

STANDARD
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Corporate Ratings Criteria

2008





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2008

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Bear in mind, however, that a rating is, in the end, an opinion. The rating assignment is as much an art as it is a science.

A handwritten signature in black ink, appearing to read "Solomon B. Samson". The signature is fluid and cursive, with a long horizontal stroke at the end.

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Standard & Poor's Ratings— And Their Role In The Financial Markets

Standard & Poor's Ratings Services traces its history back to 1860. It currently is the leading credit rating organization and a major publisher of financial information and research services on U.S. and foreign corporate and municipal debt obligations. We now rate many trillions of dollars worth of bonds and other financial obligations of obligors in more than 50 countries. We rate and monitor developments pertaining to these issues and issuers from an office network based in 22 world financial centers.

Standard & Poor's was an independent, publicly owned corporation until 1966, when all of its common stock was acquired by McGraw-Hill Inc., a major publishing company. Standard & Poor's is now a business unit of McGraw-Hill. In matters of credit analysis and ratings, Standard & Poor's Credit Market Services operates entirely independently of McGraw-Hill. Other units of Standard & Poor's provide investment, financial, and trading information, data, and analyses—including on equity securities—but operate separately from the ratings group. Standard & Poor's operates with no government mandate and is independent of any investment banking company, bank, or similar organization.

What Is Standard & Poor's?

We are an organization of professionals that provides analytical services—high-quality, objective, value-added analytical information—to the world's financial markets.

We operate under the core values of:

- Independence;
- Objectivity;
- Credibility; and
- Disclosure.

Our recognition as a rating agency ultimately depends on investors' willingness to accept our judgment. We believe it is important that all of our ratings users understand how we arrive at those ratings, and we regularly publish ratings research and detailed reports on ratings criteria and methodology.

We began rating the debt of corporate and government issuers decades ago. Our credit rating criteria and methodology have grown in sophistication to keep pace with a more dynamic world, and the introduction of new financial products. For example, Standard & Poor's was the first major rating agency to assess the credit quality of, and assign credit ratings to, the claims-paying ability of insurance companies (1971); financial guarantees (1971); mortgage-backed bonds (1975);

mutual funds (1983); asset-backed securities (1985); and secured loan recovery (2003). Over the years, these credit ratings have achieved wide investor acceptance as easily usable tools for differentiating credit quality.

The Rating Process Has Many Facets

Many of the practices described here are governed by specific statements of policy, which can be located on sandp.com/Ratings/FormNRSRO/Exhibits 2, 3, and 7.

Standard & Poor's provides ratings only when there is adequate information available to form a credible opinion, and only after applicable quantitative, qualitative, and legal analyses are performed. The analytical framework is divided into several categories to ensure that salient qualitative and quantitative issues are considered. For example, regarding industrial companies, the qualitative categories are oriented to business analysis, such as the company's competitiveness within its industry and the caliber of management; the quantitative categories relate to financial risk.

The rating process is not limited to an examination of various financial measures. Proper assessment of credit quality for an industrial company includes a thorough review of business fundamentals, including industry prospects for growth and vulnerability to technological change, labor unrest, or regulatory actions. (Other sectors emphasize factors that are especially relevant to entities in that sector. For example, public finance ratings involve an evaluation of the basic underlying economic strength of the public entity, as well as the effectiveness of the governing process to address problems. In financial institutions, the reputation of the bank or company may have an impact on the future financial performance and the institution's ability to repay its obligations.)

We assemble a team of analysts with appropriate expertise to review information pertinent to the rating. A lead analyst is responsible for conducting the analysis and coordinating the rating process. Members of the analytical team meet with the rated entity's management to review, in detail, key factors that could

affect on the rating, including operating and financial plans and management policies. The meeting also helps analysts develop the qualitative assessment of management itself, an important factor in many rating decisions.

Following this review and discussion, a rating committee meeting is convened. At the meeting, the committee discusses the lead analyst's recommendation and the facts and expectations supporting the rating. Finally, the voting members of the committee vote on the recommendation.

The issuer subsequently is notified of the rating and the major considerations supporting it. A rating can be appealed prior to its publication—if meaningful new or additional information is to be presented by the issuer. Obviously, there is no guarantee that any new information will alter the rating committee's decision.

Once a final rating is assigned, it is disseminated to the public via RatingsDirect, S&P.com, and the news media, together with the rationale and other commentary.

In the U.S., Standard & Poor's assigns and publishes its ratings irrespective of issuer request, if the financing is a public deal. In the case of private transactions, the company has publication rights. In most markets outside the U.S., ratings are assigned only on request, so the company can choose to make its rating public or to keep it confidential. (Confidential ratings are disclosed by us only to parties designated by the rated entity.)

Surveillance And Review Are Ongoing

All ratings are monitored, including continual review of new financial or economic information. Our surveillance is ongoing, meaning we staying abreast of all current developments. Moreover, it is routine to schedule annual review meetings with management, even in the absence of the issuance of new obligations or apparent reason to question the extant rating or outlook. These meetings enable analysts to discuss potential problem areas and be apprised of any changes in the issuer's plans.

As a result of the surveillance process, it is sometimes necessary to reassess the rating or

outlook. The lead analyst initiates a review, conducted in a similar fashion to the initial rating assignment process. In the interim, we place the ratings on CreditWatch, if we believe the likelihood of a rating change is sufficiently high. The review entails a comprehensive analysis—including, if warranted, a meeting with management—and a presentation to a rating committee. The rating committee evaluates the circumstances, arrives at decisions on ratings and outlooks, notifies the issuer, and entertains an appeal, if one is made (and meets our policy for accepting appeals). After this process, all ratings and outlooks—whether changed or affirmed—are announced.

Issuers' Use Of Ratings

It is common for companies to structure financing transactions to reflect rating criteria so they qualify for higher ratings. However, the actual structuring of a given issue is the exclusive function and responsibility of an issuer and its advisors. We develop and publish criteria as new financing alternatives are proposed. We will also react to a proposed financing, apply and interpret criteria for a type of issue, and outline the rating implications for the benefit of an issuer, underwriter, bond counsel, or financial advisor—but we do not function as an investment banker or financial advisor. Adopting such a role ultimately would impair the objectivity and credibility that are vital to our continued performance as an independent rating agency. Our guidance also is sought on sundry credit quality issues that might affect the rating opinion. For example, companies solicit our view on hybrid preferred stock, the monetization of assets, or other innovative financing techniques before putting these into practice. Nor is it uncommon for debt issuers to undertake specific and sometimes significant actions for the sake of maintaining their ratings. For example, one large company faced a downgrade of its 'A-1' commercial paper rating because of a growing component of short-term, floating-rate debt. To keep its rating, the company chose to restructure its debt maturity schedule in a way consistent with our view of what was consistent with the profile of an 'A' rated credit.

Some companies go one step further, incorporating specific rating objectives as corporate goals. Indeed, earning an 'A' rating, or at least an investment-grade rating, affords companies a measure of flexibility and may be worthwhile as part of an overall financial strategy. Beyond that, we do not encourage companies to manage themselves with an eye toward a specific rating. The more appropriate approach is to operate for the good of the business as management sees it and to let the rating follow. Ironically, managing for a very high rating can sometimes be inconsistent with the company's ultimate best interests, if it means being overly conservative and forgoing opportunities.

Several Types Of Credit Ratings

A Standard & Poor's credit rating is our opinion of the general creditworthiness of an obligor (issuer credit rating/corporate credit rating), or the credit risk associated with a particular debt security or other financial obligation (issue rating).

A rating does not constitute a recommendation to purchase, sell, or hold a particular security. In addition, a rating does not comment on the liquidity of the rated instrument—or any other element affecting suitability of an investment for a particular investor (including currency, interest rate, and prepayment risk).

Credit ratings are based on information furnished by the obligors or obtained by us from other sources we consider reliable. Although we look at information we receive with a critical eye, we do not perform any kind of audit (of financial statements or transactions) in connection with any credit rating—and may, on occasion, rely on unaudited financial information. Credit ratings may be changed, suspended, or withdrawn as a result of changes in, or unavailability of, such information.

We maintain separate and well-established rating scales for long-term and short-term instruments. (A separate scale for preferred stock was integrated with the debt scale in February 1999. There is an additional scale exclusively for medium-term municipal notes.)

In non-'AAA' transfer and convertibility (T&C) zones, we assign both foreign- and

local-currency issuer credit ratings. We also have introduced several national scale ratings, applicable in specific countries, and recovery ratings, which opine on loss given default.

Long-term credit ratings are divided into several categories, ranging from 'AAA'—reflecting the strongest credit quality—to 'D', reflecting the lowest. Long-term ratings from 'AA' to 'CCC' may be modified by the addition of a plus or minus sign to show relative standing within the major rating categories.

A short-term credit rating is an assessment of an issuer's credit quality with respect to an instrument considered short term in the relevant market. Short-term ratings range from 'A-1', for the highest-quality obligations, to 'D', for the lowest. The 'A-1' rating may also be modified by a plus sign to distinguish the strongest credits in that category.

Issuer Credit Ratings

We provide issuer credit ratings—an opinion of the obligor's overall capacity and willingness to meet its financial obligations as they come due—whether rated or not. Default on any of these leads to an issuer rating of 'D' or 'SD' (*see Definitions, page 11*).

However, if payment is withheld due to disputes (as may pertain to operating or lease obligations), we do not deem this to be a default. Our issuer credit rating is not specific to any particular financial obligation, because it does not take into account the specific nature or provisions of any particular obligation. Such ratings do not take into account recovery prospects or statutory or regulatory preferences, nor do they take into account the creditworthiness of guarantors, insurers, or other forms of credit enhancement that may pertain to a specific obligation. (However, when we believe that support from a third party—such as an affiliate or government—would benefit the issuer in ways that make the overall risk of default more remote, such support is factored into the rating.)

Counterparty ratings, corporate credit ratings, and sovereign credit ratings are all forms of issuer credit ratings. Because a corporate credit rating provides an overall assessment of a company's creditworthiness, it is used for a

variety of financial and commercial purposes, such as negotiating long-term leases or minimizing the need for a letter of credit for vendors. If the credit rating is not assigned in conjunction with a rated public financing, the company can choose to make its rating public or to keep it confidential.

Credit ratings can be either long or short term. Short-term ratings are assigned to those obligations considered short term in the relevant market. In the U.S., for example, that means obligations with an original maturity of no more than 365 days, including commercial paper. Commercial paper ratings pertain to the program established to sell these notes. There is limited review of individual notes. Nonetheless, such program ratings characterize the notes as "rated paper."

Short-term ratings also are used to indicate the creditworthiness of an obligor with respect to put features on long-term obligations. The result is a dual rating, in which the short-term rating addresses the put feature in addition to the usual long-term rating. Medium-term notes (MTNs) are assigned long-term ratings. A rating is assigned to the MTN program and, subsequently, to individual notes, as they are identified—and as applicable (in terms of tenor, seniority, and currency).

Issue-Specific Credit Ratings

Our issue credit rating is a current opinion of the credit risk pertaining to a specific financial obligation, a specific class of financial obligations, or a specific financial program. This opinion reflects, where applicable, the creditworthiness of guarantors, insurers, or other forms of credit enhancement on the obligation, and takes into account statutory and regulatory preferences. On a global basis, Standard & Poor's issue credit rating criteria have long identified the added country-risk factors that give external debt a higher default probability than domestic obligations. (In 1992, we revised our criteria to define external rather than domestic obligations by currency instead of by market of issuance. This led to the adoption of the local currency/foreign currency nomenclatures for issue credit ratings.) Because rating coverage now has

expanded to a growing range of emerging-market countries, and because Organisation for Economic Co-operation and Development (OECD)-based companies increasingly have expanded to emerging markets, the analysis of political, economic, and monetary risk factors are even more important.

