

Moody's Approach to Rating Trade Receivables Backed Transactions

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SUMMARY OPINION:

Trade receivables constitute a large and growing portion of securitized debt. 14% of all ABCP issued in the European ABCP market funded trade receivables as of December 31, 2001. In the U.S., trade receivables are approximately 25% of the asset mix in bank-sponsored multi-seller programs. In addition, Moody's has seen growing interest in financing accounts receivable transactions with term debt. From the perspective of the ABS investor, term trade receivables offer diversity from the consumer driven assets and exposure to transactions with shorter weighted average lives.

Moody's anticipates continued growth in the number of trade receivable transactions executed in both the European market and U.S. market. In light of the slower economic growth, an increased volume of trade receivables securitizations is expected to continue given the number of "fallen angels" – recently downgraded corporations—who may no longer have access to the traditional corporate commercial paper market and unsecured bank lending. Other factors include corporate treasurers' desires to diversify funding sources, and pressure on banks to increase ROE by charging higher margins whilst more efficiently using their capital base.



Trade receivables are unsecured obligations generated when one business sells another goods or services. They have the following distinctive characteristics:

- They are non-interest bearing. "Yield" is created by funding at a discount, and there is no spread to enhance the deal.
- They are business to business assets – there are typically no consumers in a trade receivable pool.
- They are unsecured claims on the obligors – unlike an equipment lease or a consumer auto loan, there is no underlying hard asset that can be repossessed in the event of non-payment.
- Obligor will generally be more concentrated in a trade receivable pool than in a consumer asset pool.
- Asset characteristics are not homogenous across transactions. Products, obligors, sales practices, payment terms, accounting and collection policies vary greatly by industry and seller.
- The performance of trade receivables tends to vary to a greater degree than consumer receivables because it depends in part on the originator's underwriting practices, relationships with its sellers, current financial condition, competitive position and strategic direction. The revolving nature of trade receivable transactions and the asset's quick payment rate means there is continual exposure to the changing fortunes of the originator.
- Dilution—a reduction in the amount owed for reasons other than payment or default—is a potential critical source of loss to trade receivable investors.
- The assets turn rapidly, in many cases within one to two months. If the dominion and direction of asset collections is not handled well in advance of a deterioration in the originator's financial condition, an investor can lose most of its collateral coverage through the commingling of this cash with that of the receivables originator.
- The funding of trade receivables is a critical source of working capital to the seller of the receivables. Even in transactions featuring true sale opinions, cash remittance and sweep arrangements and other protective mechanisms, these asset collections could get caught up in the bankruptcy proceedings of the receivables originator. Moody's therefore examines the originator's other sources of funding.

The amount of enhancement is principally driven by asset performance, the lumpiness of obligor concentrations and the amount of dilution. Tighter eligibility criteria, especially limiting large exposures to a few obligors, and tighter performance triggers serve to reduce enhancement levels. In order to form a very approximate initial view of the possible amount of loss and dilution reserves, the aggregate of the average monthly default and dilution ratios may be multiplied by the receivables turn days (expressed as a fraction of a month) and then multiplied by a stress factor commensurate with the desired rating level and in light of the qualitative factors discussed below. It will also be necessary to increase this initial estimate by the amount necessary for a yield reserve and, possibly, other factors. Risks other than credit default risks -- including cash commingling and asset transfer, dilution, operations and servicing risks and others are assessed.

Highly rated trade receivable transactions generally feature conservative advance rates, no commingling of cash, a true sale of and first perfected security interest or charge on receivables, frequent settling of the eligible asset balance to the outstanding debt, and an originator with several funding alternatives in the event of financial stress and significantly higher debt exposure to other creditors.

As every trade receivable transaction is different due to differences in the originator, achieving efficient execution may be a challenge. Structural features and pool characteristics, which result in relatively greater or lower amount of enhancement, are noted below. The methodology described below may also be used for other quick-turning, non-interest bearing asset types.

I. OVERVIEW

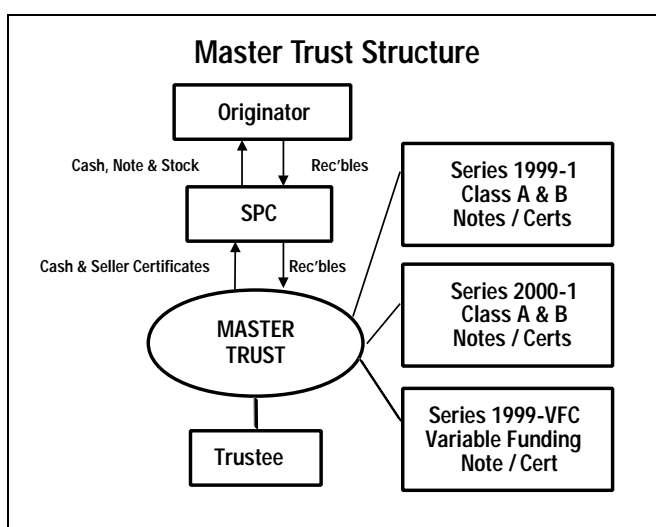
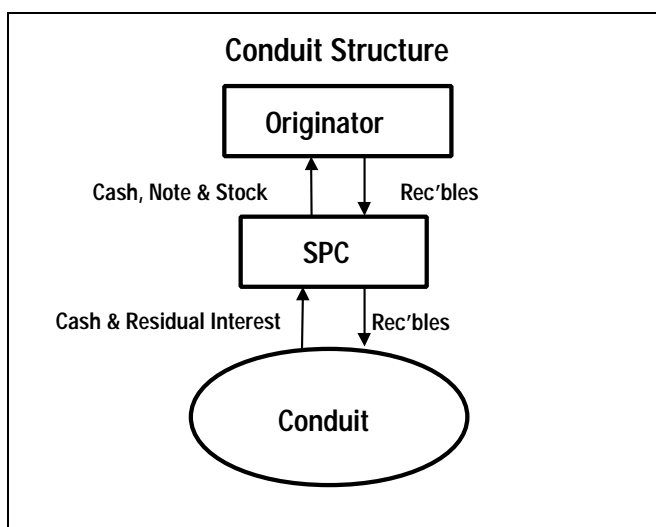
Nature:

Accounts receivables are short term, non-interest-bearing debt arising from sales of goods or services from a corporation ("the seller") to its corporate customers ("the obligors"). Because they are

non-interest bearing, there is no excess spread available to enhance the transaction. As they are generally unsecured obligations of business entities, 100% severity often results if an obligor defaults. The performance characteristics of trade receivables are not homogenous across the asset class as products, obligors, sales practices, payment terms, accounting and collection procedures vary greatly by industry and seller. The practices, strategic direction and financial condition of the seller may directly influence them.

Since there are seldom finance charges, there is reduced incentive for obligors to pay on time, and therefore delinquencies can be quite high. Being severely delinquent on trade receivable debt may not even lead to the stopping of shipping of new goods and definitely has less severe and lasting consequences than defaulting on bank debt. Cessation of shipping may occur after the second or later incidence of default.

Trade receivable pools generally have higher obligor concentrations than other asset types that are due from consumer obligors. They are also subject to dilution, which is a reduction in the amount owed for reasons other than payment or default. The assets turn quickly, generally within one to two months. Therefore, particular attention is placed on reducing the risk presented by cash commingling-which is payments received from obligors and due to the securitization but which pass through the seller's accounts. If left unresolved, cash commingling could result in the loss of a significant portion of the enhancement and bond proceeds.



Structure:

Trade receivable transactions are generally supported by a revolving pool of obligations. Accounts receivables are typically purchased at a discount to provide for yield and credit enhancement. This means that overcollateralization is the most common form of lost protection. Each transaction will have enhancement that is a total of a default reserve, dilution reserve, a yield reserve and a servicing reserve. As collections are received on old receivables, the purchaser usually can buy trade receivables that meet certain eligibility criteria during a five-year revolving period. The continuous addition of new receivables can lead to significant changes in performance trends.

Performance triggers protect investors by forcing a cease purchase resulting in early amortisation. The asset's high payment rates means that the amortisation period lasts only a few months.

The diagrams above highlight two typical structures seen in trade receivable securitizations. The conduit structure is what is generally found in single class transactions funded through ABCP conduits. In these structures, the originator sells trade receivables in a true sale to an SPC subsidiary that has been established to provide non-consolidation in the event of the seller's bankruptcy ("bankruptcy remoteness") to protect the liquidity syndicate backing the ABCP, and possibly to obtain off-balance sheet treatment for the seller.

The Master Trust structure has been used in term trade receivable transactions. A special purpose vehicle, usually owned by the seller, is formed to purchase receivables in a true sale from the seller and simultaneously resell them to a master trust that issues rated notes or certificates to finance the purchase. Each certificate represents an undivided beneficial interest in the trust. Under the master trust structure, several series of certificates secured by the same pool of receivables can be issued from time to time in order to finance growth in volumes and to replace older series as they are paid down. As each series may have a different maturity, interest rate and rating, the issuer is afforded a high degree of flexibility. The issuance of notes versus the issuance of trust certificates is a decision of the issuer based on tax and eligible investor considerations.

The trust structures almost always issue a variable funding certificate (VFC), which almost invariably is purchased by a multi-seller ABCP conduit. This VFC funding allows the company to obtain receivables based financing for temporary increases in the receivable base that would not justify issuing new term certificates. For example, seasonal increases in the receivable balance can easily be accommodated by a VFC.

Financing:

The flexible funding nature of ABCP has traditionally been seen as particularly compatible in financing trade receivables. ABCP offers flexible financing that approximately matches the term of the asset, and adjusts quickly to the amount of the eligible assets, which can vary from month to month.

In part, the growing interest in using term debt to finance trade receivables is due to the dearth of supply of liquidity facilities in the ABCP market and the uncertainty over the availability and terms of annual liquidity renewals for ABCP programs. The number of term trade receivable securitizations is unlikely to surpass the number of ABCP transactions, but these factors could increase the level of issuance in the term market. The challenge in term securitizations is increasing investor knowledge of trade receivables. Consumer finance assets such as residential mortgages, credit cards, auto loans and consumer loans are more known to the typical ABS investor. No index exists which follows the performance of trade receivable transactions and it is not widely remarked upon by securitization research analysts. Please see *Appendix 3* for examples of recently executed trade receivable transaction financed by ABS and ABCP.

Alternatively, both instruments can be used to finance the same pool, with the MTNs financing the static portion of the pool and ABCP financing the fluctuating, seasonal portion of the pool through the use of variable funding certificates.

Comparison of Financing Alternatives for Trade Receivable Transactions

	ABCP	ABS
Deal Size Million Euro	€75 -€ 150	€ 150- 200
Pricing	Less predictable	Higher
Deal Tenor	5.5 years	5.5 years
Execution Time	1.5 months	6 months
Credit Enhancement	Aaa to A2 levels	Aaa levels
Liquidity Facility	Typical	Not typical
Costs	Low	Low to medium

Application:

Due to their short turnover and non-interest bearing nature, the following methodology used for trade receivables is often commonly used for the following other asset types as well:

- utility bill receivables, including telecom receivables;
- forfeiting¹;
- charge cards;
- factored receivables;
- subscription receivables and
- bills of exchange².

II. ASSESSING CREDIT DEFAULT RISK

II. A. Originator Profile:

Financial Condition and Strategic Direction:

The financial condition and fortunes of the seller have a more significant impact on trade receivables performance compared to other asset types. Sellers who have an established market position, who are widely held, and who exhibit a higher degree of diversification in markets served and products produced can be expected to have a lower degree of volatility in their portfolios. Sellers in highly rated transactions generally have been in existence for at least five years and tend to operate in low-tech industries.

In order to understand the probable direction of future performance, Moody's reviews the whole business when evaluating a trade receivable transaction. This examination includes a seller's organisational structure and ownership composition; the amount of revenue generated and profitability relative to each business line engaged in; the seller's market share over the past few years; the general prospects for the industry; short and long term objectives; and anticipated changes in strategy.

The revolving nature of trade receivable transactions adds a degree of volatility to losses. A change in the originator's business strategy, target market, product positioning or stage in product lifecycle could result in a change in the portfolio's performance. Moody's considers the probability of a change in the obligor mix, the obligors' credit quality, demand for seller's product, sellers' underwriting criteria, seller's financial condition, and industry competition, and then evaluates the impact of these factors on the level of potential losses within the pool. *Sellers operating in inherently volatile or cyclical industries or sellers producing high tech or highly specialised goods will receive*

1 Forfeiting is a technique used to finance trade mainly in underdeveloped countries. It is a form of supplier credit which the forfeiter buys - usually at a discount and always without recourse - instruments such as promissory notes, bills of exchange, or accounts receivable that the exporter has received as payment for the goods or services delivered.

2 Bills of exchange are essentially documents that contain a promise by a person (an acceptor) to pay a certain sum (the face value) on a certain day (the maturity date) to a creditor (the holder). A purchaser of a bill of exchange has recourse not only to the acceptor but also to the seller (the endorser) and any other prior endorsers of the respective bill of exchange.

relatively higher enhancement levels. Sellers of products that demonstrate inelastic demand, such as electricity, typically have lower default rates and volatility, and hence lower enhancement levels.

