Criteria | Structured Finance | ABS:

Equipment Leasing Criteria: Credit Risks Evaluated In Lease-Backed Securitizations

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ANALYTICAL CONTACTS

Joanne K Desimone
Dallas
(1) 212-438-2444
joanne.desimone
@spglobal.com

John A Detweiler, CFA
New York
(1) 212-438-7319
john.detweiler
@spglobal.com

Equipment lease receivable pools often have unique credit risks because of the leasing industry's competitive and fragmented nature. Also, size and financial strength varies greatly among originators. Originators can range from captive investment-grade multinationals to small, independent finance companies. Lessors develop specialties in narrow market segments, financing different types of equipment to obligors in various industries. As a result, pool performance is often affected by risks that are specific to the individual pools.

In order to assess credit enhancement levels, it is necessary to estimate the cumulative losses that a pool may exhibit over the life of a transaction. This estimate can be determined only after a review of historical pool performance, current pool concentrations, and pool attributes. Pool attributes—including payment frequency, weighted average yield, weighted average life and weighted average term, seasoning, underlying equipment types, obligor profile, and lease type—are influenced by the originator's business practices.

Hence, it is important to understand how the originator operates: For example, what are the market segments the originator focuses on, the lease products, the company history, management experience and goals, the originator's competitive strategies, and the financial resources available to the originator. Additionally, the origination, underwriting, and servicing functions must be thoroughly understood as they have a direct bearing on pool performance.

Who Is The Originator?

Given the individualized business practices of lessors and the fragmented nature of the leasing industry, rating analysts must evaluate the internal operations and competitive position of each originator in their respective niche market. Market segments typically dictate lease terms, equipment type, and obligor profile and often are affected by specific economic variables. It is this specialized nature of the industry that can add credit risk to a lease securitization—typically in the form of concentration.

Structured finance rating analysts meet with the originator and conduct an on-site review to gain an understanding of key lessor and industry factors that could affect the payment behavior of the receivables. Analysts in other ratings groups may be called upon to provide insights into specific

originator, industry, and equipment factors that could affect future portfolio performance.

Analysts also evaluate certain qualitative factors surrounding lessors' operations and financial management. The qualitative assessment provides a comfort level needed to proceed with the rating process. Lease accounting conventions and internal systems and procedures allow for a certain amount of flexibility that could potentially impact data used in the quantitative analysis.

Further complicating the process is the proprietary nature of each lessor's internal operations, making it difficult to achieve consistent information that is useful for originator comparisons. Examples of this flexibility are a lessor's accounting for defaults and recoveries, rewrite/payment deferral procedures, or depreciation policies. Depreciation policies can impact reported residual realization performance.

Qualitative considerations that are part of a Structured Finance rating review include the following:

Market segments, lease products, company history, management experience, management goals/competitive strategies, and financial resources.

Market segments

Analysts review key factors that could affect the industries to which a lessor provides financing. Particular risk factors include industry feasibility, economic cyclicality, regulatory environment, the level of competition that the obligor base must contend with, risks associated with specialized equipment, and specific legal risks. This analysis provides insight into factors beyond a lessor's control that may affect ultimate payment performance on the securitized leases.

Lease products

The types of contracts written by a lessor have a direct impact on the legal analysis, cash flow, and credit risk of a securitized pool.

In general, lessors structure a contract as either a direct finance lease (also known as full payout) or an operating lease. Under full payout lease, the non-cancellable rental stream returns the full cost of the underlying equipment and provides the lessor with a return on investment. Operating leases are structured so that the non-cancellable rental stream falls short of the full cost of the asset, and the asset, therefore, must be remarketed after the expiration of the lease to recoup the initial investment and earn a return on that investment. If the contract is an operating lease (title rests with the originator), the originator will have to transfer to an special purpose entity (SPE) its ownership rights in the leases and equipment. Bankruptcy opinions, including a nonrejection opinion, are reviewed to determine whether or not the originator's bankruptcy would disturb the cash flows under the leases. If the contract is a finance lease (title rests with the lessee) only the leases and the originator's security interest in the equipment will be transferred to the SPE.

To the extent that the payment structure is dependent upon residual cash flows, as may be the case with an operating lease, the value of the underlying equipment, the dependency of the remarketing agent, and the timing of residuals would be considered. Additional credit analysis may be needed to properly value residuals for purposes of including them as part of the credit enhancement available to the transaction.

The structure and cash flows of lease contracts can vary such that cash flows and credit risks can change significantly from pool to pool. Examples include the tailoring of lease payments to meet the end-users' cash flow. Step payments, seasonal payments, and balloon payments are common

in certain segments of the leasing industry. A concentration of either type of contract may alter the timing of defaults. Step payments may give rise to greater defaults earlier in the transaction because of the start-up nature of lessees requiring the benefit of low initial payments, while balloon payments may increase the severity of high defaults late in the transaction.