Definitions

Our long-term issue ratings ('AAA' through 'D') are assigned to notes, note programs, certificate of deposit programs, bank loans, bonds and debentures; shelf registrations (preliminary), equipment trust certificates, and preferred stock and other hybrid securities. Debt types include secured, senior unsecured, subordinated, junior subordinated, and deferrable payment debt.

Short-term issue ratings ('A-1+' through 'D') apply to commercial paper programs and put bonds. (The rating type is determined by the initial tenor; once a long-term rating is applied, the approach of the maturity does not lead to re-rating with a short-term rating.)

Issue and issuer credit ratings use the identical symbols, but the definitions do not completely correspond to each other: Issuer ratings—and short-term issue ratings—reflect only the risk of default, but long-term issue ratings also incorporate a view of loss given default (either via a specific recovery analysis or by reflecting relative position of the obligation in the event of bankruptcy, reorganization, or other arrangement under the laws of bankruptcy and other laws affecting creditors' rights.)

Junior obligations typically are rated lower than the issuer credit rating, to reflect the lower priority in bankruptcy, as noted above. Debt that provides good prospects for ultimate recovery, such as well-secured debt, is rated higher than the issuer credit rating.

Recovery ratings ('1+' through '6') are our opinion of a specific issue's prospects regarding loss given default. We generally assign these ratings to the debt of speculative-grade companies. Wherever we assign a recovery rating, that rating forms the basis for notching the issue credit rating relative to the issuer rating.

Long-term ratings definitions

'AAA': An obligation rated 'AAA' has the highest rating we assign. The obligor's capacity to meet its financial commitment on the obligation is extremely strong.

'AA': An obligation rated 'AA' differs from the highest-rated obligations only to a small degree. The obligor's capacity to meet its financial commitment on the obligation is very strong.

'A': An obligation rated 'A' is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher rated categories. However, the obligor's capacity to meet its financial commitment on the obligation is still strong.

'BBB': An obligation rated 'BBB' exhibits adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation.

Obligations rated 'BB', 'B', 'CCC', 'CC', and 'C' are regarded as having significant speculative characteristics. 'BB' indicates the least degree of speculation, and 'C' the highest. While such obligations likely will have some quality and protective characteristics, these may be outweighed by large uncertainties or major exposure to adverse conditions.

'BB': An obligation rated 'BB' is less vulnerable to nonpayment than other speculative issues. However, it faces major ongoing uncertainties or exposure to adverse business, financial, or economic conditions that could lead to the obligor's inadequate capacity to meet its financial commitment on the obligation.

'B': An obligation rated 'B' is more vulnerable to nonpayment than obligations rated 'BB', but the obligor currently has the capacity to meet its financial commitment on the obligation. Adverse business, financial, or economic conditions likely will impair the obligor's capacity or willingness to meet its financial commitment on the obligation.

'CCC': An obligation rated 'CCC' is vulnerable to nonpayment within one year, and depends on favorable business, financial, and economic conditions for the obligor to meet its financial commitment on the obligation.

In the event of adverse business, financial, or economic conditions, the obligor is unlikely to have the capacity to meet its financial commitment on the obligation.

'CC': An obligation rated 'CC' currently is highly vulnerable to nonpayment.

'C': The 'C' rating is also used when a bankruptcy petition has been filed or similar action has been taken but payments on this obligation are being continued. 'C' is also used for a preferred stock that is in arrears (as well as for junior debt of issuers rated 'CCC-' and 'CC').

'D': Default; 'SD': Selective default. The 'D' and 'SD' ratings, unlike other ratings, are not prospective; rather, they are used only when a default actually has occurred—not when default is only expected.

Standard & Poor's changes ratings to 'D':

- On the day an interest and/or principal payment is due and is not paid. An exception is made if the instrument provides for a grace period and we believe a payment will be made within that period, in which case the rating can be maintained;
- Upon voluntary bankruptcy filing or similar action. (An exception is made for a specific issue if we expect debt-service payments will continue to be made on that issue.) In the absence of a payment default or bankruptcy filing, a technical default (e.g., covenant violation) is not sufficient for assigning a 'D' rating;
- Upon completion of a distressed exchange offer, whereby some or all of an issue is either repurchased for an amount of cash or replaced by other securities having a total value that clearly is less than par (even though the offer is well in excess of the security's current market price); or,
- In the case of ratings on preferred stock or deferrable payment securities, upon nonpayment of the dividend or deferral of the interest payment.

With respect to issuer credit ratings (i.e., corporate credit ratings, counterparty ratings, and sovereign ratings), failure to pay any financial obligation—rated or unrated—leads to either a 'D' or 'SD' rating. Ordinarily, an issuer's distress leads to general default, and the rating is 'D'. 'SD' is

assigned when an issuer can be expected to default selectively, i.e., continue to pay certain issues or classes of obligations while not paying others. This fact pattern normally is associated with sovereign government defaults. In the corporate context, selective default might apply when a company conducts a distressed or coercive exchange with respect to one or some issues, while intending to honor its obligations regarding other issues. (In fact, it is not unusual for a company to launch such an offer precisely with such a strategy—to restructure part of its debt to keep the company solvent.)

Nonpayment of a financial obligation subject to a bona fide commercial dispute or a missed preferred stock dividend does not cause the issuer credit rating to be changed.

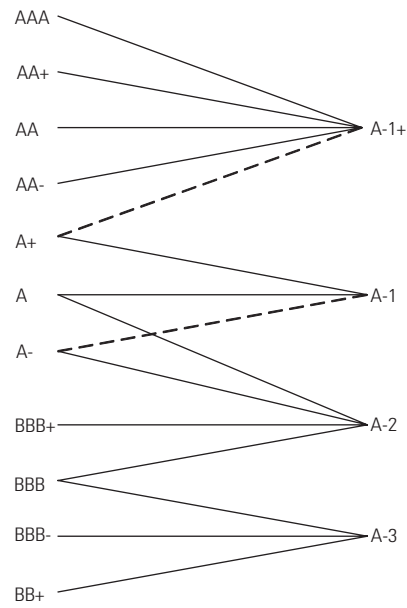
Plus (+) or minus (-): The ratings from 'AA' to 'CCC' may be modified by the addition of a plus or minus sign to show relative standing within the major rating categories. In 1994, we introduced a symbol to be added to an issue credit rating when the instrument could have significant non-credit risk. The 'r' was added to such instruments as interest-only strips, inverse floaters, and instruments that pay non-fixed amounts at maturity, e.g., amounts based the value of a particular equity or a currency or stock index. The 'r' was intended to alert investors to non-credit risks and emphasizes that an issue credit rating addressed only the credit quality of the obligation; it was discontinued in July 2000.

Short-term ratings definitions

'A-1': A short-term obligation rated 'A-1' is in the highest category we rate. The obligor's capacity to meet its financial commitment on the obligation is strong. Within this category, certain obligations are designated with a plus sign (+). This indicates that the obligor's capacity to meet its financial commitment on these obligations is extremely strong.

'A-2': A short-term obligation rated 'A-2' is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher rating categories. However, the obligor's capacity to meet its financial commitment on the obligation is satisfactory.

Chart 1 Correlation Of Short-Term Investment-Grade Ratings With Long-Term Corp Credit Ratings*



'A-3': A short-term obligation rated 'A-3' exhibits adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation.

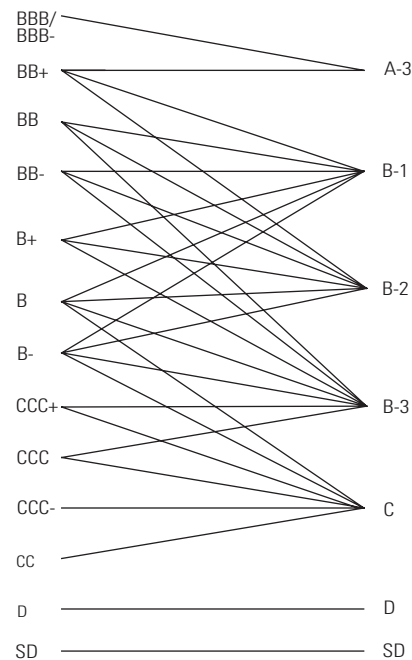
'B': A short-term obligation rated 'B' has, in our view, significant speculative characteristics. The obligor currently has the capacity to meet its financial commitment on the obligation; however, it faces major ongoing uncertainties that could lead to inadequate capacity to meet its financial commitment on the obligation. We expanded the 'B' short-term rating category in 2004 by dividing it into 'B-1', 'B-2', and 'B-3'.

'C': A short-term obligation rated 'C' currently is vulnerable to nonpayment and depends on favorable business, financial, and economic conditions for the obligor to meet its financial commitment on the obligation.

'D': The same as the long-term rating definition for 'D'.

Investment-grade, short-term ratings are highly correlated with long-term ratings (see *Commercial Paper* chapter of this book). Speculative-grade short-term ratings reflect less constraint regarding linkage to long-term ratings.

Chart 2 Correlation Of Short-Term Speculative-Grade Ratings With Long-Term Corp Credit Ratings



Investment And Speculative Grades

The term "investment grade" originally was used by various regulatory bodies to connote obligations eligible for investment by institutions such as banks, insurance companies, and savings and loan associations. Over time, it gained widespread use throughout the investment community. Issues rated in our four highest categories—'AAA', 'AA', 'A', and 'BBB'—generally are recognized as investment grade. Debt rated 'BB' or below generally is considered "speculative grade." (The term "junk bond" is merely an irreverent expression for this category of more risky debt; "high-grade" and "high-yield" debt are common terms, as well.) Nomenclature aside, we take no view as to which securities are worthy of investment, because an investor with a particular risk preference may appropriately invest in securities that are not investment grade.

Ratings continue as a factor in many regulations, both in the U.S. and abroad, notably in Europe and Japan. For example, the SEC requires investment-grade status in order to register debt on Form-3, which, in turn, is one way to offer debt via a Rule 415 shelf registration. The Federal Reserve Board allows members of the Federal Reserve System to invest in securities rated in the four highest categories, just as the Federal Home Loan Bank System permits federally chartered savings and loan associations to invest in corporate debt with those ratings, and the Department of Labor allows pension funds to invest in commercial paper rated in one of the three highest categories. In similar fashion, California regulates investments of municipalities and county treasurers; Illinois limits collateral acceptable for public deposits; and Vermont restricts investments of insurers and banks. The New York and Philadelphia stock exchanges fix margin requirements for mortgage securities depending on their ratings, and the securities haircut for commercial paper, debt securities, and preferred stock that determines net capital requirements is also a function of the ratings assigned.

Currency

We devised two types of ratings in order to comment on the risks associated with payment in currencies other than the entity's home country. Such payments typically are made outside the company's home country, so the risks encompass both transfer and convertibility.

