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January 30, 2003

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Standard & Poor's Rating Methodology for CLOs Backed by European Small- and Midsize-Enterprise Loans

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Standard & Poor's Rating Methodology for CLOs Backed by European Small- and Midsize-Enterprise Loans

(Editor's note: These criteria have been updated and clarified by "Methodology And Assumptions: Update To The Criteria For Rating European SME Securitizations," published on Jan. 6, 2009.)

This is the second in a series of articles that highlight Standard & Poor's approach to and coverage of the European CLOs of loans to small and midsize enterprises (SMEs). This article summarizes the methodology for rating CLOs of SMEs and begins with a brief description of the different types of CLOs of SMEs seen in the European market.

As in typical CLOs, an originating company can make use of a special-purpose entity (SPE), in the case of a partially or fully funded transaction, or go directly into the market without an SPE, in the case of an unfunded transaction. A fully funded cash flow transaction therefore involves all the securitized assets being transferred and is referred to as a "true sale" of those assets. Where the transaction is unfunded it is considered "synthetic" and involves a transfer of risk — using credit default swaps or credit-linked notes — rather than a transfer of assets. A partially funded transaction is synthetic and associated with some debt issuance.

Originators can use CLOs of SMEs for either balance-sheet or arbitrage purposes. The former purpose would be generally achieved using a synthetic technique and would leave the originator's assets on-balance sheet, whereas the latter purpose would more likely be achieved via a true sale of the assets to the SPE. There are factors for and conditions to using either technique as explained in this article.

In Germany, a couple of the first transactions were fully funded true sale structures as the synthetic technology was not available to the same extent as it is today. The transactions originated since late 1999, however, have been structured as partially funded synthetic deals. No true sale of the assets is involved for cost, legal, and regulatory reasons. Many German transactions are now based on a securitization program, such as that sponsored by Kreditantstalt für Wiederaufbau (KfW). The resulting transactions have all been called "Promise". As a program, it enables lower cost of funding through an existing platform, a tested legal structure with which the regulators are familiar. This generally results in regulatory capital relief for originating banks using this program. The following chart is an example of a partially funded synthetic CLO transaction.