In addition to the cash flow considerations of lease contracts, unique terms within the lease also may create risks not seen in other asset types. Specifically, the lease agreements themselves may provide for fee-for-use payments instead of firm rents, which could create an additional operating risk. A lease agreement may include maintenance provisions, which could lead to third-party event risk or set-off risk (as in the case of software-only leases); prepayment options, which, depending on bond valuation, may create a shortfall if exercised; or residual caps and sharing arrangements, which could affect actual realization performance compared to historical data studied.

Company history

Rating analysts examine how the company was started, how many years it has been in business, its past performance, and how its focus has changed over time. Consistency in the company's business practices enables the analysts to use historical pool information to extrapolate future pool performance. Shifts in credit and collections policies, equipment type, and origination channels (such as broker vs. internally originated transactions) may render the historical information irrelevant for purposes of estimating future cumulative losses. Equally as important is the amount of historical information that is available. A new originator that has recently experienced a significant increase in monthly origination volume invariably presents static pool data that is not seasoned. This lack of data makes estimating cumulative losses difficult. Moreover, a significant growth in origination volume prior to the proposed transaction increases the possibility that credit standards have been relaxed to accommodate a larger size issue.

On several occasions, the management of a new originator has asked that pool performance data from another leasing company be used as a proxy for the current pool being securitized. The supposition being that the loss performance of a newly formed leasing company should be similar to an existing company's portfolio if both companies were run by similar management teams. However, pool performance depends on numerous individuals working in such areas as credit, collections, marketing, and systems. Therefore, it is necessary to analyze actual historical data rather than proxy information.

Three to five years of historical portfolio performance data is the minimum amount of data currently needed to rate a transaction. An uninsured transaction for an originator that has little or no history will not be rated.

Management experience

Management with a strong, proven track record in equipment leasing/commercial finance, preferably in the market segments it operates in, is preferred. Management experience becomes even more crucial to the extent residuals are part of a transaction, given the strong reliance on remarketing. For smaller, less-seasoned originators, background investigative reports on the company principals also may be reviewed.

Goals/Competitive Strategies

Analysts attempt to determine how the company plans to compete, particularly in a competitive and changing market that has become more customer focused. For instance, will the establishment of private-label programs with vendors make a lessor dependent on a particular vendor, creating an event risk tied to that vendor? Will a vendor pressure a lessor to finance all credits, whether it meets underwriting standards or not? Is a lessor more willing to take on additional credit risk in exchange for possible residual upside? These scenarios could result in higher expected losses in a portfolio. Conversely, the extension of excessive recourse, while mitigating potential losses, presents legal challenges as the risk of ownership may not be deemed to have passed to the lessor. A similar concern arises when brokers originate contracts and sell them to the leasing company with recourse. For these reasons, it is very important that any third party recourse provided to the leasing company be disclosed to the analysts at the outset.

Financial resources

Because of the capital-intense nature of the industry and the small, unrated profile of many originators, a lessor's financial management is a critical factor that must be satisfactorily addressed. Limited financial resources and access to capital could create incentive toward more liberal origination and underwriting standards, misapplication of securitized cash flows, or an adverse impact on portfolio servicing. Each event could negatively affect pool performance. Furthermore, the role of securitization in a company's overall funding strategy must be ascertained. Becoming dependent solely on securitization may result in the need to increase originations in each subsequent period in order to maintain a steady increase in earnings upon the securitization of the lease portfolios. This pressure may lead to a deterioration in credit underwriting and therefore impact future pool performance. Reliance on securitization also may expose a company to market risk, which extends beyond an originator's control. To mitigate such circumstances, analysts look for sound financial management and access to various sources of capital.

Although not a major area of focus, the company's financial statements are reviewed to be assured a reputable accounting firm is auditing financial results. Significant contingent liabilities and pending litigation must be satisfactorily explained.

Marketing/Origination

The equipment lease marketplace is generally segmented into three niches: large-ticket, middle-ticket, and small-ticket leasing. The marketing approach for each is influenced by the niche in which the originator chooses to compete.

A lessor's method of originating business can uncover key credit and legal risks associated with a pool of equipment leases. In broad terms, lease origination may be either direct or indirect. Direct marketing is focused on the end-user of the equipment. Indirect marketing is focused on a third party, such as a manufacturer, vendor, or broker. Captives and large-ticket equipment lessors tend to rely more on a direct sales approach, perhaps because of the manufacturer relationship or the specialized application and high cost of the equipment. Conversely, in the small-ticket market, which is volume driven and focused on commodity type equipment, the use of portfolio acquisition or the use of vendor and broker markets can be a more efficient method to achieve volume and economies of scale.