Insolvency:

Corporate financial weakness of the seller may negatively effect the quality of the receivables' performance. The actual or perceived imminent bankruptcy of an originator may lead to lower willingness by obligors to pay, evidenced by higher delinquencies, increased offsets or other dilution and slower turnover. The seller may be unable to provide sufficient collateral when needed. The seller may grant more liberal credit underwriting policies in order to boost sales. Servicing of collections may deteriorate and there may be increased risk of fraud and the risk of cash being trapped in the bankrupt originator's estate. Higher delinquencies, losses and dilutions may be expected as the originator's financial performance deteriorates.

Moody's devotes a considerable part of its analysis to assessing the likelihood of the originator's insolvency and its resulting impact on the transaction. In reviews of the portfolios for several companies that securitized their receivables and later filed for bankruptcy protection, the performance of trade receivables subsequent to bankruptcy filing often is not materially different than prior to bankruptcy filing. In other cases, it is materially worse. Deteriorating performance of the receivables is often a function of the nature of the seller's business and sales practices that lead to aggravated dilution and offsets after bankruptcy. Most of the deteriorating performance noted in these pools subsequent to bankruptcy would not have been predicted by reviewing pre-bankruptcy pool performance statistics.

If the originator is rated by Moody's or benefits from a internal bank score which is closely monitored and in order to mitigate the risks of a possible deterioration in performance, some arrangers have elected to propose a rating trigger which may serve to stop further purchases of receivables if the seller's rating has become non-investment grade or lower non-investment grade. Alternatively, enhancement levels may be required to increase significantly. These two structures mitigate the risk of deterioration in performance if the seller's rating has migrated to lower non-investment grade. If the arranger, liquidity banks or credit support providers have other banking relationships with seller, they may be able to detect gradual changes to the seller's financial condition.

Funding Sources:

The funding of trade receivables is a critical source of working capital to the seller of the receivables. The presence of other sources of working capital funding for a trade receivable securitization is an important part of the ratings analysis. Moody's also examines the composition of the originator's capital structure to determine its reliance on securitization as a funding source. In the event of the insolvency of the originator, a high degree of reliance securitization for working capital financing has resulted in some ambiguity over the robustness of the segregation of asset collections from the bankruptcy estate in the U.S.

Underwriting Standards:

Superior judgement in underwriting and collection procedures will be reflected in the performance data and will result in lower enhancement levels. The seller's trade credit underwriting process is likely to be far more subjective than the typical consumer credit underwriting process. Moody's has generally not seen the use of quantitative scoring mechanisms similar to credit scores used for consumer pools. Setting credit limits and payment terms by industrial companies is often driven by subjective factors, such as the need to run a factory at a certain level of capacity. A large customer can to some extent control the business of the originator. Extended payment terms and frequent delinquencies are often noted with obligors who compose a large portion of the pool. These factors will be reflected in performance data and will lead to higher enhancement levels.

A large potential customer with a weak credit history may create a difficult situation. The customer may demand a high initial credit limit, and the seller may be pressured into compromising otherwise strict credit underwriting policies in the interest of promoting the relationship with the large client. For a longstanding customer, a seller generally does not stop shipping goods or put a customer on a cash basis, even though the customer has substantial unpaid balances. Instead, the seller tries to work with the longstanding customer by extending payment terms. This practice does not work well within the context of securitization.

Representations from the sellers will be made in the transaction documents that no changes to credit and collection policy will be made throughout the life of the transaction. For less creditworthy sellers or those whose receivables have weaker performance records, Moody's prefers to have an objective test (for example, those aged over 90 days) in the underwriting policy dictate the write-off requirement.

Operation Reviews:

Moody's performs an on site inspection of the originator's credit area for all term transactions. During an operation review,³ an examination is made to ascertain the procedures for the analysis of new obligors, setting credit limits, the approval process, the level of consistency in the application of credit terms, the ability of the marketing department to overrule the credit department, the monitoring of obligor payment performance and the clarity and rigor of collection procedures. The seller provides information on the cut off point for sales to delinquent accounts and the write-off policy.

If the size of the transaction dictates that its impact on the ABCP issuer's portfolio is de-minimus, Moody's may not need to conduct an operation review. In this instance, Moody's primarily uses historical pool performance to assess the relative strength of the underwriting and collection procedures.

II. B. Portfolio Eligibility Criteria:

As with any securitization transaction, eligibility criteria are the first line of defence against potentially riskier obligors and assets. *Tighter eligibility criteria result in significantly lower levels of enhancement, although they may mean a lower overall advance rate against the entire receivables portfolio.*

Obligor Exposure:

The most important eligibility criteria limit the funding of receivables from unrated or lower rated obligors to 1.0% of the outstanding balance ("normal obligor concentration limit"). Normal concentration limits of 2.0% or 3.0% lead to marginally higher enhancement levels. If the normal obligor concentration limit is higher than 3.0%, comparatively higher loss reserves will result. Higher limits for more creditworthy obligors ("special obligor limits") are set depending on the composition of the originator's pool and are discussed below.

In many transactions, collections in excess of the obligors' limits are allocated to investors. If the transaction benefits from these collections, any excess concentrations (the amount of receivables over these limits) can at times produce an additional level of enhancement in the transaction. Moody's will consider the impact of this additional enhancement on the rating based on its reliability and the credit quality of the obligors.

Moody's rating of a corporate obligor speaks to its publicly rated debt, not its trade obligations. A highly rated corporation may pay its trade creditors slowly or not at all, and this may have no affect on its Moody's long-term or short-term ratings. It may be possible to use another rating assessment if an obligor is not rated by Moody's. For example, obligors ranked under the arranger's internal credit scoring system have been accommodated by means of a mapping exercise to Moody's ratings.

In addition to the creditworthiness of the obligor, other factors are taken into account when ascertaining concentration limits relative to enhancement levels. An obligor may not be able to continue to operate without continued shipments of the product, making payment a high priority. This circumstance is typical of sales of inputs to continuous process manufacturers. Alternatively, pervasive damaging consequences on the obligor's external credit record upon a default, such as found in bills of exchange, will also serve to decrease loss reserve levels. A default on a bill of exchange is a matter of public record. A high proportion of obligors who pay through direct debit will also serve to reduce loss reserve levels.

³ See Appendix 2 for Moody's agenda for an operations review of a trade receivable transaction.

Risky Receivable Types:

Eligibility criteria should prohibit purchases of the following types of receivables:

- delinquent (usually 30-60 days past due from the due date but not more than 90 days past due) or defaulted receivables (typically more than 90 days past due);
- executory contracts in which obligations under the contract are so far unperformed and the failure to complete performance would cause a material breach;
- unearned receivables, which are those which are generated before shipment or delivery of goods purchased or services performed;
- government receivables or others where the obligor may not be legally subject to normal collection procedures;
- bill and hold receivables, which are created when the a good is purchased, the customer wants to postpone shipping due to lack of storage space or inability to determine a shipping destination, and the seller agrees to hold the merchandise until shipping is possible;
- receivables related to a service which is sub-contracted to a third party;
- current receivables due from obligors who show significant delinquencies on other receivables ("cross-ageing");
- receivables due from affiliates of the seller;
- receivables which are subject to any dispute, offset, counterclaim or defence; and
- receivables subject to any liens.

In the event that any of the above may be purchased, enhancement amounts would tend to be relatively higher because these receivable types carry a higher default and/or dilution risk, for reasons discussed below.

Net Receivables Pool Balance:

After applying the eligibility criteria to the total receivable balance, the receivables that remain after ineligible receivables are identified are called the eligible receivables or the net receivables pool balance.⁴ The eligible receivables or net receivables pool balance, is equal to the total receivables balance less ineligible receivables including intercompany debt, delinquent or defaulted receivables, cross-aged receivables (non-delinquent receivables of obligors with excessive percentages of delinquent receivables), and excess concentrations.⁵ In order for a trade receivables deal to be "in formula", the net receivables pool balance must be equal to or greater than the amount of securitized debt plus all required reserves. The calculation of the net receivables pool balance is measured frequently, at least monthly and often weekly. If any receivables are found to be ineligible at the time of calculation, the net receivables pool balance is reduced.

If a seller breaches any representations and warranty in regards to receivables sold, it is obligated to repurchase the ineligible receivables (other than defaulted or delinquent receivables.) The strength of this buyback obligation is commensurate with the seller's fundamental rating.

In order to avoid the administrative burden of tagging receivables, which are transferred to the securitization, some European transactions feature allocation ratios which are used to allocate cash between the issuer and the seller in the securitization. For example, if the investor does not benefit from the receipt of ineligible collections, the allocation ratio would attribute the portion of collections assumed to be arising from ineligible receivables to the seller. Collections in a share attributed to the eligible portion of the pool will be used to repay the noteholders. Similarly, if the seller has transferred more eligible receivables than that which is required under the borrowing base calculation, the allocation ratio may serve to ensure that the seller receives collections from the "excess" eligible collections.

4 The documentation accompanying any securitization will have a precise definition of the eligibility criteria. Different transactions may define similarly named terms differently. Moody's reviews this documentation and matches the legal definitions to the business intention as part of the rating process.

5 Please see Appendix Four for an example of the determination of the net receivables pool balance.

II. C. Portfolio's Turn Days:

The time from the generation of the invoice to the repayment of the underlying debt is generally quite quick, usually 38–45 days. The accounts receivable turnover is used to determine the payment rate. It is equal to 30 multiplied by the accounts receivable balance over collections and expressed in units of days.⁶

A longer repayment period provides more time for the credit worthiness of obligors to deteriorate or matters discussed above to affect their payment patterns. *Therefore portfolios with slower turnover will generally require greater enhancement than comparable portfolios with quicker turnover.* Trade receivables transactions will typically have a trigger based on the turnover rate. If the turn lengthens beyond a certain number of days, no new receivables may be purchased, limiting exposure to slower paying obligors. Eliminating exposure to slower paying obligors in this fashion may serve to reduce enhancement levels.

II. D. Data Review:

Data Sufficiency and Accuracy:

Moody's considers the historical performance of the receivables pool based on information provided by the originator. As a general rule, at least three years of monthly performance data of the trade receivables is required.

Table 1 lists the data items that Moody's typically likes to review when rating trade receivable transactions. To the extent that all of the data indicated in *Table 1* could be supplied, enhancement levels may be reduced. With a full set of data, Moody's will be able to predict the distribution of losses with a higher degree of certainty. *While a common problem in European transactions, an absence of data or the presence of a few data points leads to higher enhancement levels relative to historical default levels due to the higher degree of uncertainty.*

Table 1
Data Requirements for Each Originator*
(monthly, covering three years or more of history)

1.	Sales, collections and end of month receivables balance.
2.	Pro-forma calculation showing amount of eligible receivables obtained from total receivables pool under the terms of the securitization.
3.	Ageing-amounts in 0-30, 31-60, 61-90, over 90 days past due (or past invoice, depending on the terms of the securitization) and write-offs.
4.	Pro-forma loss, dilution, and other reserve calculation for the last three years.
5.	Pro-forma trigger calculation under the terms of the transaction.
6.	Dilution, unapplied cash or other adjustment amounts for last three years.
7.	Trade receivables turn in days.
8.	Breakdown of top obligor concentrations and their ratings in addition to payment history of top obligors, noting any significant delinquencies or disputes.
9.	Breakdown of government versus commercial receivables; foreign versus domestic receivables; and intercompany receivables
10.	In transactions with more than one originator, items 1, 3, 4, 5, 6, and 7 above should be broken down by originator as well as provided in total

* Please see Appendix 4 for an example of #1,2,3.

Explanations of divergent results or business system changes that affect the data supplied will expedite the enhancement calculation. Often, a recent change in MIS systems or accounting for recent acquisitions will make it hard to present consistent data that is truly reflective of the ultimate performance of the pool. In these instances, enhancement levels will be relatively higher.

However even in cases where the data is ample and accurate, the data may fail to reflect the expected loss of the pool. Data from good economic times may underestimate potential loss levels

6 The payment rate is equal to a) 30/Accounts receivable turnover or b) to restate: collections/receivable balance, and is expressed as a percentage of receivables. Please note that these are the definitions used by Moody's when analysing a trade receivables transaction. Some transaction documents may use different definitions and present data based on those definitions. Moody's will generally rework the data to obtain numbers on a comparable basis.

during a recession. Interdependence noted between the seller and the obligors may lead to increased offsets. Also, historical ageing data may not predict the payment behaviour of future customers if the seller's business involves making a relatively small number of one-time sales of big ticket items to an ever-changing population of repeat customers.

With time, more data will be generated, and Moody's is willing to revisit the credit enhancement if performance warrants. For many trade receivables transactions, the reserve levels are dynamic. Hence better than expected performance may automatically lead to reduced enhancement and an improved advance rate.

Delinquencies:

Delinquencies are often a function of the amount of negotiation power between the seller and its obligors, the industry standards, the credit quality of the obligor base and whether delinquencies are measured from the invoice or due date. Industry standard practice and lax collection procedures often lead to high levels of delinquencies in trade receivable pools. Many pools can have up to 20% of the pool being 1 to 30 days delinquent. Larger, more creditworthy obligors may be late payers due to their comparatively stronger position relative to the seller in the commercial relationship.

The payment behaviour of obligors, particularly the ageing of large obligor receivables, is instructive in determining the reserve levels. Moody's looks at the trend in roll rates (the amount "rolling" from the 31-60 day bucket to the 61-90 day bucket in the subsequent month, etc.) to determine the likelihood that late payers will ultimately pay or end up as credit losses. When sellers provide discounts for quick payers, delinquencies may be reduced however dilution in the form of discounts is increased.