- A local currency rating is our current opinion of an obligor's overall capacity to generate sufficient local currency resources to meet its financial obligations (both foreign and local currency), absent the risk of direct sovereign intervention that may constrain payment of foreign currency debt. Depending on the location of a company's operations, such intervention could relate to more than one government. Local currency credit ratings are provided on our global scale or on separate national scales, and may be either issuer or specific issue credit ratings. Country or economic risk considerations factored into local-currency ratings include the impact of government policies on the obligor's business and financial environment, including factors such as the exchange rate, interest rates, inflation, labor market conditions, taxation, regulation, and infrastructure. However, the opinion does not address transfer and other risks related to direct sovereign intervention to prevent the timely servicing of cross-border obligations.
- A foreign currency credit rating is our current opinion of an obligor's overall capacity to meet all financial obligations—including its foreign-currency-denominated financial obligations. It may take the form of either an issuer or an issue credit rating. As in the case of local currency credit ratings, a foreign currency credit opinion on our global scale is based on the obligor's individual credit characteristics, including the influence of country or economic risk factors. However, unlike local currency ratings, a foreign currency credit rating includes transfer and other risks related to sovereign actions that

Table 1 Cumulative Default Rates 1981–2006 (%)

Year	AAA	AA	A	BBB	BB	B	CCC/C
1	0.0	0.0	0.1	0.2	1.1	5.0	26.3
2	0.0	0.1	0.2	0.7	3.1	10.9	34.7
3	0.1	0.1	0.3	1.2	5.6	15.9	40.0
4	0.2	0.2	0.5	1.9	8.0	19.8	43.2
5	0.3	0.3	0.7	2.6	10.1	22.6	46.2
10	0.7	0.9	1.9	5.4	17.5	30.4	51.8
15	0.8	1.3	2.8	7.9	20.8	35.0	54.6

Source: S&P Annual 2006 Global Default Study.

may directly affect access to the foreign exchange needed for timely servicing of the rated obligation. Transfer and other direct sovereign risks addressed in such ratings include the likelihood of foreign-exchange controls and the imposition of other restrictions on the repayment of foreign debt.

(See Analytical Methodology/Country Risk section of this book for a discussion of the relationship of these ratings to ratings on the pertinent sovereign.)

National Scale Ratings

We produce national scale ratings in a number of countries across throughout the world. These ratings are expressed with the traditional letter symbols, but the rating definitions do not conform to those employed for the global scale. The rating definitions of each national scale and its correlation to global scale ratings are unique, so there is no basis for comparability across national scales.

CreditWatch Listings And Rating Outlooks

Our ratings evaluate default risk over the life of a debt issue, incorporating an assessment of all future events to the extent they are known or can be anticipated. But we also recognize the potential for future performance to differ from initial expectations. Rating outlooks and CreditWatch listings address this possibility by focusing on the scenarios that could result in a rating change. Ratings (both issuer and issue ratings) appear on CreditWatch when an event or deviation from an expected trend has occurred or is expected such that there is a significant chance (roughly 50% or more) of requiring a rating change, and additional information is necessary to take a rating action. For example, an issue is placed under such special surveillance as the result of mergers, recapitalizations, regulatory actions, or unanticipated operating developments.

We attempt to resolve CreditWatch reviews within 90 days, unless the outcome

of a specific event is still pending. A listing does not mean a rating change is inevitable; however, in some cases, it is certain that a rating change will occur, and only the magnitude of the change is unclear. In such situations, we immediately lower the corporate credit rating to the highest-conceivable outcome, or upgrade it to the lowest-conceivable outcome, while also listing the rating on CreditWatch for potential additional actions. In those instances—and generally, whenever possible—we comment on the range of alternative ratings. An issuer cannot automatically appeal a CreditWatch listing, but our analysts are sensitive to their concerns and the fairness of the process.

Rating changes also can occur without the issue appearing on CreditWatch beforehand. In fact, if all necessary information is available, ratings should immediately be changed to reflect the changed circumstances; there should be no delay merely to signal via a CreditWatch listing that a ratings change is to occur.

A rating outlook is assigned to all long-term debt issuers and assesses the potential for an issuer rating change. Outlooks have a longer time frame than CreditWatch listings—typically, two years for investment-grade entities, and one year for speculative-grade entities—and incorporate trends or risks with less certain implications for credit quality. (Ratings that are listed on CreditWatch, by definition, have no assigned outlook.)

A negative, developing, or positive outlook is not necessarily a precursor of a rating change or a CreditWatch listing.

CreditWatch designations and outlooks may be positive, meaning the rating may be raised, or negative, meaning it may be lowered. Developing is used for those unusual situations in which future events are so unclear that the rating could be raised or lowered. A stable outlook is assigned when ratings likely will not be changed within the applicable timeframe, but it should not be confused with expected stability of the company's financial performance. ■

Our Rating Process

Most corporations approach us to request a rating prior to the sale or registration of a debt issue. That way, first-time issuers can receive an indication of what rating to expect. Issuers with rated debt outstanding also want to know in advance what affect issuing additional debt will have on the ratings we already have assigned. (As a matter of policy, in the U.S., we assign and publish ratings for all public corporate debt issues over \$100 million—with or without a request from the issuer. In these cases, we contact the issuer to elicit its cooperation.)

The analysts with the greatest relevant industry/country expertise are assigned to evaluate the credit and commence surveillance of the company. Our analysts generally concentrate on one or two industries, covering the entire spectrum of credits within those industries. Such specialization allows the analysts to accumulate expertise and competitive information better than if junk-bond issuers were followed separately from high-grade issuers. While one analyst takes the lead in following a given issuer and typically handles day-to-day contact, a team of experienced analysts—including a back-up analyst—is always assigned to the rating relationship with each issuer.

Meeting With Management

A meeting with corporate management is an integral part of our rating process. The purpose

is to review in detail the company's key operating and financial plans, management policies, and other credit factors that have an impact on the rating. Management meetings are critical in helping to reach a balanced assessment of a company's circumstances and prospects.

Participation

The company typically is represented by its chief financial officer. The chief executive officer usually participates when strategic issues are reviewed (usually the case at the initial rating assignment). Operating executives often present detailed information regarding business segments. Outside advisors may be helpful in preparing an effective presentation. We neither encourage nor discourage their use: It is entirely up to management whether advisors assist in the preparation for meetings, and whether they attend the meetings.

Scheduling

Management meetings usually are scheduled at least several weeks in advance, to assure mutual availability of the appropriate participants and to allow adequate preparation time for our analysts. In addition, if a rating is being sought for a pending issuance, it is to the issuer's advantage to allow about three weeks following a meeting for us to complete the review process. More time may be needed in certain cases, if, for example, extensive review of documentation is necessary. However, where special circumstances exist and a quick turnaround is needed, we endeavor to meet the requirements of the marketplace.

Facility Tours

Touring major facilities can be very helpful for us to understand a company's business. However, it generally is not critical in assigning a rating to a given company. Considering the time constraints that typically arise in the initial rating exercise, arranging facility tours may not be feasible. As discussed below, such tours may well be a useful part of the subsequent surveillance process.

Preparing For Meetings

Corporate management should feel free to contact its designated Standard & Poor's credit analyst for guidance in advance of the meeting regarding the particular areas that will be emphasized in the analytic process. Published ratings criteria, as well as industry commentary and articles on peer companies, may also help management appreciate the analytic perspective.

Providing detailed, written lists of questions tends to constrain spontaneity and artificially limit the scope of the meeting. Therefore, some of our practices prefer not to do so, while other practices endeavor in other ways to avoid such outcomes.

We request that the company submit background materials well in advance of the meeting, (ideally, several sets), including:

- five years of audited annual financial statements;
- the last several interim financial statements;
- narrative descriptions of operations and products; and

- if available, a draft registration statement or offering memorandum, or equivalent.

Apart from company-specific material, relevant industry information also is useful.

While not mandatory, written presentations by management often help provide a framework for the discussion. Such presentations typically mirror the format of the meeting discussion, as outlined below. Where a written presentation is prepared, it is particularly useful for our team to review it in advance of the meeting.

There is no need to try to anticipate all questions that might arise. If additional information is necessary to clarify specific points, it can be provided subsequent to the meeting. In any case, our credit analysts generally will have follow-up questions that arise as the information covered at the management meeting is further analyzed.

Confidentiality

A substantial portion of the information set forth in company presentations is highly sensitive and is provided by the issuer to us solely for the purpose of arriving at ratings. Such information is kept strictly confidential by the ratings group, on a need-to-know basis.

(Obviously, if information is known to us or comes to be known from other sources, the company cannot expect us to treat this information confidentially.) It is not to be used for any other purpose, nor by any third party, including other Standard & Poor's units. Standard & Poor's maintains a "Chinese Wall" between its rating activities and its equity information services. Even if a public rating is subsequently assigned, any rationales or other information we publish about the company will refer only to publicly available corporate information. In the same vein, if we change a rating or outlook based on confidential information received, we will take pains to avoid disclosing that information in our published materials.

Conduct Of Meeting

In a typical meeting with issuer management, we typically address:

- industry environment and prospects;

- an overview of major business segments, including operating statistics and comparisons with competitors and industry norms;
- financial policies and financial performance goals;
- distinctive accounting practices;
- projections, including income and cash flow statements and balance sheets, together with the underlying market and operating assumptions;
- capital spending plans; and
- financing alternatives and contingency plans.

It should be understood that our ratings are not based on the issuer's financial projections or management's view of what the future may hold. Rather, ratings are based on our assessment of the company's prospects. However, management's financial projections are a valuable tool in the rating process, because they indicate management's plans, how management assesses the company's challenges, and how it intends to deal with problems. Projections also depict the company's financial strategy in terms of anticipated reliance on internal cash flow or outside funds, and they help articulate management's financial objectives and policies.

Management meetings with companies new to the rating process typically last two to four hours, or longer if the company's operations are particularly complex. If the issuer is domiciled in a country new to ratings or participates in a new industry, more time is usually required. When, in addition, there are major accounting issues to be covered, meetings can last a full day or two.

Short, formal presentations by management are useful to introduce areas for discussion. We prefer meetings to be interactive and largely informal, with ample time allowed for questions and responses. (At management meetings, as at all other times, we welcome the company's questions regarding our procedures, methodology, and analytical criteria.)

Rating Committee

A committee is always convened to assign a new issuer rating. Rating committees normally consist of five to seven voting members, and a chairperson reviews the suitability of the committee participants.

A presentation is made by the lead analyst to the rating committee, which has been provided in advance with appropriate financial statistics and comparative analysis. The presentation follows the methodology as outlined in the methodology section below. It includes analysis of the company's business and its operating environment, evaluation of its strategic and financial management, accounting aspects, and financial analysis. When rating a specific issue, there is additional discussion of the proposed issue and terms of the indenture.

Once the ratings are determined, the company is notified, and told of the major supporting considerations. We allow the issuer to respond to the rating decision prior to its publication by presenting new or additional data. We entertain appeals in the interest of having available the most information possible and, thereby, the most accurate ratings. In the case of a decision to change an extant rating, any appeal must be conducted as expeditiously as possible, i.e., within a day or two. The committee reconvenes to consider the new information.

After notifying the company, the rating is disseminated via the media, or released to the company for dissemination in the case of private placements or corporate credit ratings.

To maintain the integrity and objectivity of our rating process, our internal deliberations and the identities of those who sat on a rating committee are kept confidential, and not disclosed to the issuer.

Surveillance

Corporate ratings on publicly distributed issues are monitored for at least one year. The company can then elect to pay us to continue surveillance. Ratings assigned at the company's request have the option of surveillance, or being on a "point-in-time" basis.

Surveillance is performed by the same industry analysts that work on the assignment of the ratings. In fact, we strive to provide continuity of the lead analyst and a portion of the relevant rating committee (some members do rotate, though, to allow for fresh perspectives, and the lead analyst role must rotate after five years). To facilitate

surveillance, companies put the lead analyst on mailing lists to receive interim and annual financial statements, press releases, and bank documents, including compliance certificates. The lead analyst is in periodic contact with the company to discuss ongoing performance and developments. Where these vary significantly from expectations, or where a major, new financing transaction is planned, an update management meeting is appropriate. We also encourage companies to discuss hypothetically—again, in strict confidence—transactions that perhaps are only being contemplated (e.g., acquisitions, new financings), and, where practicable, we endeavor to provide frank feedback about the potential ratings implications of such transactions.