Credit and legal risk is potentially greater when using indirect origination sources and/or portfolio acquisition. With indirect origination and portfolio acquisition, a third party often controls the process. Therefore, the originator may depend on that third party to provide accurate and complete credit information on the applicant. Vendors and brokers have strong incentive to alter credit applications in the applicant's favor, since a credit rejection potentially equates to a lost sale or commission (see sidebar 1, Understanding Risks Of Third-Party Originators). Furthermore, a lessor may be dependent on lease documentation that contains inadequate rights and remedies if its own agreements are not used. In contrast, from a credit standpoint, a direct sales approach gives the lessor full control over underwriting, structuring, and documentation processes.

The use of third-party originators creates an added level of underwriting on the part of a purchasing lessor. Given the dependency on vendors and brokers for accurate information, a lessor needs to be comfortable with the integrity of the vendor/broker and the information provided by the vendor/broker. Lack of formal underwriting standards for third-party originators could subject a pool to increased loss frequency as a result of inferior lessee credit quality or fraud. Additionally, the use of indirect marketing can translate into a redistribution of risk from one party to the other, usually with the lessor taking on incremental risk. For example, to provide a vendor with quicker turnaround time, a lessor may increase its threshold for approving credits, solely based on a lessee's credit application, forfeiting a more thorough financial statement or tax return analysis. Or, perhaps, a lessor needs to take on more residual risk to be more rate competitive. The higher residual assumption may not be realized at the same rate as historical results. The marketing strategy of a lessor can have a direct impact on pool performance.

Underwriting

A consistent underwriting policy is the cornerstone of evaluating a pool's expected loss performance. As part of the review process, the key criteria used in underwriting credit risk will be discussed with management. Staffing levels, experience of the originator's credit personnel, and any areas of credit specialization may also be discussed. Methods in assessing credit risk may vary greatly depending on a lessor's market segment. For instance, if a small-ticket lessor uses a credit scoring model, analysts will seek to understand the key variables in the model that drive the resulting score, as well as the lessor's reliance on the model in determining approval. However, a mid-ticket lessor may rely more on financial statement analysis, which would require insight into those guidelines used for approval.

Since underwriting is often a dynamic process, adjusting with current market forces or entry into new markets, analysts will attempt to ascertain changes in underwriting standards. To the extent underwriting policies have changed over time, the analytical view of expected losses also may change. Examples would be lowering a passing score used in a scoring model, thus potentially increasing the frequency of lessee default or raising the dollar threshold for perfecting a security interest in the underlying equipment. This may limit equipment recovery performance and raise the severity of lessee defaults due to the potential of not having adequate legal rights to the underlying equipment.

Credit approval policies should be well documented, highlighting internal credit authorities and transaction approval procedures. Verification of equipment acceptance, lessee review, documentation requirements, and internal auditing also are components of a sound underwriting policy.

Servicing

The obligation of the servicer to bill and to collect is critical and can directly impact pool performance. In most equipment lease transactions, the seller of the receivables also will act as servicer. With the large population of unrated lease-backed issuers, the servicer can often become a weak link in the transaction. To mitigate this, the transaction may provide for a substitute servicer to assume servicing responsibilities if a servicer default occurs, or perhaps a backup servicer to ensure a smooth transition. The existence of a backup servicer helps mitigate higher losses in the event of a servicer bankruptcy by facilitating the transition of the servicer duties to the back-up servicer.

Lease receivables often require unique servicing techniques because of the specialty nature of the receivables and the underlying equipment that is being financed. For instance, small-ticket collecting typically requires frequent contact to remind the obligor to make its payments. With hospital lessees, ensuring that the payment obligation is inputted on the proper accounts payable system, as well as an understanding of reimbursement procedures and internal bureaucracy may be key. To the extent equipment proceeds are relied on in the payment structure—either through recoveries or residuals—a servicer or backup servicer must be able to adequately remarket equipment. This would require adequate staffing with the knowledge of secondary equipment markets and contacts with particular distribution channels in which to remarket equipment.

When evaluating the strength of an equipment lease servicing operation, it is necessary to examine the billing and collecting procedures, when and how delinquent obligors are notified, and if staffing and systems adequately handle the demands of compliance and reporting.