Loss Proxy:

Since the write-off of trade receivables is left up to the discretion of the seller, the best estimate of loss (the "loss proxy") is severely past due receivables, typically receivables which are 90 days past their due date, though a different measure may be called for depending on the nature of the industry. *Transactions with a higher loss proxy will require higher enhancement levels. A higher degree of volatility in the loss proxy, as reflected in the relationship between the standard deviation and the mean, results in a relatively higher level of enhancement.* Significant variability of the loss proxy, as measured by the standard deviation of the mean loss proxy, can lead to higher credit enhancement levels necessary to cover a potentially higher degree of volatility.

Moody's reviews the available data both quantitatively and qualitatively. The trend of the portfolio's performance is compared to the strategic endeavours that were underway at the corresponding time. Also, rapid growth in the receivables balance may mask deterioration in pool performance, and therefore it becomes important to match the loss proxy with the receivable balance at the time of origination: vintage approach. Vintage data based on the time of origination may provide more insight than time-series analysis.

Moody's attempts to understand the circumstances that led up to the spikes in the loss proxy, and assess the probability of these circumstances reoccurring. Spikes—periods of exceptionally good or exceptionally bad performance—may be the result of identifiable one-time events, and therefore excluded from the sample. Alternatively, a spike may indicate an exceptional event which could reoccur, and which must be dealt with structurally or with enhancement. For example, an increase in sales followed closely by a rise in the loss proxy may suggest a possible loosening of underwriting standards. There is usually little that may be done to prevent an originator from changing its underwriting standards, so higher enhancement levels would result in this instance. In another scenario, a spike in losses is commonly caused by the default of one larger obligor, which could happen during the transaction's life unless eligibility criteria prevent large exposures.

Seasonality:

Highly seasonal businesses do not easily lend themselves to efficient trade receivable securitization. Sales, receivables and collections may be highly concentrated in a short period of time. Obligor may pay more slowly as they wait for their sales to consumers or other customers. The seasonal demands particular to a seller's industry may create higher losses at certain times of the year. Accurate analysis of these patterns will only be revealed by looking at several years of data, more

than the three-year minimum cited above. Finally, standard formulas for determining loss and dilution reserves (see below) tend to yield very low advance rates, limiting the effective amount of financing received by the seller.

A more significant problem is posed by the dynamic nature of the reserves in most trade receivable transactions. The rapid increase in receivables at certain times of the year requires a concomitant increase in the amount of reserves. If performance also deteriorates, reserves must be even higher. A requirement to introduce higher enhancement levels may come too late for the seller to post additional eligible receivables. If the debt were issued during the peak season of a seller's business cycle, there would be times during the revolving period when the seller would be unable to generate enough receivables to support the level of borrowing. For term transactions, a portion—possibly a large portion—of principal collections that would normally be invested in new receivables would be kept in an excess funding account in the absence of sufficient receivable generation. As a result, highly seasonal businesses require close monitoring with frequent, often daily resetting of the borrowing base during the period of large sales generation and the collection of those sales.

Some, but not all of these issues may be addressed if the transaction is financed by ABCP. The seasonal fluctuations in volume could be financed through variable funding certificates potentially purchased by an ABCP conduit, as most ABCP is issued with a maturity of 90 days or less, matching the growth and paydown of trade receivables.

II. E. Triggers and Remedies:

Out of Formula Trigger:

Moody's requires that every trade receivable transaction contain an "out of formula" feature. A transaction is "in formula" if the amount of outstanding debt plus required reserves is less than or equal to the amount of eligible receivables⁷. This test should apply at least at the time of purchase of any new receivables, and on each settlement date. Trade receivable transactions typically settle monthly, and in some cases more frequently. Being "in formula" ensures that, at least when the assets are purchased, investors will benefit from the minimum required level of enhancement. Moody's then evaluates whether the minimum required level of enhancement provides adequate loss protection during the time it takes the receivables pool to pay down.

Many trade receivable deals, especially those for unrated or speculative grade sellers, settle weekly and often daily. Frequent settlements mean the "out of formula" situations are corrected before they can become too large. Rapid deterioration is possible when there is a quick turn of receivables and the possibility of a significant decline in the receivable balance. If, for example, a transaction is settled monthly, the settlement statement would indicate that the deal is still "in formula" for a full month before the next settlement date. During that month, even if under the control of the trustee, cash collections would still be allowed to revolve back to the seller in the belief that collections are being used to purchase new receivables that are being generated during the month. However, due to seasonal factors, diminished demand for the seller's product or other business factors (such as a strike), the level of cash collections could far exceed the new sales generated. The settlement statement received at the end of the month could be indicative of a huge "out of formula" status at this point. To the extent that the deficiency is a very large amount, it is not easily cured and often a precursor to an extreme event such as a seller bankruptcy. The securitization would neither have the receivables or the cash, only a large recourse amount due from the originator. Investors would have to be exposed to additional risk, in the form of recourse to an originator whose rating is usually significantly less than that of the securitised bond.

⁷ Since enhancement is typically in the form of over-collateralisation, the formula refers to the asset base; if, for example, a letter of credit was also provided in enhancement, the formula would consider the amount of eligible receivables plus the available letter of credit amount.

Meaningful Triggers Relative to History:

Highly rated trade receivables transactions also have default, delinquency and dilution triggers set at meaningful levels relative to historic results. Often, it is highly unlikely that performance related triggers in trade receivables transactions would ever be tripped. Three common problems with these triggers' construction are:

- First, trigger levels are simply set too high relative to the historical mean and standard deviation of the loss proxy. Proposed triggers are often set more than five standard deviations from the mean loss proxy. The trigger levels should be set to obtain the appropriate result in the transaction. A trigger requiring a notification to Moody's and review of current results would be set tight relative to performance. However, a trigger requiring an early amortization should not be set so tight as to occasion a winddown of the transaction upon a one-time spike in performance results. If, for example, the mean loss proxy is 1.20%, the standard deviation of the loss proxy is .60% and the maximum loss proxy reflected is 2.50%, an early amortization trigger of 4.80% (6 standard deviations away from the mean) may be set too high. For example, a more appropriate trigger level may be the mean of the loss proxy plus perhaps three standard deviations, depending on the amount of enhancement. In other transactions, setting the trigger in the amount of three standard deviations from the mean loss proxy may be too high, depending on performance data, the remedy occasioned by the trigger, and the amount of credit enhancement.
- Second, three or especially twelve month rolling averages "smooth" out the results of the trigger calculations, and make them less meaningful. The smoothing can serve to mask the effects of a volatile performance; i.e. an originator with consecutive monthly average defaults of 0%, 4.0% and 2.0% loses 2.0% on average. However, monthly performance is very volatile. Averages also mask the effects of deterioration in pool performance: a pool with losses of 1.0%, 3.0% and 5.0% has average losses of 3.0%, but losses have recently been much higher than that level.
- Third, the method of calculation is often not responsive to the attributes of variable measured. A dilution trigger that reflects dilution in the most recent month is more effective than one that averages it over the last three months, because dilution amounts can increase very significantly very quickly.

These flaws in trigger calculations occur in all asset types. However, they are particularly troublesome in trade receivables transactions due to their high repayment rate.

Tighter triggers result in lower enhancement levels because they force an early amortisation before performance deteriorates too far. Inversely, if the performance-related triggers are set loosely compared to actual performance, the enhancement levels may be set high relative to actual performance. Naturally, triggers set too close to expected performance levels should be avoided as they may result in a too early termination of the transaction.

Seller Related Triggers:

A transaction may also have triggers related to the rating or financial condition of the originator. As noted, deterioration in the financial condition of the originator may lead to a decline in the credit quality of the portfolio. Triggers relating to the originator include a loss of rating level (if applicable), a change in ownership, financial covenants, a material adverse change in financial condition, payment default, cross-default and/or cross-acceleration, and bankruptcy.

Remedies:

The tripping of triggers in a trade receivable transaction requires the issuer to stop purchasing receivables. Certain structural features may accelerate repayment and are therefore considered stronger. First, all collections from the receivables, including recoveries and, at times, including those from ineligible receivables and excess concentrations: may be used to repay investors. In many trade receivable deals the allocation factor for cash to senior investors is set to 100% during amortisation. Second, the amortisation of enhancement will "freeze" upon an early amortisation and as a result, a continuously higher level of cash is allocated to the senior investor.

Other remedies may also be applied as a result of triggers. These include higher enhancement levels, changes in servicing or control of cash flows, and more frequent settlement. In addition, triggers, except the out-of-formula trigger, may not be mandatory, and may be waived with the

approval of certain parties. These factors are also weighed in evaluating the enhancement levels and assigning the rating.

II. F. Determining the Amount of Loss Reserves: Enhancement Sizing:

The appropriate amount of enhancement for losses is a function of: the mean and standard deviation of the loss proxy over the last three years; exposure amount and ratings of special obligors; the likelihood and impact of the originator's insolvency on pool performance; the potential for deterioration in the risk profile of the pool over time; the strength of the triggers, the length of the receivables turn and structural protections such as a requirement to cease purchasing new receivables or issuing ABCP.

In general, the amount of enhancement for trade receivable transactions tends to be between 15-25%. The amount of enhancement for trade receivable transactions is typically the greater of:

- a) a dynamic formula that responds to changes in the pool's performance.
- b) a fixed nominal percentage of outstanding eligible receivables and;
- c) the amount necessary to cover a number of the largest obligor concentration.

Moody's determines the adequacy of these amounts by an examination of the convergence of the effects of the qualitative factors discussed above and the results from the following approaches:

- a) a review of the responsiveness of a dynamic calculation to changes in historical performance;
- b) an examination of the repayment of the pool under stressed scenarios; and
- c) the results of alternative methods such as a Monte Carlo simulation or the binomial expansion method for pools with concentrations of obligors.

Dynamic Enhancement Calculation:

The dynamic calculation for the default reserves often takes the form of a default ratio multiplied by a stress factor multiplied by the time over which losses can occur. This is identical to the following formula using the loss-to-liquidation ratio:⁸

$$= \frac{EP \times L \times BA}{TU} \times \text{Multiple}$$

Where:

EP =

the sum of the contractual payment terms plus the number of days a receivable is typically paid by, which will be adjusted given current trends in payment performance

L =

the loss-to-liquidation ratio, which is the ratio of write-offs (typically receivables aged 91 to 120 days past due for the current month) to collections in a particular period.

BA =

the outstanding balance of the seller's portfolio

TU =

the receivable turn days

For example, if the receivable terms are 30 days and the average time to payment is 90 days, the Exposure Period would be 120 days. If the receivables turn is 60 days, the loss to liquidation level is 2.5%, the pool balance is €300,000,000 and the multiple is 2.25, the loss reserve would be €33,750,000.

⁸ Note that the loss to liquidation ratio *L* is losses divided by collections. Turnover, *TU*, is 30 days multiplied by the receivables balance divided by collections. Hence *L/TU* is equal to losses divided by the receivables balance, divided by 30 days (meaning Losses/Receivables* 30). The extra divisor of 30 days converts the waiting period, *EP*, from days to months. Therefore, (*EP* x *L* / *TU*) equals (*EP/30*) x (Losses/Receivables Balance). *EP/30* is the loss horizon in months and Losses/Receivables Balance is the loss ratio.

Moody's evaluates dynamic formulas by reviewing the historical performance of the originator's receivables. The average, median and peak of the loss proxy (generally the level of 91-120 day past due receivables) are compared to the amount of the dynamic calculation that would have been required at those times.

The largest disadvantage of dynamic calculations is that they fail to take into account any change in the number of or rating of special obligors. Also, a uniform stress factor at a given target rating is not relevant, as it fails to take into account the volatility particular to the pool and the qualitative factors discussed above. In some cases this leads to underenhancement, in others to overenhancement. The level of stress should be a function of the level of volatility of pool performance. The expected level of volatility may be in part determined by an examination of historical volatility and in part predicted by an estimation of the likely obligor composition in the pool. Generally, less granular pools will have a higher degree of volatility. Pools with a lower degree of volatility may be afforded a lower enhancement level than that which is required under the dynamic calculation.

Another potential problem is the responsiveness of the dynamic calculation to sudden changes in performance. In many implementations, the loss proxy is calculated on a three-month (or longer) average basis. This means the reserve levels will not adjust quickly enough for pools with a potential for rapid change in defaults and dilutions. This problem is particularly endemic to pools that demonstrate a higher degree of volatility in performance in defaults and also for dilution, which naturally has a high degree of volatility. In these instances, Moody's prefers a dynamic calculation that uses a shorter period rolling average—or no rolling average, simply the latest value—and some additional factor to cover the volatility, such as looking back to the maximum one month default (or dilution) level reflected over the last twelve months.

Testing Adequacy of Loss Reserves:

For ABCP-funded transactions, Moody's generally looks to see that ABCP will be repaid even in the more stressful transactions. In order to determine the sufficiency of reserves, Moody's models the repayment or "wind down" of the trade receivable pool. This analysis uses the following assumptions: the "out-of-formula" trigger is tripped and reserves are precisely equal to the required levels, no new receivables are added to the pool (fully declining pool); interest on the debt continues at the contract rate; the receivables are financed until they are paid off or a loss is incurred; and loss reserves are fixed at a notional amount, meaning reserves do not dynamically increase if losses increase.