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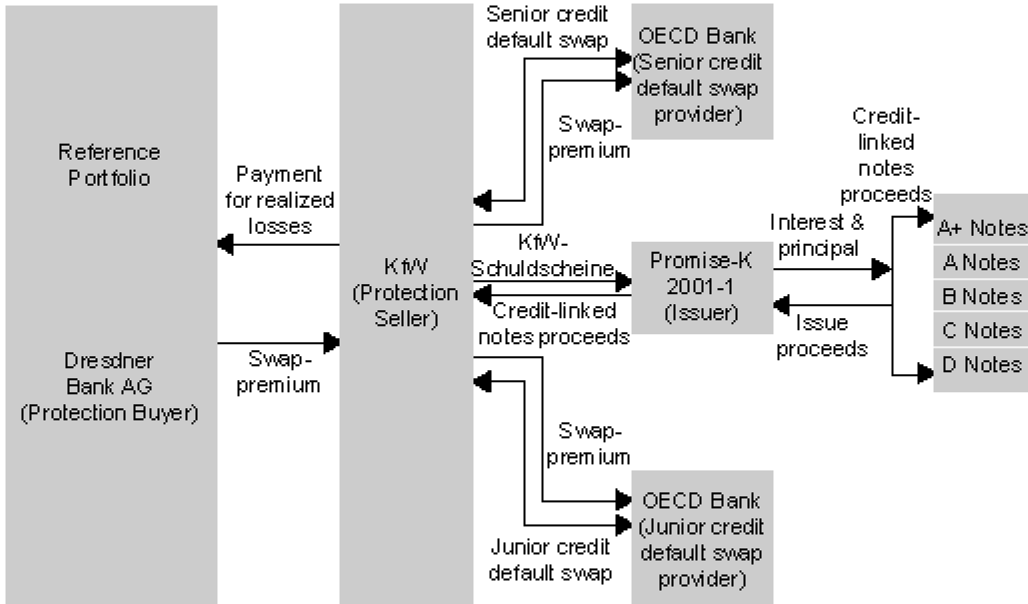
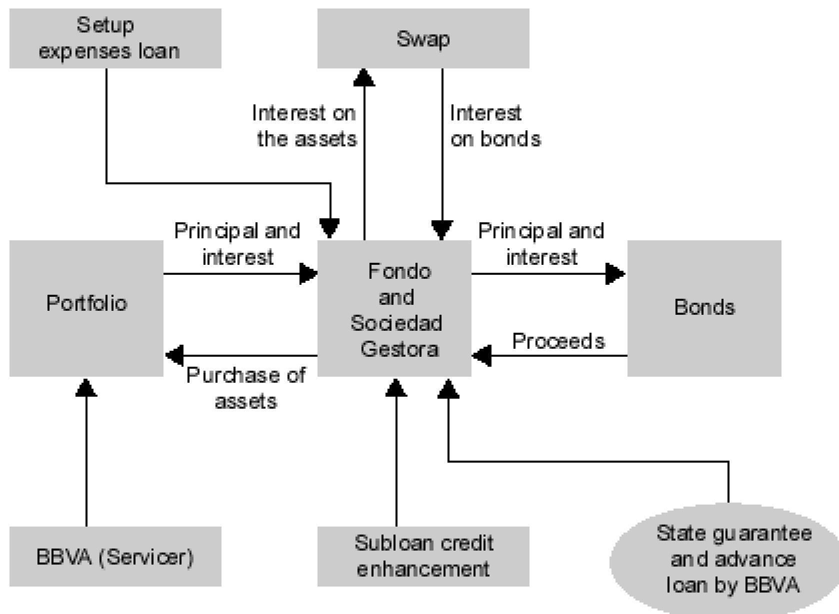


In the other instance, the transactions Standard & Poor's has rated in Spain, The Netherlands, and the U.K. have been fully funded true sale transactions. In the U.K. and The Netherlands these transactions have been primarily driven by arbitrage opportunities from the spread between the underlying CLOs of SMEs and the funded notes, while in Spain, where there is still no regulatory framework for synthetic securitizations, the cash flow structures have been mainly driven by the program established by the Spanish government in 1999, offering partial guarantees to SME transactions to promote the development of the SME sector. The following chart is an example of a fully funded true sale CLO transaction.



The first article in this series, entitled "European CLOs of Loans to SMEs Show Strong Performance Despite Threat of Potential Negative Credit Migration", published Oct. 3, 2002, can be found on RatingsDirect, Standard & Poor's Web-based credit analysis system.

The Rating Process

The steps involved in rating CLOs of SMEs are similar to those used in rating other CLOs and include:

- A review of the transaction and legal structure;
- A sizing of the default frequency of the proposed asset pool;
- A review of the originator or the sponsoring institution;
- A sizing of the loss severity;
- The establishment of the required level of credit support for each liability tranche; and
- A review of the final legal documentation and legal opinions.

Reviewing the Transaction and Legal Structure: Balance-Sheet vs. Arbitrage Structures

CLOs of SMEs rated by Standard & Poor's are predominately balance-sheet transactions. Unlike arbitrage transactions, which are structured to capture the excess spread between the higher interest from the assets and the lower total interest on the liabilities, balance-sheet CLOs aim to capture different benefits.

Balance-sheet benefits consist mainly of the ability to reduce regulatory capital requirements of the originator or the

sponsoring bank and, in some instances, to increase lending capacity while reducing cost of funding, in particular when using a standard structure such as the German Promise transactions. The benefits can be achieved by either selling the assets to an SPE using a true sale structure or by transferring only the risk of the assets using a synthetic structure.

The synthetic structures involve a risk taker to sell credit protection on a reference portfolio comprising a number of reference entities, which are SME loans. The originator or sponsoring institution, which has exposure to the reference entities, in turn buys protection by paying a premium to the swap counterparty.