- What are the billing and collecting procedures? Lessors use various forms of billing procedures. Mailing invoices and coupon books are common. In the United States, Automatic Clearing House debits are also prevalent. A billing system that uses a proactive approach and provides for adequate control of cash payments is favorably viewed. Given the longer-term installment nature of lease receivables, payment rates are lower than those for other asset types, which limits commingling risk. However, billing cycles can result in a high concentration of collections during certain times of the month. The fewer the billing cycles, the greater the risk of commingled cash flows being lost in a seller/servicer bankruptcy. An analysis of monthly cash receipts may be performed to ascertain if significant collections are concentrated around certain due dates. To mitigate commingling risk, collections must be remitted within two days, unless the Servicer's rating is consistent with the rating of the transaction. This time exposure is perceived as a risk. However, it is considered to be adequately covered through the credit support and floor amount maintained. To the extent significant servicer risk exists, a trust lockbox may be necessary.
- When and how are delinquent obligors notified? The servicer should have documented collection policies highlighted when calls are made, as well as follow-up procedures for when legal remedies are pursued and repossession begins. Delinquent obligors should be called as early as possible. Collection calls should be reinforced with follow-up written notification. The existence of an in-house legal staff may enhance a lessor's ability to protect its rights and remedies to the underlying collateral, which would translate into greater recovery and lower loss severity.
- Can staffing and systems adequately handle the demands of compliance and reporting? As structures have evolved and have become more sophisticated and flexible, the servicer's staff needs to understand the terms and restrictions of the transaction documents. Eligibility requirements, substitution capabilities, or maintaining security interests are examples of the

need for competent staff to ensure that the ongoing integrity of the collateral remains intact. Systems should be able to generate all investor reporting requirements in a timely manner. The servicer should be able to demonstrate adequate backup system capabilities and a disaster recovery plan.

Assessing Credit Enhancement Levels

Once the business practices of the originator are understood, the analyst is in a position to consider the pool specific data for purposes of assessing credit enhancement levels. The characteristics of the pool; the methods used by the originator to calculate historical delinquencies, defaults, and recoveries; and the legal rights against the collateral are all reviewed.

Certain characteristics, such as pool concentrations, may alter the analytical approach used to determine credit enhancement. Additionally, the methods available for measuring historical defaults, the importance of understanding the timing and measurement of defaulted amounts, and the legal and credit analysis that is undertaken to consider recoveries as additional credit enhancement must be considered. In some situations, the analysis may also consider residual values as additional credit enhancement.

Incorporating concentration risk

Historical performance data is analyzed to project the future default behavior of a receivable pool. When assessing credit support levels, the approach typically is determined by the size of the receivable pool and its specific concentrations. With an industry that contains many smaller originators, pools of equipment leases often are small in contract and obligor number compared to other asset types. This may limit the reliance on historical data if the data is not of sufficient statistical size to actuarially analyze performance behavior of the receivables. Pools with fewer than 300 obligors cannot be addressed by a pure actuarial approach, since they contain risk concentrations that are not offset by pool diversification. Although historical portfolio loss performance may be excellent, such statistics are less reliable as an indicator of future pool performance when applied to small pools.

To the extent a receivable pool is small and concentrated, alternative analytical approaches may be used, such as applying Standard & Poor's assumptions regarding corporate default rates (if the pool contains rated obligors), or defaulting top obligor concentrations. For larger pools with specific concentrations, the two approaches may be combined. For example, a pool with greater than 300 obligors may have several obligors that represent a significant portion of the pool, but are rated below the transaction's highest rating. In this instance, the credit enhancement would be determined by summing a number of obligor concentrations and then utilizing an actuarial approach for the balance of the pool. Recovery credit may be given, if warranted.

Whether a pool is of actuarial size or small and concentrated, cash flow models will be analyzed to demonstrate the adequacy of the credit support to withstand various stressed credit and liquidity scenarios throughout the life of a transaction.

Static pools versus annual portfolios—analyzing loss data

Historical loss data can be presented based on static pools or dynamic portfolio information. Static pool analysis is performed by isolating receivables originated within a finite period of time, such as a quarter or a year, and tracking the leases on a monthly basis as they amortize to a zero

balance. Dynamic portfolio data, usually expressed annually, records losses in the year incurred, without regard to when the defaulted receivable was originated.

An analysis of static pool data is preferred, since it demonstrates loss performance over the full liquidation period of a pool. Static pool data also can provide insight into changing portfolio characteristics, underwriting, or collection policies. Movement in such variables may not be readily apparent in dynamic portfolio data because of the constantly changing mix in new and aged receivables. Additionally, data based on annual losses can understate loss performance during periods of rapid portfolio growth. When analyzing high-growth portfolios, the current period's losses may be compared against the prior year's portfolio. This "growth adjustment" takes into account that losses on new originations may not happen immediately and, therefore, occur in the next annual period.

Adequacy of the charge-off policy

Whether loss information is based on static pools or dynamic portfolio data, the lessor's charge-off policy will be reviewed to ascertain the integrity of using historical information as a proxy for future pool performance, since future performance will be governed by the charge-off policy in the transaction documents. Since historical defaults are the result of a lessor's own internal charge-off policy, historical data may be based on a policy that is vastly different from the transaction documents. Charge-off policies vary from originator to originator; however, transaction documents are very specific as to the definition of both the defaulted amount and the timing of a loss.