The receivable turn of the pool, the loss rate, and the dilution rate are treated as random variables and are stressed. The stress is applied to both the mean and the standard deviation of these variables. The amount of stress may be adjusted for each pool to take into account the qualitative subjective factors discussed above. Servicing fees are assumed to rise to the cost of employing a back-up servicer (though trade receivable transactions generally pay down too quickly for a back-up servicer to be of any use, if they are only introduced when the seller is insolvent.) The adequacy of the average and the minimum floor reserves are reviewed separately under these circumstances. If the average reserves did not prove to be adequate under the stressed scenarios, the reserves may be increased or performance triggers tightened to limit investor exposure to volatility in performance. If pool performance reflects a higher degree of volatility, and if dynamic reserves prove unresponsive for the reasons discussed above, Moody's prefers that the minimum floor reserves be adequate under highly stressed scenarios.

For term transactions, which are rated on an expected loss basis, either a Monte Carlo simulation approach is used to evaluate losses under a large number of scenarios or a log normal approach is used to directly produce a distribution of losses. These two methods are not mutually exclusive, in that a log normal distribution may be used to model losses or other variables in the context of a Monte Carlo model. The lognormal approach is simpler, faster and less computationally complex, but the Monte Carlo approach permits modelling more complicated transactions, including large obligor defaults.

For example, the lognormal approach resolves the performance of the transaction into a single estimated distribution of losses. The enhancement for each class of debt is compared to the loss level, and then an expected loss is calculated over the probability of each loss level.

A Monte Carlo is used to calculate the expected loss to investors over a wide range of randomly selected values for the payment rate, losses, dilution, reserves and the receivable pool size. The probability distributions are based on Moody's analysis of the originator's managed portfolio performance. Losses, dilution, and payment rate are sampled on a stressed basis by giving additional weight to the tail of each distribution. This is done on a linked basis such that one variable's favourable performance, i.e. dilution, does not compensate for the poorly performing variable, e.g. losses. The model also incorporates the rating of the originator as a proxy for the likelihood that the program will amortise due to seller or servicer risk. A lower originator rating-which may be stressed-has the effect of generating amortisation scenarios on a higher probability basis. The estimated amortisation cash flows are embedded in a full cash flow model of the transaction, which assumes required payments are made to investors unless and until wind down

With either method, the expected loss can be compared with the expected loss tolerances for Moody's long term debt ratings for the given term of the transaction. The rating tolerances vary by term and are therefore coupled with the term of the transaction, i.e. 5-year legal final. In the case of the rated term notes or certificates, the modelled expected loss must be consistent with that associated with the expected rating.

Form:

Typically credit enhancement is in the form of overcollateralization, although credit insurance, seller recourse or letters of credit have been used.

Forms of enhancement other than overcollateralization are stronger in that they will not be subsumed in the originator's insolvency. Credit insurers are increasingly relied on to offer credit protection in European transactions. In these transactions, the ratings of the credit enhancers and the conditionality of that credit enhancement (i.e. conditions for claiming payment under a credit insurance policy) are very important factors in the rating of transactions.

If the seller has sufficient credit strength relative to the rating on the subject transaction, direct recourse to the seller may serve as enhancement. The use of seller recourse has the effect of more directly correlating the rating of the trade receivable securitization to that of the seller. If the seller's rating falls below that of the issuer, it is generally necessary to switch immediately to another form of enhancement-possibly overcollateralization- to maintain the original rating, all things being constant. The use of the recourse approach may weaken the argument that transfers of receivables from the seller to the issuer should be viewed as a true sale rather than as a financing in the event of the seller's bankruptcy.

Table 2
Terms Needed in Order to Size Credit Enhancement

1.	Concentration limits in the eligibility criteria for normal and special obligors
2.	For transactions with more than one seller: amount of any seller limits
3.	Numerical amounts of key performance triggers and remedies
4.	Receivable turn days
5.	Definition of the loss proxy
6.	Pro-forma calculation of all reserves and whether reserves are "fungible" – meaning, for example, the dilution reserve can potentially be drawn to cover defaults if the default reserve is insufficient
7.	(For ABCP transactions: whether the programme credit enhancement can be specifically allocated to support the subject pool addition)
8.	(For ABCP transactions: which, if any, risks in an ABCP transaction are being absorbed by the liquidity banks?)
	• Cash commingling
	• Non-defaulted receivables found to be ineligible
	• Dilution
	• True sale

II. G. Special Obligor Concentrations:

The degree of concentration to special obligors can be the second highest (behind dilution, discussed below) contributing factor to the amount of credit enhancement in trade receivable transactions if the transaction is assessed according to the special obligor limits allowed under the eligibility

criteria. If a seller's receivables have no significant obligor concentrations, the risk of obligor defaults can be assessed through a statistical approach on a collective basis. Well structured transactions generally have normal obligor concentrations of between 1.0% to 3.0% of the receivables pool attributable to any single obligor and its affiliates. Slightly higher normal concentration limits may lead to slightly higher enhancement. If, alternatively, a seller's portfolio includes significant exposure to any particular obligor, the diversification of the pool is reduced and enhancement will be a function of the size and the ratings of those obligors. Moody's views the exposure as one that could be riskier than an unsecured loan by the issuer to that obligor depending upon the nature of the industry, the importance of the product to the buyer and the ability to find alternative suppliers.

Moody's also considers the projected change in obligor concentrations allowed under the eligibility criteria relative to the current obligor concentrations. For example, if the historical data reflects that the highest obligor concentration is 1.30%, however the special obligor concentration under the eligibility criteria is 5.0%, the seller is contractually allowed under the eligibility criteria to significantly change the manner in which it conducts its business. Potential loss severity is much higher than that which is reflected in the performance data. In each transaction, Moody's assesses the probability that the actual obligor exposures will be equal to that allowed under the special obligor concentrations in the eligibility criteria. Moody's will look at various factors which may compensate for the risk of changes in obligor concentrations. The dynamic credit enhancement formula may include a term which increases enhancement if concentration increases. The business may be such that large obligor concentrations are unlikely. Finally, Moody's may ask for regular monitoring of large obligor concentrations. If use of relatively high special obligor concentrations is viewed as likely, enhancement may have to increase accordingly.

Risks Associated with Special Obligor:

A default or dispute by a large obligor can translate into large losses for the pool. In addition, depending on how closely correlated the obligors' performance is to the seller and to each other, and the length of the receivable turn days, a large number of obligors may default simultaneously.

The composition of obligors tends not to be diversified by industry. There may be a concern that multiple obligors may default simultaneously which is mitigated in part by the quick turnover of trade receivables transactions. Moody's takes correlation into account by examining the stability of the underlying industry, the level of necessary allegiance between the seller and the obligors, and the short-term nature of the obligation. *Large concentrations in the same weak industry will lead to relatively higher enhancement levels because the correlation between seller and obligor is more pronounced in these cases and performance may reflect a higher degree of volatility as industry trends deteriorate.*

Proposed obligor concentration limits are often linked to the obligor's rating based on the assumption that the obligor's payment performance with respect to the receivable will mirror the obligor's performance on its publicly rated debt. *Moody's ratings speak only to payment performance on publicly rated debt, not to payment performance on receivables. Failure to pay a trade obligation will not in itself result in Moody's downgrading the short-or long-term ratings of the obligor.*

An obligor's rating is also not necessarily indicative that the obligor will pay the receivable on time, commonly referred to as "slow pay risk". Slow pay is typical in trade receivables transactions because the consequences of being delinquent on a trade receivable transaction are far less harmful than those associated with defaulting on publicly rated bonds or bank debt. A late payment on an invoice will commonly have no negative effect on the obligor's reputation in the capital markets and the obligor may very well carry on its business relationship with the seller. An obligor of any rating level may pay late for working capital conservation, to meet seasonal increases in inventory, or because it is unlikely that a seller will take any action against such a large, important customer. Sometimes the delay in payment is occasioned by logistical features of the obligor's payment approval and disbursement procedures.

When large concentration limits are sought for obligors with high ratings, Moody's will want to review the historical monthly delinquency performance of these obligors. In many cases, this performance reflects a high level of delinquencies. For transactions financed with ABCP, liquidity facilities typically provide funds up to the amount of non-defaulted assets, where a default is generally considered a receivable not paid within a set amount of days of its invoice or due date or whose obligor is

bankrupt. A period of 90 days is typical, so that an invoice aged more than 90 days from any obligor will be considered defaulted, even if it is just a slow pay. The slow pay problem is not endemic to term transactions where the rating addresses the timely payment of interest (and sufficient reserves will be available to cover the coupon on the bond) and the ultimate payment of principal.

Moody's or another source's rating is useful in that it can be a good indicator of the bankruptcy potential of the obligor. When an obligor files for bankruptcy protection, generally a large portion of receivables due from that obligor are a loss.⁹

Mitigants to Slow Pay Risk:

There are three usual mitigants to slow pay risk for transactions. The first method is to simply limit the amount of receivables funded from large obligors. The other alternative, which only works for transactions funded by ABCP with liquidity facilities, is for the liquidity definition of default to have a separate, longer period definition for larger, more creditworthy obligors. Third, in order to limit exposure to larger concentrations, a trigger based on cross-ageing can be used. A cross-ageing trigger requires all receivables due from a special obligor with significant proportion of delinquent balances to become ineligible for purchase and possibly excluded from the eligible receivable balance.

Moody's Rating and Other Assessments:

If Moody's rates an obligor, the rating serves as a measure of the obligor's credit quality. As discussed above, its willingness to pay the trade receivable may not be indicated by their rating. In certain circumstances, Moody's will also consider other factors such as the relationship of the obligor to the seller's business. However a good amount of evidence must be readily available to support these contentions. If the obligor is not rated by Moody's, the obligor is considered to have a low non-investment grade rating unless substantial evidence indicates that a higher rating level is more appropriate. Such evidence can, for example, take the form of a bank internal rating score in instances where a prior mapping exercise has been conducted between the arranger's rating and Moody's. If the obligor is not yet rated while its parent is, evidence such as a guarantee or undertaking of the parent's explicit support is requested. Moody's may also consult with the parent's fundamental rating analyst regarding the subsidiary.

Relying on an obligor's rating to analyse the credit quality of the receivables pool requires that those ratings should be monitored throughout the life of the deal. If the special obligor's rating is downgraded, their exposure in the transaction should be reduced to that of a normal obligor upon the next asset purchase or some other compensating action should be taken.

Reserve Levels for Special Obligors:

Faced with large obligor concentrations, Moody's may explicitly model the impact of obligor default in order to assess the adequacy of credit enhancement levels given the proposed expected loss. A Monte Carlo simulation can be expanded to consider the rating or credit worthiness of each obligor, the aggregate exposure to each obligor and its affiliates ("group"), the degree of correlation between the obligors within the same industry, the degree of diversification by industry and the receivables' turnover. Another approach would be to apply the binomial expansion method to model default risk. The business reasons for high concentration levels will be assessed as well. Some businesses may fail to operate in absence of goods sourced from the seller, such as retailer's reliance on apparel manufacturers. Moody's reviews the obligor's historical payment pattern and consequences for default.

Given that different pools will require different enhancement based upon the ratings and possibly the degree of correlation amongst obligors, there are no rigid rules requiring a certain number of

⁹ Recoveries on defaulted trade credits will depend on the industry, the obligor, and the importance of continued supply to the obligor's business. Many companies will continue to operate in bankruptcy, and the payment of outstanding trade credits may be necessary in order to obtain a continuing supply of product necessary in order to operate. There will usually be a delay in payments, at least until a court can review and approve any payments. Smaller companies typically have less options afforded to them and may therefore proceed from filing insolvency proceedings to liquidation in a shorter period of time. For highly rated transactions, Moody's generally does not afford significant benefit to the amount of recoveries forecasted to be received from the liquidated estate of a bankrupt obligor due to the high degree of uncertainty surrounding the amount of the distribution to unsecured creditors. This analysis will depend in part due to the industry in question, the revenue size of the obligor and the amount and clarity of the circumstances reflected in the "roll-rate" data (for example 91-120 days in one month, 121-150 days in the subsequent month.)

obligors be covered by credit enhancement in order to achieve a certain rating. For example, if two pools were identical: 35 day turn, very well diversified by industry, otherwise small concentrations, operating in an industry with negative trends: except that the first pool had special obligor concentrations of three **Aa2** obligors of 5.0% each, and the second pool had special obligor concentrations of three **Baa2** obligors of 5.0% each. The first pool may require 15.0% loss reserves in order to achieve a **Aaa** rating, while the second pool may require 17.0%. Further, if the obligors had not been well diversified but had operated in only two industries, the loss reserves to achieve an **Aaa** rating would have been 25% for the first pool and 26% for the second pool. Obviously, other factors contribute to Moody's assessment of credit enhancement.

The lower the rating of the special obligors, the more closely their performance is correlated, or the larger amount of exposure to each obligor all lead to relatively higher enhancement levels. In instances where sufficient overcollateralization is regarded as uneconomic, credit insurers have recently taken a larger role in providing a limited amount credit support to transactions that have larger concentrations.

II. H. Special Considerations for Transactions Financed with ABCP

The target rating for transactions financed with ABCP are lower than that typically associated with the senior tranches of a term deal. The underwriting standards for an ABCP transaction may be single **A** or **Baa** level, whereas senior tranches of ABS are typically targeted at the **Aaa** level. As a result, lower pool-specific enhancement levels are generally reflected in ABCP transactions than for term transactions because the expected loss associated with the target rating level is higher. Funding triggers, liquidity facilities and program credit enhancement further strengthen the transaction to raise it above the single **A** or **Baa** level and permit the conduit's ABCP to be rated **Prime-1**.

