosure, and interest accrued during the foreclosure period) before they are used to cover the second-charge securitized loan.

The amount of the second-charge secured loan that is not covered by the proceeds, divided by the outstanding amount of the second-charge loan, gives the loss severity for such loan.

If prior-ranking obligations are included in the securitized pool, the loss severity will be calculated assuming that all the different mortgages are first-ranking.

### ***Potential Credit Enhancement***

Once the foreclosure frequency and the loss severity have been assessed for every loan in the portfolio, a weighted average is calculated, yielding the WAFF and the WALS for the pool.

The WAFF indicates the proportion of the principal balance of the mortgage pool that will default over the life of the transaction, and the WALS provides the loss severity experienced on the defaulted principal amount. The product of the WAFF and WALS gives an indication of the potential loss expected on that portfolio, at each rating level.

Effectively, the final credit enhancement, or "tranching", will be determined through the simulation of the transaction's asset and liability structure by means of a cash flow model. The model will replicate the support provided by any external source (cash reserve, hedging agreement, etc.) as well as the forecasted cash flows in the various stressful scenarios that Standard & Poor's tests, as fully described in the following paragraphs.

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### Cash Flow Analysis

A cash flow model is usually created to replicate the asset and liability structure over the life of the transaction. The product of the WAFF and WALs alone is insufficient for determining the credit enhancement required in a transaction as it does not take into account several important factors.

Ratings assigned by Standard & Poor's address the likelihood that the rated notes issued by the SPE will receive full and timely payment of interest and full payment of principal in accordance with the terms of the obligation. In this regard, most Italian residential mortgage securitizations involve the issuance of rated bonds that are split into tranches of different seniority with respect to payment of interest and principal. Other elements to be considered in assigning ratings in these transactions are the degree to which asset income exceeds payments due on the bonds, the effect of short-term arrears, the effect of varying interest rates and prepayments, any commingling risk, and an 18-month lockout period actually imposed by the Italian Securitization Law.

At the same time, the effect of additional structural features is to be replicated in the model. One example is the first-loss fund beneath the rated bonds, usually called the "reserve fund", which is used to cover both interest shortfalls and principal losses arising in the transaction. In addition, the transaction might incorporate specific elements designed to minimize the issuer's exposure to external economic factors (e.g., interest rate hedges).

Standard & Poor's stresses the transaction cash flows in order to test the credit and liquidity support provided by the assets, the subordinated tranches, the cash reserve, and any external sources (such as a liquidity facility). At each rating level the stresses described in the following paragraphs will be run.

### Defaults

The cumulative level of defaults within a mortgage pool is determined by the WAFF assigned to the mortgage portfolio to be securitized. Standard & Poor's will assess the effect of the timing of a recession on the ability to repay the liabilities and will choose the recession start period based on this assessment.

Stresses are modeled at the time of most stress in a transaction, which is normally from month one after closing. The 'AAA' recession is run, however, starting from month 13. The WAFF is applied to the principal balance at the start of the recession. Defaults are assumed to occur periodically in amounts calculated as a percentage of the WAFF, and the relevant timing path follows two scenarios, a fast one and a slow one, as illustrated in table 6.

Recession month	Fast default	Slow default
1	30	0
7	30	5
13	20	5
19	10	10
25	5	20
31	5	30
37	0	30

In certain structures, though, back-ended recessions (i.e., that occur later in the life of transaction) may be more stressful, and will be modeled accordingly.

### Recoveries

Standard & Poor's assumes that recovery proceeds from the sale of repossessed properties are equal to the amount of defaulted mortgages less

the WALS for the securitized portfolio. The amount of recoveries is assumed to be collected after the foreclosure period calculated for the specific transaction (for the relevant calculation see "Foreclosure Timing").

As an example, in a 'AAA' scenario defaults will occur on seven sequential dates (see "Defaults" above), six months between each, starting from month 13. If the applicable foreclosure timing is, say, 60 months (five years), then recovery proceeds are received in month 73, 79, 85, 91, 97, 103, and 109, for each subsequent period, respectively.