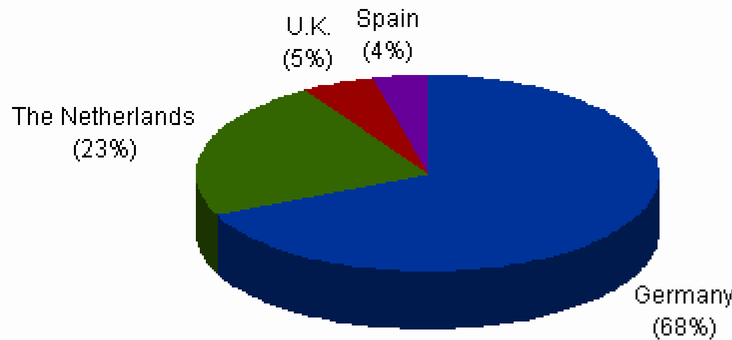
The swap can be contracted with an SPE or the originator or sponsoring institution can contract directly with the ultimate risk taker that invests in the transaction. There is no true sale of the assets but a transfer of risk on the underlying portfolio that takes place on the closing date. Further risks can be transferred, such as foreign exchange or interest rate risk. The transfer of risk instruments usually used are either credit default swaps or credit-linked notes, typically implemented under the 1999 ISDA regulation.

The fully funded cash flow structures are transactions where the SME loans are transferred through a true sale mechanism of the SME loan portfolio to an SPE, similar to a conventional securitization. Typically, transactions rated in Spain have been fully funded cash flow balance-sheet structures. The government offers a partial guarantee on the transactions and, in return, banks reinvest a portion of the proceeds in the Spanish SME sector.

To date, most German transactions have moved from fully funded cash flow transactions to partially funded synthetic transactions for balance-sheet management reasons. The reason is that the transfer of risk can be achieved without a true sale of assets in this jurisdiction.

Transactions in other jurisdictions, such as The Netherlands and the U.K., have been fully funded cash flow transactions similar to those rated in Spain.

The following chart illustrates the volume of rated notes from each jurisdiction from August 1998 to December 2002. The table in the Appendix shows a list of transactions in these major European markets for CLOs of SMEs.



Methods of Credit Analysis: Sizing the Default Frequency of the Proposed Asset Pool

The first step in any CLO credit analysis is to determine the securitized portfolio's expected net losses. There are two general approaches that Standard & Poor's uses in rating CLOs of SMEs, the CDO Evaluator approach and the actuarial approach, briefly described as follows:

- The CDO Evaluator approach calculates the cumulative default rates for each rating level in the liability structure using "Monte Carlo" simulations based on the rating on each asset in the portfolio. The rating on each asset is based on either Standard & Poor's public ratings, credit estimates performed on part or each asset in the portfolio, or a mapping of the originator's credit scoring system.
- The actuarial approach derives net stressed losses over the term of a transaction based on the total SME lending book performance. This approach assumes that the credit quality of the portfolio on the closing date, and thereafter during the revolving period (based on the replenishment criteria), will be at least as good as the originator's lending book.

The above approaches can either be used to rate CLOs of SMEs on an exclusive basis or can be used together to form a "joint" methodology. The majority of European CLOs of SMEs are initially rated using the joint approach, and therefore rely on both asset and portfolio performance information. The funded cash flow transactions use the same approach to determine portfolio loss levels but further stresses are typically applied in a cash flow model to take into account excess spread and recoveries based on the eligibility and substitution criteria. This cash flow model is in most instances created by the arranger for each transaction and replicates the asset and liability structure of the transaction.

The CDO Evaluator Approach

Standard & Poor's CDO Evaluator is an integral part of the methodology for rating and surveilling CLO transactions. Through a Monte Carlo methodology, it evaluates the credit quality of a portfolio, taking into consideration the credit rating, size, and maturity of each asset and the correlation between each pair of assets. The credit quality of the portfolio is presented in terms of a probability distribution for potential default rates. From this distribution, the CDO Evaluator derives a set of scenario default rates that identify, for each credit rating, the maximum level of portfolio defaults a CLO tranche should be able to withstand without defaulting.