In any event, management meetings routinely are scheduled at least annually. These meetings enable analysts to keep abreast of management's view of current developments, discuss business units that have performed differently from original expectations, and be apprised of changes in plans. As with initial management meetings, we willingly provide guidance in advance regarding areas we believe warrant emphasis: There generally is no need to dwell on basic information covered at the initial meeting. Apart from discussing revised projections, it is helpful to revisit the prior projections and to discuss how actual performance varied, and why.

A significant proportion of meetings with company officials takes place on the company's premises. There are several reasons: to facilitate increased exposure to management personnel—particularly at the operating level; obtain a first-hand view of critical facilities; and achieve a better understanding of the company by spending more time reviewing the business units in depth. While we actively encourage meetings on company premises, time and scheduling constraints on both sides dictate that arrangements for these meetings be made some time in advance.

Because the staff is organized by specialty, credit analysts typically meet each year with most major companies in their assigned area to discuss the industry outlook, business strategy, and financial forecasts and policies. This way, competitors' forecasts of market demand can be compared with one

another, and we can assess implications of competitors' strategies for the entire industry. Our analysts can judge management's relative optimism regarding market growth and relative aggressiveness in approaching the marketplace.

Importantly, the analyst compares business strategies and financial plans over time and seeks to understand how and why they changed. This exercise provides insights regarding management's abilities with respect to forecasting and implementing plans. By meeting with different managements over the course of a year, and the same management year after year, analysts can distinguish between managements with thoughtful, realistic agendas and those with wishful approaches.

Management credibility is achieved to the extent the record demonstrates that a company's actions are consistent with its plans and objectives. Once earned, credibility helps support continuity of a particular rating level, because we can rely on management to do what it says to maintain and/or restore creditworthiness when faced with financial stress or strategic challenge. Once lost, credibility is difficult to restore. The rating process benefits from the unique perspective on credibility gained by extensive evaluation of management plans and financial forecasts over many years.

Rating Changes

As a result of the surveillance process, it sometimes becomes apparent that changing conditions require reconsideration of the outstanding rating. When this occurs, the analyst undertakes a preliminary review, which, after internal deliberation, may lead to a CreditWatch listing. This is followed by a comprehensive analysis, communication with management, and a presentation to the rating committee. The rating committee evaluates the matter, arrives at a rating decision, and notifies the company—after which we publish the rating changes, if any, and the new outlook. The process is exactly the same as the rating of a new issue. Reflecting this surveillance, the timing of rating changes depends neither on the sale of new debt issues nor on our internal schedule for reviews. ■

Analytical Methodology

Our rating methodology is based on fundamental analysis. Our model has evolved over time to reflect greater complexity and volatility facing companies. Current ratings analysis puts much greater emphasis on cash flow adequacy and liquidity than in the past. Our profitability analysis was part of our financial risk review, but we now emphasize its role as part of our business risk and competitive assessment.

Overview

Over the past five or six years, we have paid significantly more attention to accounting considerations and corporate governance. While management's risk orientation has always been a critical part of our rating decisions, there is a more complex corporate landscape now—including the availability of ever more complicated securities and transactions. Accordingly, we need to drill deeper into management practices and policies, including a range of issues, from ownership to board independence to off-balance sheet stratagems.

Business risk/financial risk matrix

We strive for transparency around the rating process. However, it is critical to realize—and it should be apparent—that the ratings process cannot be reduced to a cookbook approach: Ratings incorporate many subjective judgments, and remain as much an art as a science.

Our corporate analytical methodology organizes the analytical process according to a common framework, and it divides the task

into several categories so that all salient issues are considered. The first categories involve fundamental business analysis; the financial analysis categories follow. (Credit ratings often are identified with financial analysis—especially ratios. And we publish ratio statistics and benchmarks both for sectors and individual companies. But ratings analysis starts with the assessment of the business and competitive profile of the company. Two companies with identical financial metrics are rated very differently, to the extent that their business challenges and prospects differ.)

We developed the matrix in table 2 to make explicit the rating outcomes that are typical for various business risk/financial risk combinations. The table illustrates the relationship of business and financial risk profiles to the issuer credit rating. The following illustrates how the tables can be used to better understand our rating conclusions.

The hypothetical case of company ABC

Company ABC is deemed to have a satisfactory business risk profile, typical of a low

investment-grade industrial issuer. If its financial risk were “intermediate”, the expected rating outcome should be ‘BBB’.

ABC’s ratios of cash flow to debt (35%) and debt leverage (total debt to EBITDA of 2.5x) are indeed characteristic of intermediate financial risk. (The assessment of financial risk really is not so simple: It encompasses financial policies and risk tolerance, volatility and risks to future performance, several perspectives on cash flow adequacy—including free cash flow and the degree of flexibility regarding capital expenditures, and various measures of liquidity—including coverage of short-term maturities.)

Company ABC can aspire to an upgrade to the ‘A’ category by reducing its debt burden to the point that cash flow to debt is more than 60% and debt leverage is only 1.5x. Conversely, ABC may choose to become more financially aggressive—perhaps it decides to reward shareholders by borrowing to repurchase its stock. The company can expect to be rated in the ‘BB’ category if its cash flow to debt ratio is 20% and debt leverage remains at 4x—and there is a commitment to keeping its finances at these levels.

The rating matrix is a guideline, not written in stone

The rating matrix is not meant to be precise. There can always be small positives and negatives that would lead to a notch higher or lower than the typical outcome.

Moreover, there will always be exceptions—cases that do not fit neatly into this analytical framework. For example, liquidity concerns or litigation could pose overarching risks. Also, the matrix does not address the lowest rungs of the credit spectrum (i.e., the ‘CCC’ category and lower). These ratings, by definition, reflect some impending crisis or extraordinary vulnerability, and the balanced approach that underlies the matrix framework just does not lend itself to such situations.

Corporate Credit Analysis Categories

The categories underlying our business and financial risk assessments are:

Business Risk

- Country risk
- Industry factors
- Competitive position
- Profitability/Peer group comparisons

Table 2 **Business Risk/Financial Risk**

—Financial risk profile—					
Business risk profile	Minimal	Modest	Intermediate	Aggressive	Highly Leveraged
Excellent	AAA	AA	A	BBB	BB
Strong	AA	A	A-	BBB-	BB-
Satisfactory	A	BBB+	BBB	BB+	B+
Weak	BBB	BBB-	BB+	BB-	B
Vulnerable	BB	B+	B+	B	B-
Financial risk indicative ratios*	Minimal	Modest	Intermediate	Aggressive	Highly Leveraged
Cash flow (Funds from operations/Debt) (%)	Over 60	45–60	30–45	15–30	Below 15
Debt leverage (Total debt/Capital) (%)	Below 25	25–35	35–45	45–55	Over 55
Debt/EBITDA (x)	<1.4	1.4–2.0	2.0–3.0	3.0–4.5	>4.5

*Fully adjusted, historically demonstrated, and expected to continue consistently.

Financial risk

- Governance/Risk tolerance/Financial policies
- Accounting
- Cash flow adequacy
- Capital structure/Asset protection
- Liquidity/Short-term factors

Note that we do not have any predetermined weights for these categories. The significance of specific factors varies from situation to situation.

Business risk considerations

Country risk. The operating environment in the particular country—including, importantly, any sovereign-related stress—can have an overwhelming impact upon company creditworthiness, both direct and indirect. Sovereign credit ratings suggest general risk faced by local entities, but they may not fully capture risk applicable to the private sector. As a result, when rating corporate or infrastructure companies or projects, we look beyond the sovereign ratings to evaluate the specific economic or country risk that may impact the entity's creditworthiness. Such economic or country risk pertains to the impact of government policies upon the obligor's business and financial environment, and a company's ability to insulate itself from these risks.

Industry factors. All rating analyses incorporate an assessment of the company's business environment. The degree of operating risk facing a company almost always depends on the dynamics of the industry in which it participates. Our industry analysis focuses on the strength of industry prospects, as well as the competitive factors affecting that industry.

The many factors assessed include industry prospects for growth, stability, or decline, and the pattern of business cycles. It is critical, for example, to determine vulnerability to technological change, labor unrest, regulatory interference, or changes in the supply/demand balance. Our knowledge of the investment plans of the major players in a given industry offers a unique vantage point with respect to the future industry's profile.

The industry risk assessment sets the stage for analyzing specific company risk factors/keys to success and establishing the priority of these factors in the overall evalua-

tion. For example, if technology is a critical competitive factor, R&D prowess is stressed. If the industry produces a commodity, cost of production is of major importance.

Still, for any particular company, one or more factors can hold special significance, even if that factor is not common to the industry. For example, the fact that a company has only one major production facility normally is regarded as an area of vulnerability. Similarly, reliance on one product creates risk, even if the product is highly successful (e.g., a pharmaceutical company with only one blockbuster drug that is subject to competition and patent expiration).

Competitive position. Competitive position represents a critical input in assessing a company's level of business risk in our analysis, and can often have a significant impact on the debt rating for an issuer. To determine a given issuer's competitive position, we look at key factors pertinent to the specific industry. A key factor for a pharmaceutical company, for example, might be research and development, whereas marketing would be a particularly important consideration for a consumer products company.

Company size and diversification often plays role. While we have no minimum size criterion for any given rating level, company size tends to be significantly correlated to rating levels. This is because larger companies often benefit from economies of scale and/or diversification, translating into a stronger competitive position. Small companies are, almost by definition, more concentrated in terms of product, number of customers, and geography. To the extent that markets and regional economies change, a broader scope of business affords protection.

Small companies are sometimes touted for their greater growth potential. However, fast growth often is subject to poor execution (even if the idea is well conceived) and can also tempt a company into over-ambitiousness, which could involve added risk.

Management evaluation. Management is assessed for its role in determining operational success and also for its risk tolerance. The first aspect is incorporated in the business risk

analysis; the second is weighed as a financial policy factor.

Subjective judgments help determine each aspect of management evaluation. Opinions formed during the meetings with senior management are as important as management's track record. While a track record may seem to offer a more objective basis for evaluation, it often is difficult to determine how results should be attributed to management's skills.

Management plans and policies are judged for their realism. How they are implemented determines the view of management consistency and credibility. Stated policies often are not followed, and a rating may reflect skepticism until management has established credibility. Credibility can become a critical issue when a company is faced with stress or restructuring, and we must decide whether to rely on management to carry out plans for restoring creditworthiness.

Profitability/Peer group comparisons. Profit potential is a critical determinant of credit protection. A company that generates higher operating margins and returns on capital has a greater ability to generate equity capital internally, attract capital externally, and withstand business adversity. Earnings power ultimately attests to the value of the company's assets, as well.

Moreover, conclusions about profitability also serve as a good sanity check on our assessment of business risk: A company's profit performance offers a litmus test of its fundamental health and competitive position. In this regard, comparing peer companies on key profit metrics is most meaningful.

Financial risk considerations

Having evaluated the issuer's operating environment and competitive position, the analysis proceeds to several financial categories. To reiterate, the company's business risk profile determines the level of financial risk appropriate for any rating category. Financial risk is portrayed largely through quantitative means, particularly by using financial ratios. Several analytical adjustments typically are required to calculate ratios for an individual company (see *Encyclopedia of Analytical Adjustments*, below). Cross-border comparisons require additional care, given the differ-

ences in accounting conventions and local financial systems.