A charge-off policy has two components: what amount is charged off, and at what point. To the extent a lessor's policy is to write off a lower amount, or the write-off occurs beyond the point that is dictated in a securitization, the risk of a credit support shortfall would exist if the credit support was sized based on the lessor's more liberal internal policy (see sidebar 2, What Is A Gross Loss?)

Once data integrity has been established, a lessor's historical portfolio performance can be analyzed to arrive at a proxy for an expected level of cumulative losses over the life of the transaction. To the extent that dynamic portfolio data is used, the annual loss proxy must be "grossed up" to arrive at a cumulative loss rate over the full life of the transaction. To do this, the proxy for expected losses is multiplied by the average life of the collateral. When calculating the average life of the collateral, it is important that a zero prepayment and default assumption be used. Assuming no prepayments or defaults extends the average life of the collateral, which has the effect of estimating the cumulative losses on a more conservative basis. The expected cumulative loss rate is stressed, depending on the rating level, to determine the amount of loss coverage. The accompanying table sets forth the benchmark stress factors for the applicable requested ratings. Note that these multiples are not absolute and may be adjusted upward or downward depending on the specifics of a transaction such as originator, data quality, or pool characteristics.

Benchmark Stress Factors For Requested Ratings

Requested rating	Stress factor (x)
AAA	5
AA	4
A	3
BBB	2

How much credit can be given to recoveries?

Cash flows from recoveries provide an added source of credit support to the extent the cash is available to offset a simultaneous loss. Because of the secured nature of leasing, recoveries can be substantial. Recoveries can be generated either through the disposition of the financed asset or, as seen more in the small-ticket segment of the industry, through continued hard servicing or the exercise of various legal remedies afforded by the underlying documentation. In quantifying the credit that can be given to recovery cash flows, the historical data presented by the lessor, the legal rights that noteholders have in the underlying equipment, and the timing of realizing the recovery cash flows, are analyzed.

Historical data versus pool cut data

Similar to the analysis of loss data, the analysis of recovery data depends on the size of the pool and whether such information can be relied upon from an actuarial standpoint. To understand the dynamic variables of the historical information, analysts will determine differences in general equipment categories that are imbedded in the historical data and compare equipment types to the current pool. To the extent that information is based on a more concentrated and smaller pool, more specific analysis on the underlying equipment will be performed.

Legal rights

Noteholders' ability to benefit from recoveries depends on the ability to access the asset in order to sell or otherwise remarket the equipment. For a detailed description of Standard & Poor's legal criteria regarding recovery credit to equipment, please refer to the Legal section.

Timing of recovery cash flows

Timing is critical to giving credit to equipment recoveries, since the cash flows must be available to offset a default. The timing of recovery cash flows is dependent on two factors: how the cash flows are treated in the payment structure, and how long it takes to realize the recovery. Structurally, recoveries typically are available monthly to offset periodic losses. To the extent the recovery is not needed, any excess would flow back to the originator. As a result, the timing of losses will determine the benefit that recoveries provide. In terms of ascertaining the time that it takes to realize recoveries, the methods a lessor historically has used to realize recoveries are also analyzed. Generally recoveries are realized through three methods:

- Pursuing legal remedies afforded under the documents as mentioned above,
- Selling the underlying equipment in the secondary market, or
- Re-leasing the underlying equipment to another end-user.

The method of recovery typically depends on the type and cost of the equipment. For example, with small-ticket equipment, very often the cost of repossession and disposition exceeds the value of the equipment, which typically is inexpensive. As such, it is not uncommon for small ticket equipment lessors to achieve recoveries by pursuing legal remedies against the lessee rather than the equipment.

On the other hand, repossessing farm equipment, which may be more valuable and not subject to

obsolescence, is probably worthwhile. If a medical diagnostic center defaults on its lease, the de-installation costs may be so prohibitive that the only way to work out the default is to lease the existing center to a new doctor group as a turnkey operation. This would result in the realizing of recoveries over time, as opposed to a lump-sum payment.

Each method may be more cost effective depending on the specific circumstance. Although the timing of each example is undoubtedly specific to each situation, the ability of a substitute servicer to achieve the same recovery performance would be impacted by the method of recovery, particularly if different from that used by the originator. As a result, the recovery process must be analyzed from the perspective of a substitute servicer in terms of its ability to perform the necessary repossession and disposition functions. Furthermore, the payment structure must incorporate the proper financial incentives to entice the substitute servicer to perform the recovery function adequately.

Any lease payments received after the legal final maturity date of the transaction would not benefit noteholders. Therefore, to the extent significant recoveries have been historically realized through re-lease, analysts would stress the historical results by assuming a portion of recoveries would be realized after the maturity of the transaction.

Credit support floor

The required credit enhancement generally will decline as a percentage of the initial collateral balance, subject to a floor. The floor would decline only to cover losses. Credit support floors typically are higher in lease securitizations compared to other asset types because of:

- The higher risk concentrations in the pools,
- The uneven repayment schedules of the receivables as a result of step payments and balloon payments, and
- The greater event risks of the commercial obligor base.