SME portfolios comprise assets, which typically have no public ratings. To determine a credit rating on the asset (by running the CDO Evaluator), Standard & Poor's has to perform a credit estimate analysis or a mapping analysis. In this context, a credit estimate analysis would typically be performed using a tailored credit model. More common is a mapping analysis, which is a technique for translating an originator's credit rating into an equivalent Standard & Poor's rating. Both of these analyses, which provide one of the core assumptions of the CDO Evaluator, are often supplemented with the actuarial approach described further below (i.e., this is the "joint" methodology).

The Mapping Process

A mapping process is typically applied to larger portfolios of unrated corporate or SME loans where the originating institution has its own internal "rating" system that systematically and independently grades in an unbiased fashion the credit quality and, therefore, the expected default of each obligor. Standard & Poor's, having reviewed inter alia underwriting procedures and credit policy, translates — or "maps" — that internal system to its own rating levels so that a Standard & Poor's equivalent rating can be attached to each credit in the portfolio. Such mapping incorporates both an assessment of the originator's underwriting procedures and credit policy and includes an adjustment for a statistical confidence interval.

The risk of loss of the portfolio can then be analyzed on the same basis as a portfolio of rated credits. To ensure that ongoing CLO surveillance — based on regular receipt of updated portfolio reports and Standard & Poor's equivalent ratings — appropriately reflects the imputed credit quality of the underlying loans, the mapping itself is periodically surveilled.

For further information on the mapping process see Standard & Poor's article "Mapping Internal Credit Scores to Standard & Poor's Ratings for CDOs", published on Nov. 11, 2002 on RatingsDirect.

The Credit Estimate Process

A credit estimate process is typically applied where there is no internal rating system, or if the internal rating system is not calibrated to default probabilities. Standard & Poor's assesses the data availability of each obligor and determines if a credit model can be calibrated for the reference obligors. Again, to enable accurate and appropriate ongoing CLO surveillance, such credit estimates are surveilled and periodically updated to ensure they remain an appropriate reflection of the credit quality of those assets.

The Actuarial Approach

The actuarial approach to rating CLOs involves an analysis of the originating institution's historical default, delinquency, and write-off experience. The net loss output of the analysis is then stressed, accordingly, to the relevant rating level. The actuarial approach focuses on the aggregate performance history of the relevant corporate

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loan book (from which the CLO pool is drawn) rather than on the ratings on the individual obligors in the portfolio to be securitized. It is, therefore, similar to the approach used by Standard & Poor's to rate other asset types such as consumer loan securitizations.

Conditions for Using Actuarial Approach

The actuarial approach is typically applied where the originator does not have an internal grading system comparable to Standard & Poor's rating scale, and/or where a model approach may otherwise be impractical due to there being a large number of unrated obligors in the portfolio, and/or where specific obligor information is limited (for example, by bank secrecy legislation). It is, however, often preferable to use more than one approach to rate a CLO of SMEs, as the results can be compared and contrasted for improved accuracy, which may result in a more accurate credit enhancement assessment.

The actuarial approach is appropriate only for securitization portfolios that include broadly homogeneous assets and that are meaningfully diversified, which generally requires there to be a minimum of 500 obligor groups with no single obligor group representing more than 1% of the portfolio. It is, therefore, particularly well suited to large portfolios of loans to SMEs, which are not rated by Standard & Poor's. Another important condition for the actuarial approach to be applied is that the portfolio is fully representative of the relevant or wider corporate loan book that is analyzed.