Financial policy. We attach great importance to management's philosophies and policies involving financial risk. A surprising number of companies have not given this question serious thought, much less reached strong conclusions. For many others, debt leverage (calculated without any adjustment to reported figures) is the only focal point of such policy considerations. More sophisticated business managers have thoughtful policies that recognize cash flow parameters, the interplay between business and financial risk, and the need to adjust financial data to reflect different needs and perspectives.

Even those companies that have set goals may not have the wherewithal, discipline, or management commitment to achieve these objectives. Leverage goals, for example, need to be viewed in the context of an issuer's past record and the financial dynamics affecting the business.

Accounting characteristics and information risk. Financial statements and related disclosures serve as our primary source of information regarding the financial condition and financial performance of industrial and utility companies. The analysis of financial statements begins with a review of accounting characteristics. The purpose is to determine whether ratios and statistics derived from the statements can be used appropriately to measure a company's performance and position relative to both its direct peer group and the larger universe of corporate issuers. The rating process is, in part, one of comparisons, so it is important to have a common frame of reference.

Analytical adjustments are made to better portray reality and to level the differences among companies—although it rarely is possible to completely recast a company's financial statements. Even where the ability to adjust is limited, it is important to at least have some notion of the extent to which different financial measures are overstated or understated.

Apart from their importance to the quantitative aspects of the analysis, conclusions regarding accounting characteristics and financial transparency can also influence

qualitative aspects of the analysis, such as the assessment of management.

Cash flow adequacy. Interest or principal payments cannot be serviced out of earnings, which is just an accounting concept; payment has to be made with cash. Although there usually is a strong relationship between cash flow and profitability, many transactions and accounting entries affect one and not the other. Analysis of cash flow patterns can reveal a level of debt-servicing capability that is either stronger or weaker than might be apparent from earnings.

The analysis often focuses on levels of funds from operations (FFO), but we pay close attention to working capital swings, capital spending requirements, and shareholder distributions to complete the picture with respect to cash flow adequacy.

Cash flow analysis is usually the single most critical aspect of credit rating decisions. It takes on added importance for speculative-grade issuers. While companies with investment-grade ratings generally have ready access to external financing to cover temporary cash shortfalls, speculative-grade issuers lack this degree of flexibility and have fewer alternatives to internally generated cash for servicing debt.

Capital structure and asset protection. A review of an issuer's capital structure represents an important part of our financial review. The review encompasses both the level and mix of debt employed (i.e., fixed/variable rate, maturity, currency, secured/unsecured). This analysis helps us determine a company's financial flexibility, and how leveraged it is. Of course, when we look at leverage, our analysis goes beyond reported debt on the balance sheet and includes such items as leases, pension and retiree medical liabilities, guarantees, and contingent liabilities.

In addition, a company's asset mix is a critical determinant of the appropriate leverage for a given level of risk. Assets with stable cash flows or market values justify greater use of debt financing than those with clouded marketability. Accordingly, we believe it is critical to analyze each type of business and asset class in its own right. While the Financial Accounting Standards Board (FASB) and International Accounting

Standards (IAS) now require consolidation of nonhomogenous business units, we analyze each separately.

Liquidity/short-term factors. Sundry considerations that do not fit in other categories are examined here. The potential impact of contingencies is considered, along with the company's contingency plans. These include serious legal problems, lack of insurance coverage, or restrictive covenants in loan agreements that place the company at the mercy of its bankers. Access to various capital markets, affiliations with other entities, and the ability to sell assets are important factors in determining a company's options under stress.

Debt maturity schedules are scrutinized. Flexibility can be jeopardized when an issuer is overly reliant on bank borrowings or commercial paper. Issuing commercial paper without adequate backup facilities is a big negative.

As going concerns, companies should not be expected to repay debt by liquidating operations. Clearly, there is little benefit in selling natural resource properties or manufacturing facilities if they must be replaced in a few years. Nonetheless, the ability to generate cash through asset disposals enhances a company's financial flexibility.

Country Risk

Country risk—the risk of doing business in a particular country—is a critical component of many ratings, particularly for companies in emerging markets. The large number of corporate defaults in Argentina during the 2001-2002 crisis was related to a combination of macroeconomic factors, such as severe currency depreciation and weak economic activity, and government actions such as the 'pesification' (conversion to pesos from foreign currency) of financial obligations, utility tariffs, and most other dollar-denominated contracts at an unfavorable exchange rate from a creditor's perspective.

Country risk differs from sovereign credit risk—the risk of the sovereign defaulting on its commercial debt obligations. Country risk is often correlated with sovereign creditworthiness, but not always.

Depending on the industry sector or individual company's financial strength, a company may be better or less able to withstand macro-economic shocks or other country-related risks. For instance, several—but not all—Brazilian exporters performed well during 2002 despite a severe credit crunch in the marketplace, given government reluctance to interfere with export financing. Commercial banks and state development banks continued to provide lines of credit to major exporters, even though the sovereign suffered credit stress. Most Russian companies continued to perform and to service external, export-backed debt in 1998-1999 when the sovereign was in default.

On the other hand, strengthening credit quality of the sovereign state does not necessarily improve the business environment—or the relevant country risk. For example, while Russia's sovereign credit quality has been improving, the operating environment remains risky. All ratings on Russian companies factor in uncertainty about enforcement of regulatory and legal norms and the still-weak corporate governance environment.

Certain industries tend to be more affected by sovereign issues than others. Banks and utilities are greatly affected by the regulatory framework and by the general condition of the economy. On the opposite end of the spectrum are export-oriented companies, which are less affected by local economic conditions, and generally benefit from currency depreciation. Nevertheless, even exporters are exposed to country risk. For instance, they are subject to local rules on labor and domestic input sourcing, and could suffer a disruption in financial market access because of sovereign-related investor perceptions. Resource nationalism can also make export-oriented commodity industries more likely targets of selective sovereign intervention.

Exposure to country risk may even differ on a company-by-company basis. For instance, in Russia, the large oil and gas producers may each be subject to different risks of government interference.

Government-related companies generally enjoy some government support, but face general country risks as well. While selective sovereign intervention is hardly an issue for them, in terms of outright expropriation,

they are still subject to the country's tax and regulatory risks, infrastructure constraints, or exchange rate movements. There are plenty of examples in which the sovereign has induced the government-owned entities to reduce capital investment budgets, increase the tax burden, or pay extraordinary dividends when economic pressures have risen.

Country risk methodology and interaction with the sovereign rating

The main sovereign and industry-related risks affecting and sometimes constraining the credit quality of companies in a certain jurisdiction include various economic, financial, regulatory, and industry-related risks that can affect day-to-day operations, long-term investment decisions, and, of course, payment capacity.

We divide the main country risk factors that could affect the private sector into two categories: Economic/political and industry risks.

Economic risks:

- growth prospects of a country;
- its business cycle;
- political factors influencing the business environment;
- current and projected inflation levels;
- foreign exchange risks affecting the flow of imports, exports, and the balance of payments;
- the payment system and the strength and depth of the banking system;
- interest rates and spreads;
- the depth and liquidity of the local capital markets; and
- access to the cross-border markets for commercial or financial transactions.

Industry-related risks:

- labor market constraints or incentives;
- the strength and political direction of labor unions;
- labor cost and strike experience;
- condition of general infrastructure in the country—with potential constraints on water supply, cost of electricity, and price and availability of oil and gas;
- poor transportation services in roads, ports, and airports;
- accounting and reporting transparency in the country;

- federal and state government legal systems;
- regulatory risk for utilities, banks, and other entities under regulation;
- existence or potential for heavy taxation; and
- corruption-related risks affecting day-to-day operations.

Past experience

The main country risk factors that have affected financial performance and caused corporate defaults in the past are the following:

- Currency mismatch on operations and financial obligations combined with sharp local currency depreciation;
- Price controls combined with drastic raw material increases;
- Sudden contraction of liquidity, combined with a general weakening of the financial system and a possible freezing of bank deposits;
- Large increases in the cost of funds by financial intermediaries, if available;
- Delayed payments from domestic customers, including sovereigns themselves or sovereign-owned entities;
- Hikes in export tariffs or taxes;
- Prolonged labor strikes with excessive demands;
- Unfriendly change in regulations;
- GDP contraction and reduced domestic demand for several months or years;
- Sovereign restrictions on access to foreign exchange needed for debt service; and
- Forced conversion of foreign currency-denominated obligations into local currency.

Ratings above the sovereign

Under our methodology, ratings on a company may exceed those on the sovereign, if we expect it would continue to perform and fulfill its financial obligations, even during a sovereign local and/or foreign currency default scenario. The company must demonstrate that it is significantly sheltered from sovereign and country risk factors, based on past experience and probable scenarios. Where such potential exists, we would perform additional sovereign and country risk stress scenarios as part of the rating analysis.

In addition, ratings above those on the sovereign are possible where there is strong

implicit or explicit support from a highly-rated parent in another jurisdiction, and/or there is significant cash-flow diversity derived from operations in several countries.

Foreign currency ratings of an entity would be usually capped by the transfer and convertibility (T&C) assessment for a given country—ordinarily, higher than the sovereign foreign-currency rating. (See “*Ratings Above The Sovereign: Foreign Currency Rating Criteria Update*,” published Nov. 3, 2005, on *RatingsDirect*, the real time Web-based source for Standard & Poor’s credit ratings, research, and risk analysis.

Assessments of T&C risk are published on a monthly basis for all rated sovereigns.)

Nevertheless, a company’s foreign currency ratings can exceed the T&C assessment in instances of: very strong credit metrics and business prospects, as projected even through a sovereign default scenario; strong incentives to service foreign debt (links to global trading system); or a projected ability to generate enough foreign currency cash flow to comfortably cover foreign currency outflows.

As of 2007, the foreign currency ratings of 68 entities in 21 countries exceeded the sovereign rating of the country of domicile. (See “*Transfer And Convertibility Assessment History Since November 2005*” published June 7, 2007, on *RatingsDirect*.)

Only a handful, however, exceeded the T&C assessment.

Industry Risk

Industry risk analysis sets the stage for company-specific analysis. The goal is to develop a robust understanding of the company’s external business and operating environment. Industry analysis focuses on the industry prospects, as well as identifying the competitive factors, risks, and challenges affecting participants in that industry. Once key industry and country risk considerations are identified, the credit analysis process proceeds to a second phase—company-specific analysis.

Industry characteristics—and the mix of opportunities and risks they represent—include the sector’s growth and profit potential, degree of cyclicity, ease of entry, nature and degree of competition, capital intensity,

operational and cost structure, regulation, and technology. Companies best-positioned to take advantage of these key industry drivers—or to mitigate associated risks more effectively, possess a competitive advantage—and a stronger business risk profile.

Evaluating an industry's risk profile

While characteristics pertinent to credit risk across industries broadly are similar, the impact of these factors can vary significantly between industries. Table 3 highlights how a common set of industry characteristics/metrics can be applied to identifying the relative credit impact of key industry factors across some major industries in the U.S.

Some industries are more highly affected by national factors than others. The nature and impact of key characteristics can vary markedly between countries for a given industry. Utilities, telecom, and retail tend to be more affected by national characteristics. By contrast, oil & gas, chemicals, and technology sectors are more global in nature, as national factors tend to be less influential.