Portfolio Effect:

Occasionally the amount of the proposed pool specific credit enhancement will not be sufficient to confirm an ABCP programme's **Prime-1** rating.¹⁰ For example, suppose that the proposed pool-specific enhancement amount was 10.0% but that the amount of enhancement necessary to be commensurate with **Prime-1** (indicative of a default probability in the **Aa** range) was determined to be 15.0%. The remaining 5.0% in this instance may be derived from an "allocation" of the 8.0% program credit enhancement. Moody's will typically track and disclose this allocation of program credit enhancement. Moody's examines the effect of the inclusion of the pool on the conduit's portfolio, and recognises that the size of the pool relative to the amount of non-allocated programme credit enhancement, as well as the correlation of the seller to other existing sellers within the portfolio also need to be taken into account. *Conduits with a lot of excess program credit enhancement and a diversified portfolio may purchase deals with weaker structures and still maintain their **Prime-1** rating.*

Effect of Liquidity Facility:

Moody's analysis often starts with an examination of the liquidity funding formula¹¹ in ABCP transactions. Liquidity banks in partially supported ABCP programmes typically fund up to the amount of non-defaulted receivables, where a defaulted receivable is that which is aged over some limit, typically 90 days past due or whose obligor is bankrupt. Moody's will then size the amount of loss reserves to correspond to that which is expected fall into those categories

Sometimes, as an accommodation between the sponsor bank and its client, the seller, some underwriting concessions are made, such as less frequent settling of the transaction or commingling of cash. These weaknesses may typically work in an ABCP transaction as these types of risk are often assumed by liquidity banks supporting ABCP transactions. Liquidity banks may elect to absorb other risks associated with the transaction, including: a true sale of the underlying assets,

¹⁰ A short term rating is an indication of probability of default only. In order to confirm the Prime-1 rating of a conduit in conjunction with its proposed purchase of a new seller addition, Moody's quantifies the probability that losses on the pool added will exceed the pool-specific credit enhancement. This probability can be compared with the default rate tables in order to assign a long term rating equivalent as an indication of the probability of default of the transaction added to the conduit. If the pool-specific enhancement is insufficient to achieve at least an **Aa2** default probability, the effects of the program credit enhancement will be taken into account.

¹¹ The funding formula in the liquidity facility's documents is sometimes also referred to as its "borrowing base."

cash commingling, seller servicing, receivables found after purchase to be ineligible, residual risk, liquidation at the “tail” of the transaction and dilution. If a risk is absorbed by the liquidity banks, Moody’s analysis will rely solely on the strength of the obligation of the Prime-1 liquidity banks and not depend on an examination of the reserves or structural protections necessary to mitigate the risk. These ABCP transactions may have looser requirements on credit enhancement for dilution, cash commingling and frequency of settling. If, however, as is often the case in Europe, risks are not absorbed by liquidity banks, either reserves must be sized to provide for the potential drain on cash flow or structural mitigants must be introduced. Moody’s expects the level of risk absorption by liquidity banks to decline in the near future.

III. ASSESSING RISKS OTHER THAN CREDIT DEFAULT RISK

III. A. Cash Commingling and Asset Transfer

Cash Commingling:

Moody’s reviews the cash collection process, the location, ownership and charges over all accounts, the control of the originator over the accounts, the presence of any other funds collected within these accounts, and the timing of transfer of funds to other accounts.

Ideally, all cash collections belonging to the transaction would be segregated from the originator and placed in an account in the name of the issuer. This is often the case in the US where “lockbox” arrangement for payments are quite common. Obligor’s are directed to send all payments to an account controlled by a bank — often the trustee for the transaction — and not to the originator. The lockbox account is not used for any purpose other than collections related to the transaction. In some cases, the originator may direct the trustee to make cash payments from the lockbox so long as it maintains a rating above a certain level or other deal triggers have not been hit. Lockbox arrangements are not found in Europe.

Practically, all cash collections, may if only for a short period of time, be directed to an account in the name of the originator. However this arrangement may have a significant impact on the amount of support facilities in trade receivable transactions due to their quick turn. In instances where cash is deposited in accounts in the name of the originator, these funds may become trapped or “commingled” in the event of the originator’s insolvency. In such cases, enhancement will be increased to allow for the possibility that these funds will be “lost” in the insolvency of the originator. The quicker the turn of the receivables, the higher the proportionate of collections which potentially may be trapped in a seller’s insolvency. Trade receivables have such a fast turn that this proportion could be the full amount of the pool.

Under UK law, there are two principal means of mitigating the risk of commingling: (i) a declaration of trust¹² over the relevant account in favour of the issuer or (ii) the grant of a security interest over the account in favour of the issuer. In the case of the latter, it is important that the security interest takes the form of a fixed security rather than a floating charge¹³, otherwise the issuer will be subordinated to any preferential creditors¹⁴ of the originator. Furthermore, it is important that the issuer (as secured creditor) has the power to block the appointment of an administrator in respect of the originator¹⁵. This is because no steps may be taken to enforce security over the property of a company that is in administration¹⁶. If the issuer cannot prevent the appointment of an administrator,

12 A declaration of trust is particularly suitable where the account contains mixed funds – i.e. monies owned by the originator or third parties as well as collections from securitised assets.

13 In general terms, a security interest over a bank account is more likely to be a floating charge if the originator retains control over the account and is free to make withdrawals in the ordinary course of its business. The originator’s use of the account should be appropriately restricted in order for the security to take the form of a fixed charge (see further *Re Yorkshire Woolcombers Association* [1903] 2 Ch 284).

14 Defined in Insolvency Act 1986, s386 and Sch 6.

15 The power to block the appointment of an administrator vests in creditors who have security over the whole (or substantially the whole) of a company’s property (not just the accounts receivable) where at least part of such security was created as a floating charge (Insolvency Act 1986 s29(2)).

16 Insolvency Act 1986 s11(3).

a liquidity facility may be needed to keep the debt current until the funds are distributed from the bankrupt estate. Practically, good bookkeeping will need to be maintained in order to ensure the issuer ultimately receives the funds; a high number of accounts increases the possibility of an increase in enhancement. If it becomes apparent that a security interest cannot be created over the account (i.e. because of a negative pledge) and funds are likely to be commingled with other funds, even if only for a few days, enhancement will have to be increased to allow for the possibility that these funds will be lost upon the possible insolvency of the originator.

In general in other jurisdictions, in order to minimise the levels of enhancement, Moody's will have to receive a high degree of assurance confirmed by a legal opinion that the receivable collections will ultimately be received by the issuer notwithstanding the insolvency of the seller, and a liquidity facility will be needed to keep debt payments current until the receipt of the collections.

If the laws or practices in insolvency of the relevant jurisdiction do not support this conclusion, Moody's will forecast the amount of the receivables that could be lost and require higher enhancement levels to account for this cash seepage. The payment rate of the collections is the key determinant in ascertaining the appropriate amount of enhancement necessary. *If the payment rate is very high, a higher enhancement level will result.* Certain contingent protections may be added to the structure to reduce the amount of enhancement associated with commingling risks. For example, the frequency of the sweep of the funds from the originator's to the issuer's account reduces the potential severity of loss upon the originator's insolvency. *Transactions therefore with a daily sweep can be expected to have comparatively lower enhancement levels.*

Ratings triggers can also be used to reduce the severity of loss related to cash commingling. For example, a three-tier rating trigger structure for a **Baa2** originator might accomplish the following. If the originator's rating fell to **Baa3**, notification would be given to the top five special obligors to direct their payment to the account of the issuer. A second trigger could require notification to all other obligors if the originator's rating falls below **Ba2**. A third trigger could cease all receivable purchases and force amortisation if the originator's rating fell below **Ba3**.

Asset Transfers:

Trade receivables are transferred to the SPV in a "true sale" that removes the assets from ownership of the seller. The true sale status ensures, to a high level of certainty, that the assets will not become part of the seller's bankruptcy estate should the seller become subject to bankruptcy or insolvency proceedings. Thus, the cash in the seller's collection accounts (in its capacity as servicer on behalf of the trust) is not owned by the seller because it represents the proceeds of the receivables that have been sold to the purchaser. Nevertheless, credit enhancement and other structural protections (e.g., two-day remittance of collections to a securitization trustee account for companies rated low investment grade or lower) should address the effects of any "automatic stay" under the bankruptcy and insolvency law that might "freeze" the disposition of cash collections in possession of the seller until ownership is determined by the bankruptcy court.

Despite the sale of asset interests to the SPV, a backup security interest is an essential component of term and ABCP securitizations. In the U.S., Article 9 of the UCC¹⁷ governs the granting of security interests and creditors' priority in trade receivables transactions. A first priority perfected security interest provides two important protections. First, in the event that the true sale is disregarded, the security interest ensures that investors are first in line before other creditors to receive proceeds from, and otherwise exercise remedies with respect to, the collateral. Second, the first lien serves as a disincentive to unsecured creditors of the seller to challenge the sale of assets.

To effect a first lien, the debtor first grants a security interest to the creditor. In the U.S., this interest is perfected by the filing of a "financing statement" describing the collateral in a location specified in the statute, which is generally where the debtor is incorporated or organised. To ensure that the creditor has first priority over all other creditors of the debtor, a search is then made in the appropriate filing offices.

Security interests are granted at each step of the transfer in the transaction, from the seller (as debtor) to the SPV (as creditor), and thereafter from the SPV (as debtor) to the second-tier SPV

¹⁷ Article 9 is a model statute that has been enacted by each state legislature, with minor differences among them. It was recently revised and became effective by January 1, 2002 in all states.

(issuer). For term transactions in the public market (and sometimes in ABCP transactions), a third transfer of the security interest is made to a trustee on behalf of bondholders (or to a collateral trustee on behalf of CP noteholders).

A third protection against the risks arising from the seller's bankruptcy is the structuring of the transaction against the potential "substantive consolidation" of the assets of the SPV purchaser and of the issuer into the seller's bankruptcy estate. Substantive consolidation is an equitable remedy not specifically provided for in the U.S. Bankruptcy Code but well-established in court decisions. This remedy, which courts grant only in very rare circumstances, is intended to protect the interests of the debtor's creditors who may have relied on the creditworthiness of an affiliate of the debtor. Structural protections include, among other things, measures to ensure corporate separateness of the seller and its affiliate SPVs, covenants against interaffiliate loans, and asset transfers for which fair value has not been given. The concept of substantive consolidation is not widely seen in areas outside the U.S.

True sale, non-consolidation, and perfection opinions are routinely provided for Moody's review in public term trade receivable transactions but generally not for ABCP transactions since liquidity providers assume the associated risks.

Moody's will also review the provision for the procedures necessary to ensure a true sale in the relevant jurisdiction. In the UK, for example, the seller must tag each receivable sold, creating a higher administrative burden, in order to achieve a true sale.

III. B. Dilution:

Causes:

Dilution tends to be the larger and more variable aspect of portfolio performance, and is therefore often the source of more of the reserves than defaults. Dilution occurs if the amount billed is reduced for reasons other than payment or default. Typical sources of dilution include: the invoice amount was not correct if the amount billed is not paid due to a billing error, a discount is taken when an obligor pays an invoice, rebate is owed to an obligor, return of goods sold, offsets from other business arrangements between the obligor and the seller, warranty claims and disputes. Industries that are more sensitive to consumer's changing taste or technology upgrades, such as retailers or computer manufacturers, tend to have a higher level of dilution due to returned goods, for example.

Certain types of receivables are more susceptible to dilution. Unearned receivables and executory contracts have a greater chance of disputes, errors in estimation costs or cancellation of an order. Further, an obligor of a bankrupt seller may apply to have an executory contract voided, thereby cancelling the corresponding receivable. Government receivables may become seriously diluted because the federal government may choose to set-off its obligation to pay the seller against other claims that the central government may have against the seller, such as taxes. Bill and hold receivables (when the obligor is billed for merchandise stored at the seller's premises) are typically more susceptible to returns and disputes than those receivables where the product is shipped.

Considerations in sizing the dilution reserve are the historical dilution data, industry standards and practices, and credit strength of the seller of the receivables. Moody's endeavours to figure out the historic causes of dilution specific to the company and ascertain the time typically needed for the company to recognise dilution.

The amount of dilution may be expected to significantly increase due to seasonal factors or upon the seller's insolvency. For example, a large sales increase during the December holidays results in a spike in returned merchandise in late December and subsequent months.

Setting Dilution Reserves:

A significant degree of correlation may exist between the incident of disputes and the credit condition of the seller. A seller's quality controls may deteriorate simultaneously with a weakening in its financial condition. Setoffs will increase as obligors seek to be quickly compensated for debt owed to them by a financially distressed seller. Dilution can be expected to greatly increase during a seller's insolvency. Accordingly, historical data provided by the seller with a stable financial history might not permit a meaningful estimation of disputes in the event of deterioration in the seller's credit

strength.

Monthly dilution performance can be volatile. It is fairly common for dilution to jump from very low levels in one month to 3.0% or more in the subsequent month. If the one-month dilution ratio jumps from 0.75% in one month to 5.0% in the next month, dynamic reserves, especially those based on averaging cannot be expected to respond to this level of increases. Triggers do not help in this instance. A fixed, relatively high floor amount of dilution reserves coupled with dynamic dilution calculation which looks back to the highest dilution ratio over the last 12 months is preferred. In transactions where the impact of the seller's insolvency is highly unpredictable, the anticipated spike in dilution has been dealt with by linking the transaction's rating with the seller's credit quality, or requiring a sizeable increase in reserves upon the downgrade of the seller. It is beneficial if the reserves are fungible; meaning the loss reserve may be drawn for dilutive items, if there is greater than expected volatility in dilution.