Defaults in a commercial obligor pool generally do not follow the same loss behavior pattern as those in consumer pools, although certain markets within the leasing industry may display more consumer default patterns. As a result, analysts will review the risks and merits of each specific pool when assessing the size of the credit support floor.

Analyzing Residual Cash Flows

Residual values are one of the unique characteristics that distinguish equipment leases from other asset types. A residual, as it pertains to equipment, is an accounting term that describes the assumed value of equipment at the time such equipment comes off lease. A residual value typically is set by a lessor at the beginning of a lease and is, therefore, an estimate of the future value of the leased equipment. Residuals are similar to excess spread available in most other asset-backed transactions in that the cash flows are available only periodically and they can be depleted by prepayments, substitution, and losses. However, unlike excess spread, residuals are not contractual and require a third party (servicer) to generate the cash flow, typically through the sale or re-lease of the financed equipment. Furthermore, residual cash flows tend to occur more unevenly, and payments typically are scheduled toward the later stages of a transaction, resulting in greater unpredictability than other forms of overcollateralization.

The type of residual option depends on the structure of the lease agreement. These options usually are structured to achieve certain accounting and tax treatments for both lessor and

lessee. Generally, end-of-lease options come in two forms: nominal or fair market value. A nominal purchase option, typically set below 10% of the original equipment cost, can be either guaranteed by the lessee or unguaranteed. If guaranteed by the lessee (often referred to as a PUT), the PUT would be treated as a scheduled payment (like a balloon payment). However, both an unguaranteed nominal option and a fair market value purchase option create an added level of uncertainty surrounding whether or not the value ascribed to the equipment at the onset of the lease can be achieved at lease expiration. Therefore, the reliance on residual cash flow can create credit and liquidity shortfalls to the extent equipment is not remarketed by the time the cash is needed.

Similar to recoveries, residuals are only beneficial to noteholders if those cash flows are available to offset periodic losses. Hence, cash flow availability depends on a variety of factors, including legal rights to the proceeds, the process of realizing the proceeds, and how the proceeds are treated structurally. In assessing the cash flow benefit of residuals under a variety of stressed scenarios, the analysis concentrates on four key areas:

- Management experience,
- Legal access to the equipment,
- Historical data, and
- Realization method and timing of residuals.

Management experience

A capable and experienced management team is the foundation of residual analysis. Residuals are management's assumption of future value. Therefore, if management does not have extensive knowledge of the equipment, technology, regulatory risks, and after-markets, the integrity of the initial assumptions may be compromised. For example, medical equipment subject to insurance reimbursement benefits may be vulnerable to health care reform. Lack of insurance reimbursement would most certainly deflate its value, reducing the ability for generating revenue. If the doctor does not exercise the purchase option, the lessor may incur a loss compared with its initial booked assessment.

Residual realization is the actual cash flows received from the disposition of the asset compared with the initial booked assumption. As a result, the more conservative the residual assumption is, the more likely the booked residual will be realized. Conversely, if the initial assumption was too aggressive, a loss could occur, resulting in lower-than-expected cash flows. To the extent the expected cash flows were relied upon in the form of credit support, a shortfall could occur. Therefore, analysts will look favorably on conservative assessments in setting the residual values. Analysts will also question any recent changes in residual assumptions that may make previous realization statistics less useful.

In addition to establishing front-end residual values, management is the driving force in remarketing at the back end of a lease. Knowledge of secondary markets and industry contacts are often proprietary and can make the difference in a remarketing function.

Legal access to the equipment

In evaluating the amount of credit that can be given to residual values, another important consideration is the legal rights of the trustee or noteholders in the underlying equipment. The legal guidelines for residual credit are similar to those for recovery credits (see "Related Criteria

And Research").

Assessing historical residual data

As a starting point in an analysis, seven to 10 years of historical residual realization data and other key pieces of information regarding the underlying equipment and internal procedures will be reviewed. Other key data include:

- Equipment types,
- Original equipment cost,
- Initial booked residual assumption (depreciation policies),
- Actual residual realized,
- Average performance and volatility,
- Method of realization,
- Timing of realization, and
- Residual concentrations by obligor, vendor and manufacturer.

As in analyzing loss data, the level of integrity in the historical residual data must be established. Hidden behind reported results may be a mix of changing variables, such as different equipment types, different residual assumptions, residual hedging arrangements, or change in vendor remarketing support. To properly understand the past performance of residual realization, analysts will request the above listed data for key equipment categories. This allows a more effective projection of a worst-case realization rate for a static pool of equipment.