The WALS included in the cash flow model will usually be based on principal alone, including foreclosure costs. During the foreclosure period, unpaid interest on defaulted mortgages will accrue in the cash flow model depending on the current interest rate.

#### ***Foreclosure Timing***

Standard & Poor's makes three different assumptions depending on whether the tribunals in charge of the foreclosure process are located in northern, central, or southern Italy. Historically, the further south, the longer the resolution timing. Standard & Poor's will assume that the average timing for a foreclosure process is four years in the north, five years in the center, and eight to 10 years in the south. Should the portfolio to be securitized be spread throughout Italy, a weighted-average resolution timing is calculated.

In the course of its interviews with various lenders, Standard & Poor's received different opinions on the effects of Law 302/1998, the Italian Notary Law, which allows a notary public to sell the property securing a defaulted loan without a judicial auction process, therefore substantially limiting the length of the foreclosure period. It has emerged across the board that there is not yet enough history for any timing improvement to be quantified. In addition, application of the law has been inconsistent and in some cases has varied within the same court depending on the presiding judge.

Standard & Poor's is currently attributing no benefit to this law, but will continue to monitor the effects of the same and eventually refine the criteria as necessary.

#### ***Delinquencies***

Standard & Poor's tests the liquidity stress that results from short-term delinquencies, i.e., those mortgage loans that cease to pay for a period of time but then recover and become current with respect to both interest and principal.

To simulate the effect of delinquencies, a proportion of interest receipts equal to one-third of the WAFF is assumed to be delayed. This applies for the first 18 months of the recession and full recovery of delinquent interest is assumed to occur after a period of 12 months. Therefore, if in month two the total collateral interest is €1 million and the WAFF is 30%, then for that month the delinquent amount will be equal to one-third of the WAFF applied to the interest, i.e., €100,000. This amount will be delayed until month 14.

As in the case of defaults, recession is assumed to start in month 13 in a 'AAA' scenario.

#### ***Interest, Prepayment Rates, and Hedging***

Different interest rate scenario stresses are modeled to forecast the effect of interest rate volatility on transactions. Rising, falling, and stable interest rate assumptions are modeled using both high and low prepayment rates, giving rise to different stress scenarios at each rating level.

For rising interest rates, the base rate should rise by 2% per month to a ceiling of 12%, where it remains for three years. Then it steps down by 2% per month



until it once again reaches the interest rate level at the time of modeling.

For falling interest rates, the base rate should fall by 2% per month to a floor of 2%, where it remains for the rest of the transaction's life.

For a constant interest rate scenario, the base rate is maintained at the current level throughout the life of the transaction.

Prepayment rates are assumed to be at high and low levels and will be applied proportionally to the then outstanding balance of the mortgage loans, i.e., the principal balance remaining after the scheduled amortization. High prepayments are assumed at 20.0% per annum, while low prepayment rates are set at 0.5% per annum.

In a 'AAA' scenario, during the first 12 months prepayments can be run either at the historical prepayment rates shown by the originator or at a prepayment rate of 10%.

Finally, the various interest rate scenarios will be modeled in order to determine the effect on both assets and liabilities, i.e., the difference between the interest collected on the floating-rate mortgage loans and the new interest due on the floating-rate notes. The interest rate hedging agreed upon by the parties should be exactly modeled (notional, swapped interest, payments priority, etc.) in the cash flow model.

#### **Reinvestment Rates**

Unless the transaction has the benefit of a guaranteed investment contract (GIC) with an appropriately rated entity, Standard & Poor's assumes that the transaction will suffer from the margin on reinvested redemption proceeds and other cash held in the SPE being lower than the margin received on the underlying assets. If proceeds are received and reinvested, and the long-term rating on the GIC provider is lower than that on the rated notes being subjected to the stress, then the reinvestment rate is assumed to be EURIBOR less a rating-dependent margin, with a floor of 2%.

If there is a GIC from an 'A-1+' rated counterparty, yields on bank accounts at the contractual rate for the first year will be modeled.