If the historical amount of the receivables balance suggest that a spike in dilutions would lead to borrowing base deficiency, an alternative form of enhancement, such as a guarantee, may be needed.

III. C. Servicing Risks: Responsibilities:

The seller typically acts as servicer. The servicer remains responsible for managing the substitution of receivables, calculating the dynamic credit enhancement, identifying eligible receivables, maintaining fraud prevention measures, collecting receivables, reporting, monitoring arrears, writing off bad debts and other daily support activities. The seller's procedures in handling billing errors: whether they correct overbilling by issuing credits (customers still have to pay the current bill) or rebill the customers (current bill cancelled and new bill generated) will have a significant impact on both dilution and ageing of the pool. Sellers often change procedures in response to recent problems in billing or tracking shipments. Sellers who have only recently improved underwriting or servicing procedures may expect to receive relatively higher enhancement levels, as the success of these efforts is not yet known.

As noted, the quality of servicing and portfolio performance may deteriorate if the seller is financially distressed. Most transactions do not wind down until the seller is bankrupt or defaults on its obligations. Introduction of a back-up servicer is further complicated because these receivables turn too quickly to realize the benefit of a back-up servicer after the originator is insolvent. Receivables collections are generally a function of business relations and continuing sale of product by the originator to the obligor, generally diminishing the usefulness of a backup servicer even further.

Impact of Deterioration of Seller Credit Quality:

Three solutions are available. If the servicer is in bankruptcy, this generally does not imply that a large company is out of business or has materially cut back on its receivables servicing operations. Most large companies who file for insolvency operate under a restructuring status (Chapter 11 in the U.S.) They continue to service their pre-bankruptcy receivables and continue to do business with the same obligors. In the U.S. most bankrupt companies obtain revolving credit loans secured by their post-Chapter 11 filing receivables to provide continued funding. If these circumstances seem like the more likely outcome for the seller in a bankruptcy, the stress analysis of the receivables supporting the rating is not based on a total interruption in servicing of the receivables, but stressed variables brought about by an insolvency.

Alternatively, some sellers are likely to pass through the restructuring (Chapter 11) status very quickly to liquidation (Chapter 7 in the US) or go straight to liquidation. Such companies are typically not a good target for securitization. Likely candidates for this direction are companies generating large negative operating margins, smaller companies or companies that are going into bankruptcy for the second or third time. The review of the seller's balance sheet and the probability of the immediate consequences of insolvency being either a restructuring or liquidation are part of the qualitative assessment of trade receivable deals by Moody's.

Second, occasionally, if servicing requires special attention, a back up servicer is required to be introduced if the servicer's financial condition declines below a certain rating level. The quickly

turning nature of the receivables necessitates the switch is done significantly before an insolvency to be effective. Alternatively, enhancement levels are required to increase upon a downgrade of a seller to compensate for the increased possibility of adverse performance.

III. D. Carrying Costs:

The rating of a trade receivable transaction also is an opinion of the timely payment of interest on the notes as well. A yield reserve is necessary in light of the non-interest bearing nature of trade receivables. The interest to support the securitized debt must be calculated as an additional discount to the purchase price of the receivables. While rare, a very slow receivables turn could necessitate the use of a funded reserve account or liquidity facility in the structure. Moody's prefers that the reserve be accumulated well in advance of the required payment on the debt.

The yield reserve is sized in a dynamic fashion to take into account the nominal rate on the debt and a stressed payment rate of the receivables. The yield reserve is equal to the funding costs plus other transaction expenses, multiplied by a stress factor and the stressed numbers of days in the collection period/360. The discount factor should also increase during the revolving period if the average turnover rate of the receivables decreases. That is, the yield reserve formulas should be dynamic with respect to receivables turn as well as to the interest rate. In ABCP transactions or term deals where the notes are floating rate without interest rate swaps, the yield reserve formula must incorporate some stress factor to address the possible increase of interest rates during the liquidation period and, in the case of ABCP transactions, the possible increases in spread on ABCP issuance dates.

IV. PARTICULAR TYPES OF TRANSACTIONS

IV. A. Pan-European, Multi-Subsidiary Transactions:

Moody's evaluates the performance of each seller contributing receivables to a pan-European multi-seller transaction. In order to decrease enhancement levels, eligibility criteria will limit the amount of receivables sold by the poorer performing sellers. If there are no limits, enhancement is sized for the performance of the poorer-performing seller, who could constitute a large portion of the pool over the life of the transaction

Often, one poorer performing subsidiary may not benefit from another seller's reserves (cross-collateralisation) because true sale treatment may be jeopardised. A common centralised form of enhancement is often introduced to be coupled with local reserves. If it is available, the benefit of cross-collateralisation is reduced by currency fluctuations between Euro and non-Euro subscribing countries. Different laws within the seller's jurisdictions dictate different structures for asset transfer, preference risk, withholding tax or other structural risks and accounting treatment.

IV B. Unbilled Receivables

Accuracy in Estimation:

Unbilled receivables are those for which the good/service has been provided, however the bill has not yet been compiled and sent out by the seller. In contrast to future flow receivables, the good/service associated with the unbilled receivable has generally been consumed by the buyer and the amount has been earned. The amount to be billed in association with this consumption is estimated by the seller using a previously agreed on calculation. To the extent that the quantity used is estimated as opposed to audited, a discount will be applied in the calculation of the bill. The method of estimation and the day-by-day mechanics of the billing cycle need to be understood.

Unbilled receivables place more reliance on the presence and condition of the seller. A high degree of accuracy in estimating the amount of receivables that will ultimately be invoiced needs to be demonstrated. Moody's examines the variance between the amount that would have been predicted under the estimate calculation for unbilled in past years and the actual amount invoiced. An overestimate of the actually billed amount results in an offset in the next purchase. Commoditized goods and services, such as telecomm or electricity receivables, are more suited to be the subject of unbilled securitizations because the bill is much less likely to be the subject of a dispute over the amount due. In addition, orders should not be able to be cancelled prior to the

generation of a bill.

The difference, if any, of the treatment of the sale of the unbilled (vs. billed) receivable in the event of the insolvency of the originator in the jurisdiction in question should be addressed in a legal opinion. An insolvent seller may no longer have the requisite staff to compile and send out the bill, or exercise the same measure of care. In unbilled transactions, a ratings trigger relative to the to the rating on the subject transaction debt typically requires either the cessation of the sale of unbilled receivables or the introduction of a back-up servicer.

V. CONCLUSION

Moody's approach to trade receivable backed transactions looks beyond a formulaic calculation of enhancement levels and endeavours to understand how various business factors may affect portfolio performance over the life of the transaction. While numbers-driven formulas and models are a good initial starting place, the final reserve levels will be significantly influenced by qualitative judgments concerning factors such as the originator's financial condition, business prospects, competitive arena, underwriting practices and industry standards. Standard calculations for enhancement levels may not be pertinent, as often the causes of the risk and the preferred mitigants will vary with each originator. A comprehensive explanation of the originator's particular circumstances is important to the ratings review process and in ascertaining enhancement levels.

Risks other than that of obligor default such as dilution or cash commingling may significantly increase enhancement levels. Structural protections such as triggers may be introduced which serve to decrease enhancement levels.

Trade receivable transactions are traditional asset classes that have historically enjoyed a wide degree of popularity. Moody's expects continued growth in both European and U.S. based receivable transactions to be financed by both term ABS and ABCP in the near future. In order to promote growth in issuance volumes, a degree of education of the ABS investment community may be necessary. Second, means of increasing efficient execution of transactions, particularly smaller transactions, may be further explored.

MOODY'S RESEARCH

1. *Binomial Expansion Method Applied to CBO/CLO Analysis*, (December 1996)
2. *The Lognormal Method Applied to ABS Analysis*, (September 2000)
3. *Bigger isn't Better: The Risk of Obligor Concentrations in Trade Receivable Transactions*, (September 1998)
4. *Trade Receivables Update: Concentrating on Dilution*, (January 1997)
5. *A Guide to Collateral Quality Risks in Securitized Trade Transactions: Focus on Contract Related and Dealer-Network Risks*, (April 1995)
6. *True Sale Assailed: Implications of In re: LTV Steel for Structured Transactions*, (April 2001)

APPENDIX 1

THE IDEAL TERM SHEET

Moody's is often asked what components should be included in a term sheet. Ideally, the term sheet will summarise the key business points of the transaction instead of detailing items best left to legal documents. Too often, the term sheet contains items such as representation and warranties which are typically standard and therefore best left to the legal documents, while ignoring important business considerations which significantly impact the transaction. Below are the questions ideally answered in a term sheet for a trade receivable transaction.

Originator:

- What is the originator's organisational structure and ownership composition?
- What businesses do the seller's customers engage in? What is the approximate breakdown of revenues by business line?
- What is the originator's market share over the past few years and how does this relate to competitors in the sector?
- Is the originator's business strategy anticipated to change over the life of the transaction? What particular challenges, either internal or competitive, does the originator face over the life of the transaction? How will changes in business strategy effect the composition of the obligor base?
- Does the arranger, liquidity banks or credit support providers have other banking relationships with the originator?
- What other debt facilities does the company rely on for funding its working capital needs?
- How will the proceeds of the securitization be utilised?
- Include results of at least two year's audited financial statements plus unaudited interim financial statements for the most recent period

Eligibility Criteria:

- What is the maximum concentration limit for each "normal" obligor?
- What are the maximum concentration limits for "special" (typically highly-rated) obligors?
- Are delinquent (usually 30-60 days past due from the due date but not more than 90 days) or defaulted receivables (more than 90 days past due) eligible for purchase?
- Are any receivables subject to any dispute, offset, counterclaim or defence?
- What are the eligibility limits on obligors that have material portions of their balances past due ("cross-ageing")?
- What are the required payment terms?
- What is the average number of days that obligors typically take to pay the invoices, commonly referred to as trade receivable turn days?
- Include detailed description of underwriting and collection procedures.
- How does the seller determine the creditworthiness of each new obligor?
- What are collection procedures for delinquent accounts? At what point are subsequent sales to the delinquent obligor halted? What is the write-off policy?

Data:

- Include results of all data referred to in Table 2, above
- What is the historic mean and standard deviation for the loss proxy (the defaulted receivables) and how does the amount of loss reserves required at that time compare to the loss proxy?
- Is an effort made to match the incurring of a loss with its period of origination (vintage approach)?
- What is the explanation for large balances in the defaulted receivables loss proxy statistics? What is the explanation for large write-offs?
- Is a payment history, showing historical delinquency levels and default levels of large obligors available?
- What is the current trend for delinquency and dilution statistics?

- What is the degree of seasonal fluctuations in the receivables balance? Is it likely that the originator will be able to always generate sufficient receivables to support the transaction's borrowing base?
- How do the proposed delinquency, default and dilution triggers compare to the actual levels reflected historically? To the maximum level historically seen? What is standard deviation of the actual delinquency, default and dilution actual performance data?

Enhancement Calculation:

- What is the minimum amount ("floor") of enhancement? How many special obligors are covered at any one time?
- What would have been the amount of the pool-specific enhancement for the last three years and how would it have compared to actual losses?
- How responsive is the dynamic reserve calculation to changes in the pool's performance? Historically, has the amount of the dynamic reserves had to "catch up" with deterioration in the pool?
- Is the enhancement percentage calculated from the outstanding amount of the eligible receivables; the outstanding amount of the debt; or the purchase limit?
- Are these reserves "fungible" – for example, could the dilution reserve potentially be used to cover defaults if the default reserve is insufficient?
- If the special obligors' ratings are downgraded, is their exposure in the transaction required to be reduced to that of the "normal" obligors?

For ABCP Transactions:

- Which, if any, risks are being absorbed by the liquidity banks? What is the exact wording of the funding formula of the liquidity facility?
- What is the definition of a Defaulted Receivable under the liquidity facility? Does the data match up to the definition of a Defaulted Receivable under the liquidity facility? For example, if a Defaulted Receivable under the liquidity facility is defined as 90 days past due from its due date, the data will show this and not 90 days after its origination date?
- In the event that the pool-specific reserves are not viewed as adequate, is the sponsor willing to have an allocation of the conduit's programme credit enhancement to support the transaction?
- Would the program enter into amortisation if a certain amount of program credit enhancement has been used to cover losses?

Cash Commingling:

- What accounts will collections be remitted to? Whose names are these accounts in? If not the name of the issuer, does the issuer have a beneficial interest in these accounts?
- What amount of collections is received directly into a bank account? How much is collected by the company at its offices or directly by employees visiting obligors?
- Are collections from the subject trade receivables expected to be mixed with the originator's other cash inflows? If so, how often will trade receivable collections be swept into the SPV's account? What is the length of the delay likely to be experienced in the relevant jurisdiction in the event that the seller enters into bankruptcy and funds in the collection account may not be debited under the insolvency code (a "stay")?
- Which jurisdiction's law governs the transaction?

Dilution:

- What factors give rise to dilution? How is industry practice and the seller's financial condition likely to influence the amount of dilution experienced?
- What ongoing services does the originator perform, which, if entered into insolvency, could cause the obligors to refuse to pay their invoices?
- How is dilution recognised in the originator's accounting system? How much of severely past due amounts are really unrecognised dilution?