An actuarial approach will be used in assessing historical data. However, since lessors often concentrate in certain niche markets, equipment concentrations are quite frequent. Pools with equipment concentrations are, therefore, subject to greater event risks, such as technology upgrades, regulatory issues, or event risks associated with vendors. To get comfortable with equipment concentrations, all potential factors that could affect the future value of the underlying equipment will be analyzed. In doing so, asset-backed analysts will seek opinions from analysts in other rating groups and, if necessary, from outside experts to provide specific equipment appraisals.

In addition to the actuarial and equipment analysis outline above, analysts also will review volatility of realization from the mean. This analysis provides valuable insight into why performance for a specific class of equipment may deteriorate.

Realization methods and the timing of cash flow

Because of the less-predictable nature of residual cash flows and the reliance on a servicer to monetize a "hard" asset, residual cash flows are a more illiquid form of overcollateralization. Ascertaining the cash flow conversion process is another key ingredient in the residual analysis. This is necessary to uncover potential liquidity and credit risks that may affect noteholders in receiving timely interest and principal payments. This process begins with understanding a lessor's methods of realizing residuals. This includes assessing the impact of a substitute servicer in the event of a lessor insolvency and ability of a substitute to adequately perform realization duties.

Method of realization occurs in one of two ways, either through outright sale, or re-lease. Again, the similarities to recoveries are apparent, as residuals that come in beyond the legal final maturity date would not be available to noteholders. For example, residuals associated with small-ticket equipment may be realized through the existing end-user exercising the lease-purchase option. As a result, the residuals may exhibit qualities of balloon payments, which would ensure that realization occurs on schedule. Conversely, an expensive computer system may not be attractive to the existing end-user if new technology is available, causing the lessor to remarket. Therefore, despite the relative value of the computer system compared to small-ticket equipment, the unpredictable realization behavior would impact the final amount of credit given to residuals.

Analysts will request a breakdown of the timing of residual realization to ensure that residual cash flow will be available in a stressed timing scenario. From a liquidity standpoint, reliance on residuals as a form of credit support may increase the risk of missing scheduled payments owed to noteholders. To mitigate liquidity risk, analysts may determine that a portion of the total credit support be in the form of cash.

Accessing residual cash flows as a form of credit support may require structural elements to ensure availability, otherwise those cash flows can be released from the trust estate. One structural consideration may be the inclusion of pool and residual performance based triggers that when violated, would cause residual cash flows to be applied to outstanding notes or set aside as realized. This would liquefy the residual portion of credit support.

How Much Credit Can Be Given To Residuals?

Some originators seek credit for the residuals in their portfolios in order to maximize the overall advance rate of the securitized notes against the contractual pool of receivables. However, unlike "hell or high water" lease payments, residuals are not contractual in nature. As such, various factors, in addition to the underlying credit quality of the obligor, will impact the value of residuals. Because residuals are assumed to be realized in a stress case scenario that is consistent with the rating being requested, it is necessary to stress the following factors, which may directly impact residual realization:

- Servicer solvency,
- Obligor defaults,
- Manufacturer solvency,
- Timing of residuals, and
- secondary market values.

Additionally, discounts will be applied to booked residual values if steps have not been taken to fully perfect the trustee's security interest in the underlying equipment.

Servicer solvency

Residual realization methods differ by equipment type. For small-ticket office equipment, the majority of residual values are realized by sales to the lessee at the end of the lease term. This type of equipment depreciates quickly, but has significant in-place value to the end user. Often, it is more cost effective for the lessee to purchase the equipment at the end of the lease term rather than paying to return the equipment to the lessor. When equipment is purchased by the end user,

the extent of the servicer's involvement is more passive than in cases where remarketing to a new lessee or buyer is necessary. Nevertheless, the insolvency of a servicer may impact the residual realization process. For larger ticket equipment, the role of the servicer is more active and, therefore, a servicer insolvency can potentially have a greater impact on the residuals realized.

Obligor defaults

In small ticket equipment lease pools, residual values can only be realized if the lease to which the equipment is related reaches full term with all payments made. If an obligor defaults on a lease, the equipment may be seized for ultimate recovery value. For small ticket equipment, this value is generally less than the outstanding lease amount and, therefore, insufficient to represent any residual realization. In valuing the expected amount of residuals available for credit enhancement purposes, a discount is applied to cover these potential obligor defaults. If the residual pool is concentrated, the discount will be derived by defaulting the highest obligor concentrations. If the residual pool is diversified, the stress will be a multiple of expected cumulative gross losses. If the residual pool is comprised of larger ticket equipment, which is long-lived and not subject to high obsolescence risk, recoveries may exceed the outstanding lease amount upon an obligor default. In this instance, it is possible to realize residuals after a default. Discounts would still be applied to stress residuals on the larger ticket equipment.

Manufacturer solvency

The solvency of the manufacturer is an important consideration in determining the residual value of equipment, if the manufacturer is relied upon for technical support or maintenance. Additionally, the secondary market values may deteriorate if the equipment was manufactured by a company that is no longer in existence.