An example of country-specific influences: Telecom

While the telecom industry recently has been a primary driver of globalization, and the technology platforms and connectivity provided by

telecommunication companies form the underpinnings of the global network for voice, data video, and Internet services, it does not have a uniform global credit profile. A few leading operators have diversified internationally by building networks in multiple regions and countries, although none can be said to be global. A major impediment to the creation of truly global players is that many governments view the industry as being of national strategic importance; so, as in the case of utilities, barriers to cross border/global expansion and diversification often are material. The high cost of cross-border entry includes availability and expense of government-sanctioned frequencies and licenses, network-construction capital expense, and, in emerging markets, often the requirement to share profits and management decisions with local partners. The degree of competition in telecom is in many countries a direct function of government policy and regulation, as well as other factors, such as population and business density. National markets with the higher telecom credit risk tend to be those with a high degree of competition, where growth prospects are limited by market maturity, and government and regulatory policy or actions have spurred competition, and historically been inconsistent: The U.K. is an example of one such market. Conversely, in markets with lower levels of competition

Table 3 Key Industry Characteristics And Drivers Of Credit Risk

Credit risk impact: High (H); Medium (M); Low (L)

Risk factor	Cyclical	Competition	Capital intensity	Technology risk	Regulatory/government	Energy sensitivity
Industry	H	H	H	L	M/H	H
Airlines (U.S.)	H	H	H	M	M	H
Autos*	H	H	H	M	M	M
Auto suppliers*	H	H	M	H	L	L/M
High technology*	H	H	H	M	M/H	H
Mining*	H	H	H	L	M	L
Chemicals (bulk)*	H	H	H	L	M	H
Hotels*	H	H	H	L	L	M
Shipping*	H	H	H	L	L	M
Competitive power*	H	H	M	L	H	H
Telecoms (Europe)	M	H	H	H	H	L

*Global.

(often because of government policies and regulations that aim to support price levels and profit margins, and create surplus cash generation to fund infrastructure spending by incumbents), and growth prospects are high, the sector credit-risk profile can be much more favorable. A prime example of the latter market is China. Key ratings metrics, such as operating margins, EBITDA coverage, and leverage ratios for China's dominant incumbent wireline and wireless companies reflect this advantage, and are among the strongest of any rated telecom. However, in the case of China, our ratings on these companies are constrained by sovereign/country-risk considerations. Markets where competition is limited by government policy are obviously susceptible over time to policy changes leading to greater market liberalization. While the possibility of a major policy U-turn in China currently appears low, it is essential that any likelihood of changes that would foster greater competition be factored into the analysis in markets where there is a high degree of government protection.

High-risk industries

Certain sectors historically have experienced higher default rates and downward transition behavior. This can be linked to key high-risk industry characteristics. Ratings within such industries tend to cluster, because competitive differentiation is often hard to achieve and financing needs are relatively similar.

Still, it is critical not to paint an entire industry with the same brush. In fact, the stress of many companies in a particular industry can result from the superior execution and performance of their rivals. Such competitive divergence should be mirrored in a bifurcated ratings profile for that industry.

Factors with a high level of impact on credit risk are cyclical, degree of competition, capital intensity, technological risk, regulation/deregulation, and energy cost sensitivity.

Mature industries that are very competitive often have long-established companies with inflexible/legacy cost structures (arising from labor, pension, and/or environmental issues, among others). Industries in this category include autos, airlines, and integrated steel.

Cyclical

Industry cycles result not only from fluctuating demand, but, importantly, also from swings in supply capacity. (Such addition of new capacity often occurs in response to cyclical upswings in demand.) Overbuilding of production capacity exacerbates competitive and earnings pressure, especially in the event of a downturn in demand (examples of this dynamic: bulk chemicals and shipping).

A company's business can be so impaired during a downturn that it runs out of funds—or its competitive position may be permanently altered. In the extreme, a company will not survive a cyclical downturn to participate in the upturn. So, all else equal, companies subject to cyclical are rated lower than non-cyclical companies.

We attempt to avoid assigning high ratings to a company at its peak of cyclical prosperity, if that performance level is expected to be only temporary. Similarly, we may not lower ratings to reflect weakening performance because of cyclical factors, if the downturn is likely to be only temporary or there are good prospects for management to respond to the changed circumstances.

It is not that ratings are not adjusted with the phases of a cycle: Rather, the range of the ratings would not fully mirror the amplitude of the company's cyclical highs or lows, given the expectation that a cyclical pattern will persist. The expectation of change from the current performance level—for better or worse—tempers any rating action.

We do not—and cannot—aim to “rate through the cycle” entirely. Rating through the cycle requires an ability to predict the cyclical pattern—usually extremely difficult to do. The phases of a cycle probably will be longer or shorter, or steeper or less severe, than just repetitions of earlier cycles. Interaction of cycles from different parts of the globe and the convergence of secular and cyclical forces are further complications.

Moreover, even predictable cycles can affect individual companies in ways that have a lasting impact on credit quality. As noted, a company may fail during the cyclical downturn. Conversely, a company may accumulate enough cash in the upturn to mitigate the risks of the next downturn.

Furthermore, investor sentiment about cyclical credits may fluctuate over the course of a cycle, with important ramifications for financial flexibility. Whatever our own views about the long-term staying power of a given company, the degree of public confidence in the company's financial viability determines its access to capital markets, bank credit, and even trade credit—for better or worse. Accordingly, the psychology and the perceptions of capital providers must be taken into account.

Sensitivity to cyclical factors—and ratings stability—also varies considerably along the rating spectrum. As the credit quality of a company becomes increasingly marginal, the nature and timing of near-term changes in market conditions are more likely to mean the difference between survival and failure. A cyclical downturn may involve the threat of default before the opportunity to participate in the upturn that may follow. In such situations, cyclical fluctuations usually will lead directly to rating changes—possibly even several rating changes in a relatively short period. Conversely, a cyclical upturn may give companies a breather that may warrant a modest upgrade or two from those very low levels.

In contrast, companies viewed as having strong fundamentals (i.e., those enjoying investment-grade ratings) are unlikely to see significant rating changes because of factors deemed to be cyclical, unless the cycle is either substantially different from that expected, or the company's performance is somehow exceptional relative to that expected.

(Rating stability for a company throughout a cycle also presumes consistency in business strategy and financial policy. In reality, management psychology is often strongly influenced by the course of a cycle. For example, in the midst of a prolonged, highly favorable cyclical rebound, a given management's resolve to pursue a conservative growth strategy and financial policy may be weakened. Shifts in management psychology may affect not just individual companies, but entire industries. Favorable market conditions may spur industry-wide acquisition activity or capacity expansion.)

Capital intensity

To the degree that a business is capital intensive, return/break-even horizons are often further out, because of the need to invest heavily in fixed assets/production capacity. Operating leverage/capacity utilization adds to the risk profile.

Sectors that are both capital intensive and have a high degree of competition (e.g., autos, shipping, forest products, and metals & mining) are especially sensitive to the need for high capacity utilization. Nonetheless, capital-intensive sectors often have a high propensity to over-expand capacity in growth periods, leading to surplus capacity, intense price competition, and eroding margins. Perhaps ironically, such companies also tend to have above-average financial risk, as financing needs often are substantial and long.

Rapid change

Industries undergoing rapid change because of technological innovation and/or deregulation tend to have higher levels of industry risk. Barriers to entry can be substantially reduced, allowing an entry to new competitors that may not be burdened by legacy business models, technologies, and the cost structures of incumbents.

There is greater potential for industry peers sorting themselves into winners and losers—as companies pursue different business models/strategies. The quality of management is particularly important in such industries.

Risks in maturing or declining industries

Maturing economic and demographic environment can lead to market saturation (e.g., anemic growth rates in Western Europe and Japan for autos and steel). Technological change may spur substitution (fixed-wireline phones by mobile/wireless; traditional media advertising by Internet ads; pharmaceutical medications by bio-medications; and print media/news by Internet news services). New business models can lead to disintermediation (local retailers by mega retailers, and traditional airlines by low-cost carriers).

Stagnant or declining revenues require cost-reduction to maintain profitability. Product differentiation also tends to be difficult in maturing industry environments, as there is a

high degree of correlation between industry maturity and product commoditization (brands do afford companies protection from commoditization in some sectors). Industry consolidation often is challenging—both for the companies making the acquisitions—and those left to compete with them.

Risks in rapidly growing, immature industries

The promise of new technologies and new business models—while a threat to the existing companies—is not a panacea for the innovators either (e.g., Internet and dot.com companies). High-growth industries, particularly those driven by technological change, tend to have long investment breakeven horizons, especially if they are capital intensive. Their early periods are associated with losses and negative cash flow.

Unproven commercial viability of a new technology and/or business model also make them poor candidates for obtaining credit. New industries normally are funded in their early phases through venture capital (e.g., biotechnology).

Some high-technology/high-growth industries are viewed as having economic and political importance to national governments, which may protect them from market competition in an attempt to stimulate their development (as noted with China's telecoms). Barriers to entry erected by governments in the form of licensing, franchise auctioning, and laws barring competition and acquisition by nonsanctioned entities are used to provide a protected environment. However, as these industries mature, governments open them up to varying degrees of competition by allowing new entrants or removing monopolistic privileges incumbents had previously enjoyed. Once deregulated, such industries normally become much riskier from a credit perspective, because increased competition erodes industry profit margins.

“Old” industries can become rejuvenated in emerging markets

Not all industry high-growth opportunities are created by new technology or business models. Currently, the rapid industrialization of developing countries (notably China and

India) is creating growth industries for mature products—including auto manufacturing, capital goods, and steel. In addition, countries seeking to attract foreign participants offer protected environments and/or assistance and inducements.

Such status can prove tempting for foreign companies establishing operations, but early foreign entrants often find it hard to maintain adequate profitability once tax holidays end and/or new entrants are in place. (Again, China offers a good example: the government's decision to allow the entrance of additional Western, Japanese, and Korean auto manufacturers has created a high degree of competition with rapidly declining profit margins, despite very rapid market and sales growth.)

Potentially onerous government regulations, policies, and requirements, as well tolerance of illicit activity—such as proprietary technology transfers/piracy, are additional risk elements that need to be considered.

Competitive Position

Competitive positioning is the cornerstone of business risk analysis. While the industry environment, whether favorable or unfavorable, will strongly influence the business risk, differences in competitive positioning can justify substantial differences in credit standing among industry players. A strong business profile score can only be achieved through a very competitive position. Such status supports revenue and cash flow stability—and generally goes in tandem with superior profitability measures. A comparatively weak competitive position—even in the most favorable industry environment—is unlikely to result in a solid credit standing.

Sustainability is key

The sustainability and trend of a competitive position are critical rating factors. Sustainability of competitive advantage is often determined by cost leadership or product differentiation. A broader evaluation would look at:

- Product positioning (quality, pricing) and brand reputation;
- Market shares, the installed customer base, and geographic coverage;

- Distribution capabilities;
- Customer relationships;
- Technology/manufacturing capabilities; and
- Meaningful barriers to entry, such as transportation, capital or technology intensiveness, and regulation.

The assessment of these factors must, of course, be forward looking; we use historical data only to the extent that they provide insight into future trends.

Several other factors also are critical in determining the strength and sustainability of a company's competitive position. Vertical integration, for instance, often enables a stronger competitive position—although not necessarily higher returns on capital employed—protection of the customer base, and pricing power, as well as better ability to adjust to technology developments. That said, it is of utmost importance for a company to have the strongest grip on that part of the value chain that comprises the highest value added.

Market share analysis can be a critical component, but only when weighed in the context of industry dynamics

In noncommodity sectors, market share analysis often provides important insight into a company's competitive strength. A large share, however, is not always synonymous with a competitive advantage or with industry dominance. If an industry has a number of similarly large participants, none may have a particular advantage or disadvantage. (This is the case of the mature U.K. mobile telephony market, which, despite having four competitors with roughly similar large market shares, is characterized by intense competition, yielding relatively low margins for all market participants.) Even duopolies (such as the aircraft manufacturing industry) do not necessarily ensure high and stable margins. Highly fragmented industries (such as transportation—with airlines being a good example) may lack pricing leadership potential altogether. These examples underline the limits of market share analysis without understanding the industry context.