APPENDIX 2

TRADE RECEIVABLES OPERATIONS REVIEW AGENDA

1. Originator Profile

- Business lines of company
- Short, medium and long term strategic objectives for next three years and recent changes to policy/strategy
- Competition and market share in each business line
- Incidence of repeat versus one-time business in each business line
- Brief overview of income statements over last three years: review of revenue and EBITDA for each seller
- Overview of capital structure: creditors and security status; description of facilities, if any afforded by arranger; identification of creditors expected to be paid out from securitization
- Motivation for securitization and use of proceeds

2. Performance Review

- Driving factors behind historical development of sales and receivable portfolio over time
- Forecasted volume of portfolio over life of the transaction and strategy for increasing (decreasing) portfolio size
- Explanation of trends, average losses and maximum losses; and any anticipated changes to these levels given strategic direction, above
- Chief reasons causing credit losses
- Impact of significant industry wide changes or negative events on performance
- Actual and projected: typical obligor profile by industry and revenue size for each seller; credit quality; geographical concentration of obligor base; average outstanding amount due from obligors;
- How its strategic plans for each seller will change/not change its typical obligor profile and portfolio composition
- Review of proposed special obligors

3. Dilution

- Performance review: explanation of trends, average amount and maximum amount caused by dilution
- Explanation of causes: breakdown between, for example, rebates, billing errors and returns
- Explanation of criteria for an obligor qualifying for any rebate program
- Review of how the seller knows the difference between dilution and default; timing of recognition of dilution
- Billing error procedures
- Fraud prevention procedures

4. Origination and Underwriting Process

- Target market: profile of obligor by revenue size, industry, geographic area
- Selection process for what was included in the pool
- Procedures for approving new customers and setting credit limits; incident of historical exceptions; rejection ratio for new obligors
- Chain of approval and exception procedures
- Organisation of credit department and interaction with marketing department
- Description of any exceptions noted in last internal audit of credit department
- Historical validation of credit approval process

5. Credit Monitoring

- Receivable ageing methodology-from invoice or from due date
- Procedures and timing for invoice generation
- Payment application; incident of offset
- Frequency of monitoring of obligors' financial condition
- Monitoring of accounts receivable collection and portfolio management
- Notification steps for past due accounts; consequences for delinquent accounts; exact steps (by days) of recovery of delinquent accounts; policy on re-ageing delinquent accounts
- Structure of collection department; number of years experience and number of cases per team member
- Write-off policy and historical incidence of insolvency of obligors

6. Operations Management

- Identification of owner of bank accounts used in securitisation
- Audits-frequency, scope and results
- Accounts receivable system
- Historical problems, if any, with data compilation; effect of any acquisitions
- Fraud prevention procedures
- Security and back-up

7. Procedures in Place for Introduction of Back-up Servicer

- Candidates potentially possible for back-up servicer
- Frequency of receipt of reports; computer tape; compatibility of computer systems

Note: It is preferred that performance data be submitted to Moody's prior to conducting operation reviews.

APPENDIX 3

Part A: Term Trade Receivable Backed Transactions:								
Deal Name	Tranche (1)	Rating	Loss (2)	Dilution	Turn (3)	CE (4)	Min CE (5)	Reserve Formula
Alliant Master Trust Series 2000-1 - Class A	\$270	Aaa	1.80%	3.50%	44	21.9%	15.0%	
Class B	\$15	A2				17.6%	12.5%	
Class C	\$15	Baa2				13.3%	10.0%	
VFC	\$20	n.r.				17.6%		
CSXT Trade Receivables Master Trust Series 1998-1	\$300	Aaa	1.10%	2.00%	55	17.0%	13.0%	Greater of 13%, 12.5%+Average Dilution Ratio * Dilution Horizon, or Loss Reserve+Dilution Reserve
General Cable 2001 Master Trust Series 2001-1 Class A	\$72	Aaa	1.70%	2.60%	67	30.4%	22.5%	Greater of 22.5% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
Class B	\$8	A3				21.0%	14.5%	Greater of 14.5% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
Series 2001-VFC	\$-	Aaa				30.4%	22.5%	Greater of 22.5% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
FCC Oxygen Compartment Titriwatt ¹								
Serie 09 2002 EP1	Euro 205	Aaa					7.0%	Greater of 7%, Highest Loss Ratio x 4
Series 10 2002 EP1	Euro 350	Aaa					7.0%	Greater of 7%, Highest Loss Ratio x 4
Series 11 2002 EP1	Euro 655	Aaa					7.0%	Greater of 7%, Highest Loss Ratio x 4
Series 12 2002 EP1	Euro 400	Aaa					7.0%	Greater of 7%, Highest Loss Ratio x 4
Series 12 2002 EP2	Euro 390	Aaa					7.0%	Greater of 7%, Highest Loss Ratio x 4
Huntsman International Asset Backed Securities Ltd. Series 2001-1 Class A-1	\$85	Aaa	2.60%	1.10%	34	11.0%	10.0%	
Class A-2	Euro 85	Aaa				11.0%	10.0%	
Class B	\$5	A2				8.9%	8.0%	
VFC	\$10	n.r.				10.3%		
Levi Strauss Receivables Funding LLC Series 2001-A	\$110	Aaa	0.45%	7.60%	63	46.2%	18.0%	Greater of 18% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
Silver Funding Limited Asset-Backed MTN Series 2002	£100 million	(P) Aaa	0.51%	1.64%	75 days	21.7%	21.7%	
	£8 million	(P) A2	0.51%	1.64%	75 days	16.0%	16.0%	
	\$85 million	(P) Aaa	2.18%	3.35%	60 days	55.5%	45.5%	
	\$15 million	(P) A2	2.18%	3.35%	60 days	48.0%	38.0%	

¹ On watch for possible downgrade.

Part A: Term Trade Receivable Backed Transactions: <i>Continued</i>								
Deal Name	Tranche (1)	Rating	Loss (2)	Dilution	Turn (3)	CE (4)	Min CE (5)	Reserve Formula
Stone Receivables Corporation Master Trust Series 1999-1 - Class A	\$176	Aaa	0.54%	3.46%	35	30.7%	10.0%	Greater of 10% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
Class B	\$12	A2				25.7%	8.0%	Greater of 8% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
Class C	\$12	Baa2				20.6%	6.0%	Greater of 6% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
VFC	\$10	Aa2				28.2%	10.0%	Greater of 10% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
Unigroup Master Trust Series 2001-A - Class A (wrapped)	\$55	Aaa	6.10%	0%	50	19.6%	9.0%	Greater of 9% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
VFC (wrapped)	\$45	Aaa				19.6%	9.0%	Greater of 10% + Average Dilution Ratio * Dilution Horizon or Loss Reserve + Dilution Reserve
Vitol Receivables Master Trust Series 1999-1 Class A	\$75	Aaa	0.00%	0.03%	8	15.1%	15.0%	
Series 1999-1 Class B	\$2.5	A2				12.1%	12.0%	
Series 1999-2 VFN	\$150	n.r.				12.1%		
Series 2000-1 Class A	\$75	Aaa				15.1%	15.0%	
Series 2000-1 Class B	\$2.5	A2				12.1%	12.0%	

(1) Tranche size is actual for term tranches and authorized amount for VFC's
(2) Loss and dilution are the latest monthly ratio, however calculated, used to determine reserves. They may be averaged over several months.
(3) Turn is 30 * Beginning AR Balance / Collections
(4) CE is current reserve for loss plus dilution. Additional yield or servicing reserves may be available.
(5) Minimum CE is for loss only, as there is usually a dynamic add on for dilutions

Part B: Selected ABCP Trade Receivable Backed Transactions Originated 2001 - 2002

The below chart is a sample and is not meant to represent all trade receivable transactions financed with ABCP. In general the largest trade receivable backed transactions financed by ABCP on a prior review basis originated during the period June 2001 through May 2002 are reflected. Amounts are in USD unless denoted otherwise.

Conduit	Sponsor	Amount (millions)	Industry	Reserve
Partially Supported Transactions:				
Antalis	Société Générale	Euro 430	Telecommunication	
Antalis	Société Générale	Euro 100	Cargo transport	
Antalis	Société Générale	Euro 150	Food	
Antalis	Société Générale	Euro 150	Leisure Amusement Entertaining	
Antalis	Société Générale	Euro 450	Chemicals, plastic and rubbers	
Antalis	Société Générale	Euro 74	Steel	
Antalis	Société Générale	Euro 122	Healthcare	
Arabella Funding Ltd.	Bayerische Hypo und Vereinsbank AG	Euro 80	Auto Parts	60%
Arabella Funding Ltd.	Bayerische Hypo und Vereinsbank AG	Euro 150	Building Materials	10%
Atlantic Asset Securitization Corporation	Credit Lyonnais	200	Dairy Products	9%
Atlantic Asset Securitization Corporation	Credit Lyonnais	125	Packaging Materials	12%
Atlantic Asset Securitization Corporation	Credit Lyonnais	75	Auto Parts	13%
Atlantic Asset Securitization Corporation	Credit Lyonnais	50	Construction Materials	22%
Barton Capital Corporation	Societe Generale	222	Electrical Parts Supplier	10%
Bryant Park Funding LLC	HSBC Securities (USA) Inc.	350	Advertising	12%
Compass Securitisation Limited	Westdeutsche Landesbank Girozentrale	Euro 200	Cement	14%
Compass Securitisation Limited	Westdeutsche Landesbank Girozentrale	Euro 280	Steel	14%
Compass Securitisation Limited	Westdeutsche Landesbank Girozentrale	Euro 250	Sporting Goods	16%
Direct Funding	CDC Ixis-Capital Markets	Euro 500	Utility	
Edison Asset Securitization LLC	General Electric Capital Corp.	700	Industrial Materials	15%
Eliopee Ltd	BNP Paribas	Euro 100	Retail Stores	
Eliopee Ltd	BNP Paribas	Euro 250	Utility	
Eliopee Ltd	BNP Paribas	Euro 350	Utility	
Elixir Funding Limited	Natexis Banques Populaires	Euro 400	Buildings	
European Receivables Financing Trade Limited	Gerling-Konzern Speziale Kreditversicherung AG	Euro 250	Food Processing	30%
Fairway Finance Corporation	BMO Nesbitt Burns	60	Processed Metals and Materials	15%
Gemini Securitization Corporation	Deutsche Bank AG	400	Agricultural Equipment	
Giro Balanced Funding Corporation	Bayerische Landesbank	GBP 150	Retail	26%
Kaiserplatz Funding	Commerzbank AG	Euro 1000	Finance	7%
Kaiserplatz Funding	Commerzbank AG	Euro 100	Computer	
Liberty Street Funding Corporation	Bank of Nova Scotia	90	Computer OEM	12%
Liberty Street Funding Corporation	Bank of Nova Scotia	150		16%
Manhattan Asset Funding Company LLC	Sumitomo Mitsui Banking Corporation	50	Semiconductors	9%
Manhattan Asset Funding Company LLC	Sumitomo Mitsui Banking Corporation	85	Airline	22%
Mont Blanc Capital Corporation	ING Bank NV	350	Steel	14%
Nieuw Amsterdam Receivables Corporation	Rabobank Nederland	100	Agricultural Products	30%
Oval Funding Corporation	E.I. Du Pont de Nemours	500	Du Pont Products	
Park Avenue Receivables Corporation	JPMorgan Chase	200	Oil and Gas Exploration Services	12%
Park Avenue Receivables Corporation	JPMorgan Chase	250	Auto Parts	15%
Redwood Receivables Corporation	General Electric Capital Corp.	75	Diversified Manufacturing	15%
Redwood Receivables Corporation	General Electric Capital Corp.	32	Healthcare Management	15%
Redwood Receivables Corporation	General Electric Capital Corp.	150	Prescription Benefit Services	15%
Redwood Receivables Corporation	General Electric Capital Corp.	75	Sporting Goods	35%
Redwood Receivables Corporation	General Electric Capital Corp.	55	Fencing	
Redwood Receivables Corporation	General Electric Capital Corp.	100	Sporting Goods	
Rheingold Securitisation Limited	Deutsche Bank AG	500	Telecommunications	25%
Sheffield Recievables Corporation	Barclays Bank PLC	200	Electronics Distributor	8%
Siefunds Corporation	Siemens AG	Euro 1000	Conglomerate	15%
Siefunds Corporation	Siemens AG	1000	Conglomerate	15%

Part B: Selected ABCP Trade Receivable Backed Transactions Originated 2001 - 2002 *Continued*

The below chart is a sample and is not meant to represent all trade receivable transactions financed with ABCP. In general the largest trade receivable backed transactions financed by ABCP on a prior review basis originated during the period June 2001 through May 2002 are reflected. Amounts are in USD unless denoted otherwise.