#### **Commingling Risk**

For a detailed analysis of commingling risk please refer to the article entitled "Legal Issues in Italian Asset-Backed Securitizations" (published on Sept. 20, 2001 on RatingsDirect, Standard & Poor's Web-based credit analysis system, at [www.ratingsdirect.com](http://www.ratingsdirect.com)).

Standard & Poor's will take into account any proposal aimed at mitigating the commingling risk as long as the proposed solution will eliminate the risk in a manner satisfactory to Standard & Poor's.

#### **Fees and Expenses**

All the issuer's foreseeable expenses should be modeled. Standard & Poor's normally requires a schedule of these expenses to be provided.

Standard & Poor's appreciates that there is no established market for third-party servicers and is assuming a fee sufficient to attract a potential substitute servicer. This fee is currently set at 50 basis points per annum of the outstanding principal balance of the collateral.

Standard & Poor's will continue its market monitoring and will update its criteria accordingly.

#### **Cash Reserve**

A cash reserve providing additional credit enhancement to the transaction is

usually made available by the originator and its purpose is to cover both interest shortfalls and principal losses arising in the transaction. The sizing of this reserve fund is done through the cash flow model and it depends on the rating sought. This "first-loss" fund is, in fact, junior to payment of interest and principal of the rated notes; therefore, any use of the same will be reimbursed to the originators only once all the investors' rights have been satisfied.

#### ***Lockout Period***

The Italian Securitization Law provides for a withholding tax to be paid by the issuer in the event that any notes are redeemed, either in whole or in part, prior to a date which is earlier than 18 months after the issue date. The issuer will be obliged to pay tax in Italy at a rate of 20% of all interest accrued on the principal amount repaid up to the relevant payment date.

In order to avoid paying such interest, most Italian transactions start reimbursing principal on the notes after the 18 month lockout period, with the cash collected in the meantime being transferred to an account with a suitably rated entity. The cash flow model will have to reflect the resulting reinvestment risk or will have to account for the withholding tax amount deducted from the transaction's cash flows.

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#### **Surveillance**

Continual surveillance is carried out throughout the life of the transaction to ensure that it is performing in accordance with the initial rating assumptions, and to monitor changes in the underlying performance of the assets.

The purpose of surveillance is to ensure that the assigned ratings continue to reflect the structure and performance of the transaction, and the likelihood that interest and principal will continue to be paid on time and in full in circumstances reflective of the assigned ratings.

If the performance of the underlying assets or of the transaction itself deteriorates or improves to the extent that the rating originally assigned is no longer a true reflection of the risk of nonpayment, Standard & Poor's reserves the right to change its ratings accordingly.

The ratings on the notes issued in a transaction may also be changed to reflect revisions in the rating on a supporting party to the transaction or as a result of regulatory or other issues that have an effect on the transaction.

In order to maintain a Standard & Poor's rating, performance data must be provided on a regular basis throughout the transaction's life. This is typically provided monthly or quarterly by the fund manager, the issuer, or the servicer on its behalf, with all relevant information on the assets and the liabilities needed to maintain comprehensive surveillance.

There is a standard set of surveillance data requirements for all Italian RMBS transactions. These are discussed with the originator at the corporate overview, and any variations to reflect, for example, particular products, are incorporated at this stage. A copy of these surveillance data requirements is available on request.

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#### **Appendix 1 - Loan Information**

The following is typical information required for each of the loans in the portfolio to be securitized.

- Account number;
- Prior-ranking balance;

- Balance to be securitized;
- Ipoteca value;
- Real estate valuation;
- Real estate valuation date;
- Completion date;
- Mortgage term;
- Repayment method;
- Type of interest (fixed/floating/modular);
- Modular switch date;
- Total interest;
- Margin;
- Interest rate reset date (fixed/floating);
- Index (three-month EURIBOR, six-month EURIBOR, etc.);
- Payment amount;
- Payment frequency;
- Amount of arrearages;
- Months in arrearages;
- Loan purpose (purchase, remortgage, other);
- Owner occupied;
- Second/holiday home;
- Non-pure-residential loan;
- Region;
- City;
- Broker originated; and
- Self-employed borrower.