Global industries typically are characterized by gradual market consolidation and the risk of product commoditization; only large, cost-efficient players with vast

research and distribution capabilities are able to sustain or reinforce their business positions and profitability.

In contrast, companies operating in local industries may benefit from transportation barriers, long-term regulatory advantages, or a locally large installed asset or customer base. This is sometimes the case for food retailers, which can enjoy all these advantages, helping them achieve relatively solid business risk profiles, based on entrenched and well-managed local positions.

Comparing mature and fast-growing markets

An emerging or fast-growing market offers considerable growth prospects, but competitive positions in such markets are likely to be more volatile. Companies may reap substantial benefits over a relatively short period of time but find it difficult to manage over the long haul. (Moreover, fast-growth companies often tend to retain high-risk financial policies as they aggressively pursue ever more ambitious objectives, thereby limiting potential credit quality.) The promise of small companies can fade very quickly on growth-related risks, including management's experience and resources to enter new markets, or to integrate acquired companies.

A mature market, although perhaps not appealing from an earnings growth standpoint and possibly exposed to risks of price commoditization or revenue decline, can mean greater protection for market shares. Large companies in mature markets have substantial staying power. Their sizable staff, vast array of disposable assets, and often-significant restructuring potential can positively influence their fates.

Generally, we would therefore favor a solid, established position in a mature, consolidated industry, which would have greater ability to offer predictable revenue and earnings streams, and to protect a company's capacity to service its debt over the long term.

Diversification can enhance the business risk profile

Having a diverse range of products, customers, and/or suppliers helps cushion a

company against adversity. Geographic spread can also afford some protection against adverse changes in regional markets and economies, to the extent that the markets for a company's products or services are sufficiently uncorrelated.

When a company operates in more than one business, we analyze each segment separately. We then form a composite from these building blocks, weighing each element according to its importance within the overall organization. (Determination of importance can vary; we often use earnings contribution, especially if segment cash flow data are unavailable.)

Diversification that includes a good competitive position in several industry segments is then considered as a positive credit factor. The business profile of a company solidly positioned in an array of cash-generative businesses with different industrial cycles is stronger in terms of credit quality than each of the best-ranked stand alone competitors.

However, we generally are cautious with respect to the benefits of business diversification related to weaker competitive positions or activities exposed to a very difficult industry environment.

Global conglomerates generally achieve some of the highest ratings among corporate issuers. Impressive geographic spreads, balanced exposure to cyclical industries and economic conditions, and often very sizable market shares in consolidated, well-protected markets are common features of some of the world's largest conglomerates, such as U.S.-based General Electric Co. (AAA/Stable/A-1+).

Size and ratings end up being highly correlated

While we have no minimum size criterion for any given rating level, size and ratings do end up being correlated, given that size often provides a measure of diversification, and/or affects competitive positioning.

It is relative—not absolute—size that is crucial in determining market position, extent of diversification, and financial flexibility. Small companies also can enjoy the competitive advantages that accompany a dominant market position, although such a situation is not common. In this sense, sheer mass is not important; demonstrable market advantage is.

Accordingly, small or modest size generally is a negative rating factor if there is significant divergence in size and market shares between the market leaders and smaller players. Nevertheless, small and midsize enterprises can survive and perform satisfactorily in industries dominated by companies with large market shares, provided they can build defensible market positions in niche segments of the industry. German sports car designer and manufacturer Porsche AG (not rated) has successfully defended and expanded its strong position in luxury sports cars with respect to competitors owned by large car manufacturers.

As noted, large companies in highly fragmented industries may find it difficult to exert influence over pricing; instead, all industry players are exposed to intense competition. This is the case in the semiconductor industry, for example (with the exception, perhaps, of the microprocessor segment), where none of the large players has demonstrated a long-term ability to differentiate themselves in a highly competitive environment. The transportation and logistics industries are other good examples.

Large size also is often positively correlated with low cost. Economies of scale in purchasing, manufacturing, and distribution can provide large companies with better cash flow characteristics, which is of particular importance at the downside of the cycle. In some cases, like forest products, group size may not be the most critical aspect of cost advantage; rather, the size of the individual production units—in particular the size of the machines—is critical.

Also, small companies are, almost by definition, more concentrated in terms of product, number of customers, and geography. In effect, they lack certain elements of diversification that can benefit larger companies. To the extent that market and regional economies change, a broader business scope affords protection.

In addition, the impetus to grow dramatically tends to be higher for players aiming to access the industry's first tier than for industry giants that already achieved that status. Ambitious growth strategies often entail significant financial and implementation risks.

Accordingly, we pay much attention to management's plans for achieving earnings growth. Can existing businesses provide satisfactory growth, especially in a low-inflation environment, and to what extent are acquisitions or divestitures necessary to achieve corporate goals? At first glance, a mature, cash-generating company offers a great deal of bondholder protection; but we presume a company's central focus is to increase shareholder value over the long run. In this context, a lack of indicated earnings growth potential is considered a weakness.

How Company Management Influences Business And Financial Risk

Management evaluation is an input for both business risk and financial risk profiles—reflecting the fact that management's strategy, decisions, and policies affect all aspects of a company's activity. The evaluation includes a review of the credibility and realism of management's strategy and projections, its operating and financial track record, and its appetite for assuming business and financial risk.

Our judgments regarding management's strategy and operating track record help determine our view of competitive position, a key element of the business risk profile. We try to assess management's competence—and its role in determining strategic and operational success.

We bear in mind that success can be more difficult to achieve in some industries than others, simply because of the inherent risk characteristics of the business. Various airline executives, reflecting on the periodic and damaging price wars endemic to the U.S. airline industry, have observed that “you are only as smart as your dumbest competitor.” Management's reputation within an industry complements our evaluations.

Each industry has its own specific challenges and constituencies that management must deal with. Heavily unionized industries, such as automakers, steel, and airlines, may face difficult labor relations—and how management handles unions and employees can determine a company's fate in cases where a strike could be fatal to operations. Relations

with regulators or government officials are important in other sectors, such as utilities. Corporate governance and financial policy—including its risk tolerance—are part of our financial risk evaluation.

Strategies and plans

We compare management's future plans and assumptions with those of peer companies and with our own estimates. Implausible or overly optimistic projections can indicate poor internal planning capabilities or an insufficient grasp of the challenges (or opportunities) facing that company—especially if management fails to consider factors that peer competitors are focusing on. Indeed, one benefit of our access to management as part of the rating process is the opportunity to compare perspectives of various participants in an industry.

How strategy, plans, and policies are implemented helps determine our view of management consistency and credibility. In that exercise, determining why actual results fail to meet expectations is important. For example, meeting or exceeding projections could be the result of unanticipated good fortune, rather than a reflection of management's capabilities.

Accordingly, when reviewing projections or scenarios that are presented by management, we also strive to understand what could cause performance to deviate. We understand that forecasting is more difficult in some industries than others, and that unforeseen factors outside of management's control can upset the best-laid plans. A candid acknowledgement of risks and understanding of how various factors could affect earnings and cash flow is helpful for our internal deliberations—and may reflect favorably on management's credibility. Conversely, a record of abrupt or frequent changes in business strategy, including unexpected acquisitions, divestitures, or restructurings, definitely would raise our concern.

Acquisition strategy

Acquisitions often play a significant role in management's strategy. Although almost all mergers involve risk, well-executed acquisitions can make strategic sense. We try to fathom the company's acquisition criteria with respect to:

- Strategic “fit”;
- Diversification objectives;
- Market share gains;
- Availability of excess cash resources; and
- Valuation considerations (cash flow multiples, internal rate of return, earnings accretion).

(Some of these considerations also reflect on management’s overall risk tolerance and financial policy, which are discussed below in the context of financial risk.)

Management’s approach and plans for poorly performing business units or those that no longer make strategic sense are a related area for investigation. Objective appraisals of businesses units and disciplined approaches to dealing with underperformers (divestiture, restructuring, or discontinuing businesses are among the options in such cases) are viewed positively.

Corporate governance and its relationship to credit analysis

Our evaluation of governance as part of credit analysis is not focused on misappropriation of funds, lack of accountability, or other misdeeds. Rather, it covers a broad array of topics relating to how a company is managed; its relationship with shareholders, creditors, and others; and how its internal procedures, policies, and practices can create or mitigate risk.

The starting point is to identify the owners of the company. The nature of the owner—e.g., government, family, holding company, or strategically linked business—can hold significant implications for both business and financial aspects of the rated entity. Ownership by stronger or weaker parent companies can substantially affect the credit quality of the rated entity. Cross-shareholding of industrial groups and family-controlled networks, commonplace in certain parts of the world, can have positive or negative implications, depending on the specific situation. We never rate corporate entities on a standalone basis.

The corporate governance of family-owned businesses, for example, introduces added complexities. Do the various family shareholders agree on strategy? Have the owners hired professional management and allowed them sufficient authority and autonomy to

carry out their mission? What about management succession, or other involvement by children of the founder or owner? What about the possible desire to liquefy value in shareholdings through dividends or an IPO, and what are the implications of estate planning? Still, family ownership can hold certain advantages, in terms of adherence to long-term strategic goals and commitment of family resources to a business.

Ownership by private equity firms has become more common recently in the U.S. and Europe. Such owners typically are much more actively involved in management than public shareholders, and we seek to understand private equity owners’ strategy for the company being rated. Is the company a platform for organic growth, industry consolidation, or a cash cow? What is the typical holding period and exit strategy for the owners? Repaying debt (often incurred in a leveraged acquisition of the company) and eventually selling to a strategic buyer or through an IPO is likely to be a more creditor-friendly strategy than debt-financed dividends. Some of the larger private equity companies own multiple rated companies, giving us a track record by which to judge the owners’ statements of intent when a new investment of theirs is being rated.

The existence of more than one owner introduces the potential for conflicts over control. Joint owners might disagree on how to operate the business. Even minority owners can sometimes exercise effective control or at least frustrate the will of the majority owners. Whenever control is disproportionate to the underlying economic interest, the incentives for the stakeholders could diverge. This could result from existence of classes of shares with super voting rights or from owning 51% in each of multiple layers of holding companies. In either example, control might rest with a party that holds only a relatively small economic stake.

(Conventional, equity-oriented corporate governance analysis is very sensitive to share structure—for example, whether each type of share provides representational voting—out of concern that management or majority owners will act to the detriment of minority shareholders. Although this concern is not

the direct focus of our credit analysis, there is a penalty for companies considered abusive to minority holders. Perception of such conduct would, obviously, impair the company's access to investment capital. Furthermore, if a company mistreated one group of stakeholders, there would be serious concern that it could later try to shortchange other stakeholders, including creditors.)

Our evaluation of corporate governance is sensitive to potential organizational problems. These include situations where:

- There is significant organizational reliance on an individual, especially one who may be nearing retirement;
- The transition from entrepreneurial or family-bound to professional management has yet to be accomplished;
- Management compensation is excessive or poorly aligned with the interests of stakeholders;
- There is excessive management turnover;
- The company is involved in legal, regulatory, or tax disputes to a significantly greater extent than its peers;
- The company has an excessively complex legal structure, perhaps employing intricate off-balance-sheet structures;
- The relationship between organizational structure and management strategy is unclear;
- The finance function and finance considerations do not receive high organizational recognition; and
- The company is particularly aggressive in the application of accounting standards, or demonstrates a lack of opaqueness in its financial reporting.