The actuarial analysis of the majority of the CLOs rated by Standard & Poor's to date using this approach has been based on dynamic loss data. This comprises detailed provision and write-off information, ideally, on both a gross and net basis dating back through at least one economic cycle. A number of CLOs have been rated through actuarial analysis of static loss data and, more recently, validated expected default frequencies by internal risk rating category. Again, ideally this data should cover at least one economic cycle. If not, then additional stresses may need to be applied to the results. For all CLOs analyzed using the actuarial approach, further information requirements are details of the originator's underwriting and recoveries policies, and a breakdown of both the relevant corporate loan book and the securitization portfolio by industry, loan size, LTV ratio, collateral, originator internal ratings, and other similar measures. This enables the loan book generating the loss data and the securitized portfolio to be compared.

The data received from the originator should be broken down to highlight any provision and write-off trends. These are then analyzed in the context of various factors, including the economic environment, information regarding the originator, which might affect the consistency of the data, relevant features of the transaction structure, and changes in the size and composition of the loan book. The output of this analysis is usually an expected annual worst-case write-off or net-loss ratio in respect of the pool.

Reviewing the Originator or Sponsoring Institution

The review of the originating or sponsoring bank's capabilities is a key element in the rating process for any CLO transaction. Its role is paramount to achieving the high ratings sought on these transactions.

The rating of CLOs of SMEs includes a review of the underwriting procedures and credit policies of the originator to accurately assess the relevance of any proposed mapping (see "The CDO Evaluator Approach" above). Similarly, the actuarial approach relies heavily on the originator presenting accurate historical information as well as its ability in the future to service and eventually originate loans consistently with its observed past performances (see "The

Actuarial Approach" above).

Standard & Poor's, therefore, spends time reviewing and discussing the originator's underwriting and recoveries procedures. The analysis here uses a blended methodology. Standard & Poor's Structured Finance Ratings group draws on the expertise of specialized analysts in the Financial Services and Corporate Ratings groups for this particular exercise, since the review involves both banking and corporate analyses. This methodology also allows comparison of peers.

Depending on the nature and structure of a given transaction, the level of this review will vary. For instance, in the case of a dynamic portfolio, the originating institution can either substitute amortized loans in a standard revolving structure or trade the portfolio by substituting names within it. In such structures, that have become more popular over time compared with pure static pools, the role of the originating bank is not limited to servicing the portfolio during the term of the transaction. Future originations might affect the future performance of the portfolio and, therefore, Standard & Poor's reviews the originating institution's underwriting capacities during the substitution period.

Equally important is the originating bank's ability to service problem loans once the transaction has closed. The quality and efficiency of the recoveries procedures will affect the level of the net losses suffered by the transaction. This is especially relevant for funded cash flow structures using a true sale of the assets. For synthetic structures, some will use a cash settlement mechanism under the credit default swap agreement, whereby the level of the actual recoveries experienced by the lending institution will not be relevant in assessing the end losses. The reason is that a proxy for the loss will be used, equal to the valuation amount as determined under the cash settlement mechanics, generally equal to the higher of two or more quotes obtained from dealers, brokers, or other valuation agents. In the other instance, when the credit default swap uses the physical settlement option, the ability of the manager to work out the loans will affect the transaction in a similar way to a cash flow transaction. Note that some structures may use a cash settlement mechanism, but where the loss is calculated by reference to that actually experienced by the originating bank (i.e., the realized loss), this creates a loss exposure identical to a cash flow transaction, which is similar to a full workout.

Recovery Analysis: Sizing the Loss Severity

Transaction-specific recovery rates are established by Standard & Poor's on a transactional basis. The recovery rates are subject to the level of experience of the originator or sponsoring institution, and the transaction-specific investment guidelines and replenishment criteria. Further considerations are the workout procedures and timing of the expected recoveries based on the asset-specific ranking in the capital structure and the assets' liquidity. To assess these characteristics, a detailed overview of the originator and a review of the portfolio are performed.

Recovery rates also vary depending on the location of the defaulted obligor. Recovery ranges per country are established by Standard & Poor's for each transaction, to reflect differences between legal jurisdictions. This is based on available transaction-specific performance data and feedback received from regional market participants. Standard & Poor's also monitors recovery rates on a jurisdictional basis based on updated performance data and on continuous feedback from the market.