Conduit	Sponsor	Amount (millions)	Industry	Reserve
Starbird Funding Corporation	BNP Paribas	100	Imaging Services	10%
Thesee	BNP Paribas	Euro 579.5	Food	
Thésée	BNP Paribas	Euro 240	Chemicals	
Three Pillars Funding Corporation	Sun Trust Equitable Securities	100	Shipping	14%
Three Pillars Funding Corporation	Sun Trust Equitable Securities	75	Floor Covering	15%
Three Pillars Funding Corporation	Sun Trust Equitable Securities	100	Information Technology Services	19%
Three Pillars Funding Corporation	Sun Trust Equitable Securities	100	Home Furnishings	
Thunder Bay Funding Incorporated	Royal Bank of Canada	75	Transportation	7%
Club Deals:				
Club Deal		Euro 2400	Telecommunications	
Silver Tower Funding	Dresdner Bank AG			
Tulip Funding Corporation	ABN AMRO Bank, NV			
Club Deal		2200	Telecommunications	16%
Paradigm Funding LLC	Westdeutsche Landesbank Girozentrale			
Liberty Street Funding Corporation	Bank of Nova Scotia			
Giro Balanced Funding Corporation	Bayerische Landesbank			
Eagle Funding Capital Corporation	FleetBoston Financial Corporation			
Club Deal		900	Consumer Electronics	10%
Manhattan Asset Funding Company LLC	Sumitomo Mitsui Banking Corporation			
Black Forest Funding Corporation	Bayerische Hypo und Vereinsbank AG			
Club Deal		900	Consumer Electronics	
Manhattan Asset Funding Company LLC	Sumitomo Mitsui Banking Corporation			
Black Forest Funding Corporation	Bayerische Hypo und Vereinsbank AG			
Eagle Funding Capital Corporation	FleetBoston Financial Corporation			
Club Deal		750	Food Processing	12%
Park Avenue Receivables Corporation	JPMorgan Chase			
Three Pillars Funding Corporation	Sun Trust Equitable Securities			
Nieuw Amsterdam Receivables Corporation	Rabobank Nederland			
Club Deal		400	Steel	15%
Liberty Street Funding Corporation	Bank of Nova Scotia			
Delaware Funding Corporation	JPMorgan Chase			
Club Deal		140	Steel	13%
Liberty Street Funding Corporation	Bank of Nova Scotia			
Market Street Funding Corporation	PNC Bank, NA			
Fully Supported Transactions:				
Atlantic Asset Securitization Corporation	Credit Lyonnais	50	Healthcare	Fully Supported
Beethoven Funding Corporation	Dresdner Bank AG	170	Autos	Fully Supported
Four Winds Funding Corporation	Commerzbank AG	200		Fully Supported
General Funding Limited	TFI Gestion	Euro 537	Tobacco	Fully Supported
Giro Balanced Funding Corporation	Bayerische Landesbank	75	Auto Parts	Fully Supported
Kaiserplatz Funding	Commerzbank AG	Euro 70		Fully Supported
Liberty Street Funding Corporation	Bank of Nova Scotia	88	Air Conditioning Systems	Fully Supported

Part B: Selected ABCP Trade Receivable Backed Transactions Originated 2001 - 2002 *Continued*

The below chart is a sample and is not meant to represent all trade receivable transactions financed with ABCP. In general the largest trade receivable backed transactions financed by ABCP on a prior review basis originated during the period June 2001 through May 2002 are reflected. Amounts are in USD unless denoted otherwise.

Conduit	Sponsor	Amount (millions)	Industry	Reserve
LMA	Crédit Lyonnais	Euro 100	Cargo transport	Fully Supported
LMA	Crédit Lyonnais	Euro 110	Automobile	Fully Supported
LMA	Crédit Lyonnais	Euro 150	Utility	Fully Supported
LMA	Crédit Lyonnais	Euro 210	Beverage, food and tobacco	Fully Supported
LMA	Crédit Lyonnais	Euro 75	Personal and miscellaneous	Fully Supported
LMA	Crédit Lyonnais	Euro 89	Printing and publishing	Fully Supported
Mont Blanc Capital Corporation	ING Bank NV	82	Finance Company	Fully Supported
Thesee	BNP Paribas	Euro 200	Automobile	Fully Supported
Tulip Funding Corporation	ABN AMRO Bank, NV	25	Tire Manufacturer	Fully Supported
Tulip Funding Corporation	ABN AMRO Bank, NV	Euro 1250	Telecommunications	Fully Supported
Viking Asset Securitisation Limited	Unibank A/S	Euro 65	Paper Products	Fully Supported
Club Deal		350		Fully Supported
Liberty Street Funding Corporation Enterprise Funding Corporation	Bank of Nova Scotia Bank of America, NA	200	Semiconductors	Fully Supported
Club Deal				
Paradigm Funding LLC Beethoven Funding Corporation	Westdeutsche Landesbank Girozentrale Dresdner Bank AG	1500	Agricultural Equipment	Fully Supported
Club Deal				
Gemini Securitization Corporation Delaware Funding Corporation Old Line Funding Corporation	Deutsche Bank AG JP Morgan Chase Royal Bank of Canada			

Part C: 50 Sample ABCP Trade Receivable Backed Transactions, Sorted by Industry

This sample was selected from the 50 largest U.S. based ABCP conduits and does not reflect the entire universe of ABCP financed trade receivable deals.

Industry	CP O/S Amount	Purch Limit	% of Outstanding	% Purchase Limit
Other	9,851.94	16,282.28	16.9%	16.8%
Diversified/Conglomerate Manufacturing	7,424.05	12,028.25	12.7%	12.4%
Oil, Gas, and Energy	7,282.80	10,523.10	12.5%	10.8%
Commercial Finance	5,161.68	7,152.01	8.9%	7.4%
Automobile	3,978.76	5,826.82	6.8%	6.0%
Chemicals, Plastics, and Rubber	3,387.74	5,126.69	5.8%	5.3%
Telecommunications	3,340.57	8,851.18	5.7%	9.1%
Cargo Transport	2,989.18	3,691.43	5.1%	3.8%
Electronics	2,607.98	8,053.99	4.5%	8.3%
Healthcare, Education, & Childcare	2,598.50	5,196.63	4.5%	5.4%
Leisure, Amusement, Motion Pictures and Entertainment	2,456.74	3,133.00	4.2%	3.2%
Buildings & Construction	1,613.06	1,838.55	2.8%	1.9%
Home & Office Furnishings, Housewares & Durable Consumer Products	1,551.39	2,248.49	2.7%	2.3%
Aerospace & Defense	864.57	1,119.20	1.5%	1.2%
Consumer Finance	600.49	665.28	1.0%	0.7%
Retail Stores	515.15	1,446.07	0.9%	1.5%
Machinery (Nonagriculture, Nonconstruction, Nonelectronic)	509.01	640.33	0.9%	0.7%
Textiles & Leather	234.23	258.20	0.4%	0.3%
Personal, Food and Misc. Services	224.65	225.00	0.4%	0.2%
Mining, Steel, Iron, and Non-precious Metals	223.44	295.00	0.4%	0.3%
Grocery	220.00	500.00	0.4%	0.5%
Automotive Finance	213.31	1,295.68	0.4%	1.3%
Beverage, Food, and Tobacco	151.50	200.00	0.3%	0.2%
Farming and Agriculture	125.00	150.00	0.2%	0.2%
Printing, Publishing & Broadcasting	100.22	102.00	0.2%	0.1%
Unknown	32.74	55.00	0.1%	0.1%
Diversified Natural Resources, Precious Metals and Minerals	31.83	45.00	0.1%	0.0%
Insurance	19.90	40.00	0.0%	0.0%
Total	58,310.44	96,989.18	100%	100%

APPENDIX 4: Numerical Examples

Note Moody's requests three or more years of history, and all other data indicated in Table 1. The following examples are for illustrative purposes only.

Part A: End of Month Total Receivables Calculation								
Label: Formula:	A	B	C	D	E	F	G	H A+B-C-D-E-F+G
Month	Beginning Balance	Sales	Collections	Discounts	Returns/ Allow- ances/ Eductions	Write-offs	Recoveries	Ending Balance
Jan-01	257,968,867	191,578,011	185,465,833	351,039	2,518,027	13,190,214	13,876	298,838,121
Feb-01	248,035,641	171,191,137	147,241,600	327,449	2,081,340	641	24,981	269,600,729
Mar-01	269,600,729	178,255,290	178,033,335	415,112	3,719,629	157,146	35,912	265,566,710
Apr-01	265,566,710	163,239,387	178,828,863	152,816	3,219,601	43,370	16,477	246,577,923
May-01	246,577,923	176,342,515	172,648,038	449,519	1,703,552	145,292	6,954	247,980,993
Jun-01	247,980,993	167,951,998	166,250,702	458,842	1,085,257	346,238	320,837	248,112,789
Jul-01	248,112,789	147,254,213	156,712,419	442,272	996,168	442,405	15,526	236,789,264
Aug-01	236,789,264	172,869,438	167,473,604	539,727	1,166,553	214,164	16,649	240,281,303
Sep-01	240,281,303	142,638,163	137,407,132	415,591	2,081,981	514,688	32,844	242,532,918
Oct-01	242,532,918	161,972,969	169,482,371	522,461	866,965	192,194	2,459	233,444,356
Nov-01	233,444,356	141,039,666	155,003,832	500,838	804,040	9,591	114,998	218,280,719
Dec-01	218,280,719	105,926,673	123,295,158	383,279	1,519,027	1,734,995	3,281	197,278,214
Jan-02	197,278,214	149,239,381	143,235,240	418,491	660,674	230,444	15,909	201,988,656
Average	242,496,187	159,192,219	160,082,933	413,649	1,724,832	1,324,722	47,746	284,674,077

Moody's examines the proportion of receivables relative to sales, the trend in and seasonal nature of sales growth, the pace of collections, the degree of large increases in dilutive items and the trend and timing of write-offs.

Part B: Net Receivables Balance Calculation		
IIA.	Receivables End of Reporting Month	201,988,655
IIB.	Less Ineligible Receivables	
IIB1	Defaulted Receivables (Receivables greater than 90 days from invoice; see aging below)	20,820,193
IIB2	Receivables with Terms > 90 days	0
IIB3	Receivables of Affiliates of the Seller or any Originator	1,752,762
IIB4	Receivable with offset risk	0
IIB5	Receivables of an Obligor in non-OECD country	661,351
IIB6	Receivables owed by an Obligor which is bankrupt	0
IIB7	Receivables balance less than 90 days from Invoice for Obligors who have greater than 25% of it's Receivables balance greater than 120 days from Invoice Date (cross aging)	9,361,270
IIB8	Receivables of Government Obligors	0
IIB9	Installment Receivable	551,901
IIB10	No rejection or return of, warranty claim, Dispute	0
IIB11	Receivables which otherwise are not Eligible Receivables as defined in RPA	0
IIC.	Total Ineligible Receivables (aggregate IIB1 through IIB11)	33,147,477
IID.	Eligible Receivables (IIA-IIC)	168,841,178
IIE.	Total Excess Concentration	0
IIF.	Taxes and other balances to be deducted from Eligible	423,775
IIG.	Net Receivables Balance (IID-IIE-IIF)	168,417,404

Assets considered ineligible under the eligibility criteria are deducted from the end of month total receivables balance (the calculation of which was derived in Part A, above) to obtain The Net Receivables Balance. The Net Receivables Balance are those assets which may be financed by the securitization transaction.

Part C: Receivables Aging

Month	1-30	31-60	61-90	91-120	Over 120	Sum of Receivables Aging
January-01	161,260,440	52,319,326	17,116,219	6,388,402	10,951,254	248,035,641
February-01	156,826,048	83,428,017	12,238,905	5,426,717	11,681,042	269,600,729
March-01	151,793,078	79,435,719	18,465,208	4,022,978	11,849,727	265,566,710
April-01	130,326,700	81,907,415	18,949,237	5,386,819	10,007,753	246,577,923
May-01	141,366,930	72,582,568	18,466,658	5,764,379	9,800,457	247,980,992
June-01	139,276,194	74,147,213	18,185,046	4,925,603	11,578,733	248,112,789
July-01	127,889,747	73,228,018	19,147,880	4,655,662	11,867,958	236,789,264
August-01	139,395,044	67,575,092	16,097,313	6,046,106	11,167,750	240,281,304
September-01	132,140,433	72,447,313	19,788,904	5,836,145	12,320,122	242,532,917
October-01	133,762,694	65,699,015	17,683,498	5,462,801	10,836,341	233,444,348
November-01	118,408,188	62,794,669	19,022,397	6,351,148	11,704,316	218,280,719
December-01	89,746,522	65,638,553	21,821,509	7,449,051	12,622,579	197,278,214
January-02	126,891,809	38,950,380	15,326,274	7,026,886	13,793,307	201,988,656
Average:	134,544,910	68,473,331	17,869,927	5,749,438	11,552,411	238,190,016

Month	1-30	31-60	61-90	91-120	Over 120	Sum of Receivables Aging
January-01	65%	21%	7%	3%	4%	100%
February-01	58%	31%	5%	2%	4%	100%
March-01	57%	30%	7%	2%	4%	100%
April-01	53%	33%	8%	2%	4%	100%
May-01	57%	29%	7%	2%	4%	100%
June-01	56%	30%	7%	2%	5%	100%
July-01	54%	31%	8%	2%	5%	100%
August-01	58%	28%	7%	3%	5%	100%
September-01	54%	30%	8%	2%	5%	100%
October-01	57%	28%	8%	2%	5%	100%
November-01	54%	29%	9%	3%	5%	100%
December-01	45%	33%	11%	4%	6%	100%
January-02	63%	19%	8%	3%	7%	100%
Average:	56%	29%	8%	2%	5%	100%

Note that the data presented above reflects the number of days that the receivable has aged past its invoice date. The data may also be presented as the number of days that the receivable has aged past its due date, in which case the first column would be allocated for "Current" receivables.

Moody's examines the Receivables Aging to understand the trend in the "roll rates"; that is, the amount of receivables that are "rolling" from the, for example, 61-90 day bucket in the preceding month to the 91-120 bucket in the current month.

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