Manufacturers are also sources that may be relied upon to sell used equipment, and to the extent the manufacturer is insolvent, this remarketing source is not available and therefore residual values may be impacted. For these reasons, it is important to analyze the concentrations of booked residuals by manufacturer.

Residual timing

Credit to residuals is considered only if the residuals are available to cover losses when they occur. Accordingly, it is necessary to compare the timing of residuals against the timing of expected losses. For small ticket portfolios, the expected timing of residuals can be compared to loss curves. The residuals realized during the peak loss months and prior to the legal final maturity will be considered for purposes of residual credit and discounts will be applied to address the risk of a timing mismatch between residual realizations and the occurrence of losses.

Secondary market values

With regard to small-ticket equipment, secondary market values are less of a concern as residuals are primarily realized through the sale of the equipment to the existing lessee. Accordingly, economic and industry conditions play less of a role in the residual realization rate than does the willingness of the lessees to pay a nominal amount to own equipment that is critical to its business.

For mid-ticket and large ticket equipment, economic and industry conditions impact the

equipment values. In order to properly analyze the values of the residuals that would be available to the rated notes, stress case assumptions are made with respect to economic and industry conditions and the resultant impact these assumptions would have on the equipment values.

The value of residuals in a stress case may only be determined after the above factors have been properly considered and stressed. Because of the non-contractual nature of residuals, the discounts applied for each factor will vary based on the characteristics of the individual residual pool.

Sidebar 1: Understanding Risks Of Third-Party Originators

To mitigate potential for increased credit risk and fraud, a lessor should have established underwriting and review criteria for vendors and brokers, which should include:

- A strong vendor capable of providing good service and maintenance on the equipment so that a lessee's willingness to pay its lease obligations remains strong;
- An evaluation of a vendor's other funding sources to ensure some level of appetite for a vendor's originations and to ensure a vendor is not depending on the issuer to finance all of its business;
- The tracking of credit quality by a vendor to evaluate ongoing quality of a vendor's referrals;
- Audit procedures to verify information submitted by a vendor or broker; and
- Legal review of documentation, to the extent a vendor's/broker's documents are used.

Sidebar 2: What Is A Gross Loss?

There is no industry standard for reporting gross and net losses. When stressing credit support, the analysis typically starts at gross losses—defined as the full write-off of the contract balance outstanding at the time of default. Providing benefit to the cash flows from the realization of equipment recoveries will depend on various legal and credit factors. However, because lessors may have a different method of reporting gross and net losses, it may be difficult to establish an accurate proxy for a pool's expected loss performance.

Some lessors will write off the full remaining contract balance due at the time of default, thus matching Standard & Poor's definition of a gross loss. However, other lessors will not immediately write off the full balance to zero; instead, they will write down the contract balance to an amount equal to the estimated equipment recovery value. In both cases, a lessor may report the results as "gross losses." However, the latter example includes recoveries, which may not be available to cover losses. Upon actual disposition of the equipment, the lessor would further adjust for gains or losses on the sale of the asset to arrive at its net loss.

Further complicating the analysis is the timing of charge-offs. To the extent a company does not adhere to a strict policy of writing off at a certain point in time, portfolio defaults reported on an annual basis may be understated, since the charge-off policy in the securitization documents will be firm, typically at 180 days past due. Charging off within a shorter period will result in higher reported gross losses.

To mitigate any inconsistencies associated with the reporting of annualized loss data, Standard & Poor's prefers to review static pool loss data, which generally provides a more accurate picture of loss performance.

Revisions And Updates

This article was originally published on Sept. 1, 2004.

Changes introduced after original publication:

- Following our periodic review completed on Dec. 1, 2016, we added the "Related Criteria And Research" section.
- Following our periodic review completed on Nov. 24, 2017, we added the "Revisions And Updates" section.
- On Nov. 28, 2018, we republished this criteria article to make nonmaterial editorial changes. We updated the contact information and references to related criteria articles.

Related Criteria And Research

Related Criteria

- Methodology And Assumptions For Rating Mexican Equipment ABS, Dec. 11, 2014
- Counterparty Risk Framework Methodology And Assumptions, June 25, 2013
- Principles Of Credit Ratings, Feb. 16, 2011
- Methodology And Assumptions For Rating Japanese Lease Receivables Securitizations, May 11, 2010
- Legal Criteria For U.S. Structured Finance Transactions: Criteria Related To Asset-Backed Securities, Oct. 1, 2006
- Legal Criteria For U.S. Structured Finance Transactions: Securitizations By Code Transferors, Oct. 1, 2006
- Legal Criteria For U.S. Structured Finance Transactions: Special-Purpose Entities, Oct. 1, 2006
- Rating Leasing Securitizations In Italy, May 3, 2006

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as S&P Global Ratings assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.