Finally, in transactions where there is a full workout, recoveries on defaulted loans are assumed to occur over a three-year workout period, with one-half of the recovery received at the end of the second year and the remainder at

the end of the third year.

To date, the CLOs of SMEs rated by Standard & Poor's have largely contained obligors in a single legal jurisdiction. In addition, SME loans contained in these transactions are frequently secured to a large extent, which can have a significant impact on recovery rates. As many of these CLOs are rated using an actuarial approach, however, specific recovery rates per se may not be necessary, as credit enhancement is derived from the originator's historical net losses in respect of the relevant asset class, which already incorporate experienced recoveries. Where recovery rates are required, these will vary, not only depending on the jurisdiction of the relevant obligors in the pool, but also depending on the level and quality of collateral attached to relevant loans, and the ease with which the originator can realize such collateral. Up to now in continental Europe, recovery rates assumed in rated transactions have been as high as 50% and this is largely due to the level of security or collateral attached to loans in respective transactions. As an example, where a CDO Evaluator approach has been used to rate CLOs of SMEs originated by German banks, recovery rates assigned to date have typically been between 35% and 50%.

Establishing Credit Support Levels to Assign Final Ratings in a Transaction

Having been through the CDO Evaluator approach or the actuarial approach, the next step in the rating process consists of determining the credit support levels. The analysis results so far will have led to an assessment of the default frequency of the securitized pool, or the "gross loss". As indicated earlier, in some instances, the results of an actuarial analysis can sometimes lead directly to the "net loss", as losses captured in the underlying data are frequently reported on a net basis.

Where an actuarial approach has been used, the net-loss ratio in respect of the pool is then stressed at each rating level over the term of the transaction to derive the required credit enhancement levels for the rated tranches, taking into account:

- A stressed annual loss rate derived from the loss experience in the SME lending, as well as from the annualized net-loss and default triggers;
- The weighted-average life of the portfolio documented as a replenishment criterion;
- Rating multiples applied to each rating category; and
- The proposed cumulative net-loss trigger.

Once a net or gross loss has been determined, either through the actuarial approach or the CDO Evaluator, then cash flow modeling is used to determine the final credit enhancement levels. Default and recovery assumptions are used as inputs to a financial model that replicates the liability structure of the transaction, together with other assumptions, such as interest rates (taking into account the transaction's hedging strategy), and costs and expenses of the transaction. The cash flow methodology used for CLOs of SMEs is similar to that applied for other CLOs. More details on Standard & Poor's cash flow modeling methodology can be found in its article "Global Cash Flow and Synthetic CDO Criteria" available on RatingsDirect.

The required credit support level will be the minimum enhancement that allows the structure to pay interest and principal as and when due on the rated notes for a given class under stress scenarios commensurate with the notes' rating. These stress scenarios include defaulting loans in the portfolio according to various default patterns. This is described in greater detail in the "Global Cash Flow and Synthetic CDO Criteria" article.

Cash flow modeling is used for funded cash flow structures and, in some cases, for synthetic transactions as well. A synthetic structure that does not give credit to any excess spread or other excess cash collections will not require cash flow modeling. Instead, the credit support level is equal to the gross loss net of assumed recoveries at each rating level.

Reviewing the Final Legal Documentation and Legal Opinions

The legal analysis employed to evaluate a CLO of SMEs mirrors exactly the legal analyses used in conventional CDO transactions. The main features are the ability to separate the assets from the originator (if not synthetic), to insulate the assets against other claims, and to meet the required legal, accounting, and tax regulations. Key elements are assignability of the assets, lender liability, waiver of set-off, perfection, and the creation of the SPE and its bankruptcy remoteness. Standard & Poor's rating analysts work very closely with both internal and external legal advisers to make sure all legal requirements of the transaction are satisfied. Standard & Poor's will expect see appropriate legal opinions dealing with all issues of law raised by the structure that are relevant to the rating.