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## **Appendix 2 - Standard & Poor's Corporate Overview Agenda** *(This Appendix is also available in Italian upon request.)*

The following documentation should be forwarded to Standard & Poor's prior to the corporate overview:

- Underwriting/policy and procedures manual;
- Arrearages policy and procedures manual;
- Historical performance data;
- Full product list;
- Application form and offer letter; and
- Organizational structure chart.

The agenda for the corporate overview is shown in the following sections.

### ***Company Overview***

- Background (history and changes in ownership etc.);
- Organizational structure;
- Financial history (business volume, growth, profitability, etc.); and
- Summary of financing operations and funding activities.

### ***Overview of Relevant Line of Business***

- Background;
- Organizational structure; and
- Competitive positioning: major competitors, company's competitive strengths and weaknesses, strength of overall industry, and company

strategy in this business.

### **Origination and Underwriting of Assets**

#### 1. Sources of origination

- Direct lending;
- Branch network/dealer network;
- Direct mail;
- Brokers;
- Others; and
- Portfolio acquisition.

#### 2. Marketing

- Pricing;
- Geographic region;
- Products and plans for new products; and
- Customer base.

#### 3. Underwriting/lending criteria

- Loan characteristics: minimum/maximum loan size limits, average loan size, interest rates (fixed/floating, frequency of reset, length of notice required), amortizing/bullet maturity, loan maturities, payment dates, method of payment etc.);
- Insurance: if required, provide coverage, amount, provider, and method of premium payment; and
- Borrower information: income verification, employment history, credit bureau checks, determination of borrower credit limits, etc.

#### 4. Lending process

- Application process, whether centralized/decentralized;
- Number of applications received per day/per week (if available);
- Number of applications handled per day/per week (if available);
- Turnaround time from origination to approval/rejection;
- Turnaround time from origination to receipt of loan by borrower;
- Percentage of approvals/rejections and trend over time;
- Reasons for rejection;
- Whether security for the loan taken; and
- Title registration procedures.

#### 5. Credit scoring

- Whether credit scoring used for underwriting approval;
- Description of system; and
- How often reviewed and by whom.

#### 6. Credit review and approval process

- Description of review and level of people involved;
- Description of lending authority chain;
- Quality control/audits;
- Experience of fraud; and
- Customer file maintenance/storage.

## 7. Valuations

- In-house/external; and
- Training/qualifications.

### ***Servicing and Collection of Assets***

#### 1. Default policy

- At what point does company write-off the debt?

#### 2. Collection procedures

- Description of steps taken during delinquency to collect (phone calls, letters, etc.); and
- Timing.

#### 3. Write-off and foreclosure procedures

- Stage at which the company forecloses;
- The specific steps involved in foreclosure; and
- Recovery time for foreclosure proceeds.

#### 4. Arrears/default department

- Number of staff in the arrears department;
- Whether all collection activity is in-house;
- Whether arrears/defaults are seasonal;
- Primary causes of arrears/defaults;
- Legal costs involved with foreclosure/repossession of security;
- Whether penalty interest is charged (and collected); and
- Arrears/default reporting: how arrears are defined, how often they are monitored.

#### 5. Prepayments

- Prepayment procedures;
- Reasons for prepayments; and
- Prepayment penalties.

#### 6. Extension/rewrite policies

- Procedures; and
- Reasons.

#### 7. File storage

#### 8. Size/staff experience

### ***Computer Systems***

#### 1. Software

- Description of software packages;
- Description of back-up procedures and facilities;
- Disaster recovery plan; and
- System identification of securitized loans.

## 2. Hardware

- Description of hardware;
- Description of back-up procedures and facilities; and
- Disaster recovery plan.

### ***Ongoing Surveillance Information/Pool Cuts***

### ***Tour of Facility***

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