In conclusion, given the differences between the various types of structures of CLO of SME loans and transactions and the single jurisdictional nature of the underlying collateral, the analyses required to rate CLOs of SMEs involve different credit tools compared with CLOs of loans to larger corporates. The credit tools are largely based on the data that can be provided for the securitized portfolio by the originating bank and not on the public ratings on the underlying obligors. The methodology will thus continue to employ a range of credit tools including a combination of the various approaches (i.e., the joint methodology) to rate portfolios of SME loans. Sponsors or originators of such transactions are therefore encouraged to contact Standard & Poor's as early as possible during the structuring of the transaction in order to discuss the available data and the most appropriate approach.

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Appendix

European CLOs of SMEs Transactions

Transactions rated by Standard & Poor's	Originator	Closing date	Maturity date	Issuance (Mil. €)	Funding	Note collateral
Germany*						
CORE 1999-1 Ltd.	Deutsche Bank AG	March 1, 1999	March 17, 2009	2,297	Fully funded cash flow	SME loans
CORE 1999-2 Ltd.	Deutsche Bank AG	June 30, 1999	April 30, 2004	1,216	Fully funded cash flow	SME loans
GELDILUX 1999-2 Ltd.	Bayerische Hypo- und Vereinsbank AG	Sept. 16, 1999	Sept. 30, 2003	750	Fully funded synthetic	Pfandbriefe, MTN program, and cash deposit
CAST 1999-1	Deutsche Bank AG	Dec. 6, 1999	Dec. 31, 2008	392	Partially funded synthetic	Pfandbriefe and credit-linked notes
CAST 2000-1	Deutsche Bank AG	June 30, 2000	June 20, 2009	340	Partially funded synthetic	Pfandbriefe and credit-linked notes
CAST 2000-2	Deutsche Bank AG	Dec. 8, 2000	June 20, 2009	220	Partially funded synthetic	Credit-linked notes
Promise-I 2000-1 PLC	IKB Deutsche Industriebank AG	Dec. 19, 2000	Feb. 5, 2010	213	Partially funded synthetic	Schuldscheine
Promise-K 2001-1 PLC	Dresdner Bank AG	May 22, 2001	June 22, 2008	58	Partially funded synthetic	Schuldscheine
Promise-Z 2001-1 PLC	DZ Bank AG Deutsche Zentral-Genossenschaftsbank	Aug. 15, 2001	April 27, 2011	137	Partially funded synthetic	Schuldscheine
Promise-I 2002-1 PLC	IKB Deutsche Industriebank AG	March 26, 2002	Sept. 5, 2009	4,170	Partially funded synthetic	Schuldscheine
Promise-A-2002-1 PLC	Bayerische Hypo- und Vereinsbank AG	March 28, 2002	July 28, 2012	1,620	Partially funded synthetic	Schuldscheine
GELDILUX 2002-1 Ltd.	Bayerische Hypo- und Vereinsbank AG	May 27, 2002	June 17, 2007	3,000	Fully funded synthetic	Pfandbriefe and cash deposits
Promise-C 2002-1 PLC	Commerzbank AG	Nov. 5, 2002	Oct. 28, 2010	119	Partially funded synthetic	Schuldscheine
The Netherlands						
SMILE Securitisation Company 2001 B.V.	ABN AMRO Bank N.V.	Dec. 13, 2001	Nov. 22, 2027	5,000	Fully funded cash flow	SME loans
Spain						
Fondo de Titulización de Activos BBVA-2	Banco Bilbao Vizcaya Argentaria, S.A.	Dec. 6, 2000	Jan. 21, 2019	900	Fully funded cash flow	SME loans
U.K.						
Melrose Financing No. 1 PLC	Bank of Scotland	Feb. 27, 2001	Feb. 15, 2011	1,103	Fully funded cash flow	SME loans

*CORE 1998-1 Ltd. was redeemed for the full amount in November 2002.

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