And recent examples of poor corporate governance have contributed to impaired creditworthiness. These cases included:

- Uncontrolled dominant ownership influence that applied company resources to personal or unrelated use;
- Uncontrolled executive compensation programs;
- Management incentives that compromised long-term stability for short-term gain; and
- Inadequate oversight of the integrity of financial disclosure, which resulted in heightened funding and liquidity risk.

Still, board structure and involvement has not figured prominently in the rating process. Of course, if it is evident a company's board of directors is passive and does not exercise the normal oversight, it weakens the checks and balances of the organization. But considerations such as the proportion of independent members on the board of directors, presence of independent directors in the board-level audit committee, and the compensation of directors and senior management teams have limited relevance. It can be difficult to determine objectively whether a given level of compensation is excessive, or will result in a company strategy that is overly aggressive or mainly focused on short-term performance.

Indeed, strong corporate governance—in the conventional sense, demonstrated in part by the presence of an active, independent board that participates in determining and monitoring the control environment—does not by itself provide enhancement to creditworthiness. Governance qualities cannot overcome a weak business or financial risk profile, although they might contribute to protecting an already strong business.

Financial policy and risk tolerance: managing the balance sheet and more

We assess financial policies for aggressiveness/conservatism, sophistication, and consistency with business objectives. We attach great importance to management philosophies and policies involving financial risk. Accounting practices, capital spending levels, debt tolerance, merger activity, and asset sale frequency are all aspects of a management's financial policies (see *"Credit FAQ: Knowing The Investors In A Company's Debt And Equity," published April 4, 2006, on RatingsDirect*).

Policy differences between companies can be driven by various factors, including management preferences, business requirements, and/or shareholder value considerations. Policies should optimize for the typically divergent interests of the company's stakeholders—shareholders, creditors, customers, and employees, among others. Specifically, the company's goals with respect to its credit rating also need to be consistent with the balancing of those interests.

Sophisticated business managers have thoughtful policies that target a variety of financial measures and acknowledge the interplay between business and financial risk. But a surprising number of companies have not given their financial policy serious thought, much less reached strong conclusions. For many others, debt leverage (either debt to capital or debt to EBITDA, calculated without any adjustment to reported figures) is the only focal point of such policy considerations.

In all cases, what corporate management says it will do must be viewed in the context of what it actually does and what makes sense for that entity to do. For example, an organization's leverage goals should be judged relative to its past record and future business requirements. A company that is increasing its capital spending beyond what can be met from internal cash flow should not be forecasting declining leverage unless there is a corresponding plan to sell assets or common equity. A skeptical analyst would question management on how exactly it plans to achieve both goals. The answers, and the company's subsequent performance, reflect on management's risk tolerance and credibility.

The analyst must consider the realistic choices available to management and how it responds. Similarly, debt usage and shareholder rewards need to be judged within the context of the company's cash-generating capabilities and the stability of those cash flows. We view a debt-financed dividend as very risky for a weak company with volatile cash flows, but such a move could be reasonable for a company that is generating substantial free cash flow and has already achieved a solid balance sheet.

We do not encourage companies to manage themselves with an eye toward a specific rating. The more appropriate approach is to operate for the good of the business as management sees it, and let the rating follow. Certainly, prudence and credit quality should be among the most important considerations, but financial policy should be consistent with the needs of the business, rather than an arbitrary constraint. If management forgoes attractive business opportunities merely to

avoid financial risk, the company may be making a poor strategic decision, sacrificing long-term credit quality for near-term balance sheet considerations.

In any event, pursuit of the highest rating attainable is not necessarily in the company's best interests. While 'AAA' is our highest rating, we do not suggest that it is the "best" rating. Typically, a company with virtually no financial risk is not optimal as far as meeting the needs of its various constituencies. An underleveraged company is not minimizing its cost of capital, thereby depriving its owners of potentially greater value for their investment. In this light, a corporate objective of having its debt rated 'AAA' or 'AA' is ordinarily suspect. Whatever a company's financial track record, an analyst must be skeptical if corporate goals are implicitly irrational. A company's "conservative financial philosophy" must be consistent with its overall goals and needs.

A high credit rating usually is more important for financial institutions than industrial companies. For companies with solid business risk profiles and the financial capacity to target ratings within investment grade, various motivations can affect financial policy. Two examples are the balancing of financial risk against cost of capital and reliable access to commercial paper markets. The former often leads to a target rating in the range of 'BBB+' to 'A'. The latter may suggest seeking a 'BBB' or 'BBB+' rating, which typically coincides with an 'A-2' commercial paper rating. Customer perception can be another motivating factor. Some defense companies say maintaining an investment-grade rating is important when selling weapons to governments outside the U.S.

Tolerance for risk extends beyond leverage. The mixture of fixed-rate and floating-rate debt (including use of derivatives to manage that) offers an example. Generally speaking, long-term assets such as factories are best financed using fixed-rate debt, while short-term working capital financing may be accomplished using floating-rate borrowings. Management should develop an appropriate maturity schedule and liquidity targets.

For companies with defined-benefit pension plans, management makes choices regarding the mix of investment assets. The

proportions of equity, fixed-income, and other investment assets should be developed with a view to the relative volatility of those investment assets. We review such investment choices and compare assumptions (e.g., discount rate) with those of other companies in the same industry. Other potential sources of earnings and cash flow volatility are exposure to foreign exchange or commodity price movements. Use of derivatives to manage such exposure is reviewed as part of our overall financial risk assessment, but the choices made by management also reflect on its appetite for risk.

Accounting And Financial Reporting

A company's financial reports are the starting point for the financial analysis of a rated entity (or issue). Such analysis must consider the accounting basis a company uses to prepare its financial reports and the implications of the varying methodologies and assumptions on the reported amounts.

Understanding the implications of the accounting basis used—e.g., International Financial Reporting Standards (IFRS), U.S. Generally Accepted Accounting Principles (U.S. GAAP), or other local or statutory GAAP basis—is highly germane to our corporate rating methodology. But analytical challenges exist even for companies using the same accounting basis, because accounting rules often provide optional treatment for certain items (e.g., LIFO rather than FIFO to account for inventory under U.S. GAAP, optional hedge accounting, or optional revaluation of certain assets or liabilities under IFRS). Moreover, as business transactions have become increasingly complex, related accounting rules and concepts have correspondingly grown more complex—and in many cases, subject to greater reliance on estimates and judgments.

Accounting failures in the early 2000s highlighted several fundamental shortcomings of the financial reporting process and its ability to comprehensively address the information needs of financial statement users. Shortcomings include both recognition and measurement issues (e.g., under what circumstances an item such as a special-purpose

entity, or a “synthetic lease” should be reflected on or off a company's balance sheet, and at what value), and transparency issues (e.g., what a company should disclose about the nature of off-balance sheet commitments, compensation arrangements, or related-party transactions).

These failures also reinvigorated the debate on the merits of using a principles-based, rather than a rules-based, accounting standards framework, and served as a catalyst for expediting convergence of global accounting standards. Relatively rapid rates of accounting rules changes have occurred—often hampering meaningful period-over-period comparisons. In addition, the broader concerns about clarity and accuracy of financial reports have been evidenced by a considerable increase in restatements.

To address these challenges, we have increased and systematized the emphasis we place on the understanding of issuers' accounting characteristics. We supplement our analysis with enhanced financial statement analysis both in terms of qualitative and quantitative considerations. Our ratings criteria include numerous quantitative adjustments we often make to reported financial results to increase consistency among peers, and to better align with our view of the underlying economic reality of a particular circumstance or transaction. Our analysts also employ adjustments to portray what we view as a more appropriate depiction of recurring activity. For example, we may adjust financial measures to exclude gains or losses that we view as unsustainable or nonrecurring.

As part of our ongoing surveillance process, we consider the impact of changes in accounting standards and the impact of special events or items reported by an issuer (e.g., acquisitions, dispositions, write-offs, internal control matters, restatements, and regulatory actions). As the amount of disclosure in financial statements varies by company and by jurisdiction, we engage in differing levels of interaction with our issuers to obtain additional data beyond what is reported in the company's financials.

Evaluating accounting characteristics in the rating process

Our analysis of an issuer's financial statements begins with a review of the accounting characteristics, to determine whether the ratios and statistics derived from the statements can be used appropriately to measure the rated issuer's performance and position relative to both its peer group and the larger universe of corporate issuers. (The rating process is, in part, one of comparisons, so it is important to have a common frame of reference.) In doing so, we take an analytic rather than forensic approach.

The recent adoption of, or moves to adopt, IFRS in many countries—including Australia, Canada, and across the EU—as well as the ongoing effort to converge U.S. GAAP and IFRS, continues to further enhance comparability among companies. However, this ought not be seen as a panacea. Within IFRS, U.S. GAAP, and the separate national accounting systems, companies may choose among alternative accounting methods—for example, historical or amortized cost, as opposed to fair-value methods—and the resulting differences can have a significant effect on comparability among peers. In addition, even in applying the same methods within the same accounting frameworks, companies show varying degrees of aggressiveness in the underlying estimates and judgments they employ. Moreover, the carrying value of assets and liabilities can be greatly influenced by the historical development of a company—for example, whether it has grown primarily through internal development or through acquisitions, or whether it previously underwent a leveraged buyout or bankruptcy reorganization.

A company's scope of consolidation is an example of a key accounting characteristic that we consider to determine the relevant economic entity for analytical purposes. We look at whether there are non-consolidated affiliates, including joint ventures, where the company does not exert a high degree of control but which we feel should be consolidated for analytical purposes (given our assessment of their strategic importance, including ownership positions, the size of

the investments and whether a unique, interdependent customer/supplier relationship exists) even though they may be properly excluded from consolidation for accounting purposes. Consider The Coca-Cola Co. and PepsiCo Inc., where certain key unconsolidated bottling companies are viewed as part of an entire economic system: We accordingly consolidate these entities for analytical purposes. The converse may be true when we deconsolidate an entity that is properly consolidated for accounting purposes. There are many examples of industrial companies or diversified holding companies that consolidate financial or insurance subsidiaries; for analytical purposes, we use the equity method for such nonhomogenous business activities, to avoid the distortions that would pertain as reported.

With respect to a company's hedging and risk management policies and related accounting for derivative instruments, accounting results vary widely among companies, and commonly fail to adequately depict the underlying economics. Our framework for analyzing derivative use focuses on the business, financial, liquidity, controls/risk management, and financial statement risks. This analysis includes a determination of whether a company is using derivatives for trading and/or risk management purposes, and whether a company avails itself of special hedge-accounting treatment. As this area is both complex and fraught with inadequate disclosure by many issuers, our review often entails interaction with management to properly assess a company's derivative use and risk management practices.

The accounting characteristics we review and the emphasis placed on each depend on the nature of, and activity in, the industry in which the entity operates. For example, analyzing inventory and related consideration may be important for a manufacturing company, but less relevant for a hotel management company: Likewise, the analysis of oil or natural resources reserves or the use of percentage of completion accounting is relevant to only a handful of industries.

Analytical adjustments to financial statements

Making analytical adjustments to amounts reported in the financial statements of the companies we rate traditionally has been an integral part of our rating process. We make analytical adjustments to better portray economic reality and to level the reporting differences among companies, e.g., to arrive at measures we believe enable more meaningful peer and period-over-period comparisons; better reflect underlying economics; better reflect creditors' risks, rights, and benefits; and facilitate more robust financial forecasts. It is rarely possible to completely recast a company's financial statements, but making these analytical adjustments improves the analytical relevance and consistency of the financial ratios that we use in our credit analysis.

(Although our adjustments revise certain amounts reported by issuers under applicable accepted accounting principles, that does not imply that we challenge the application of said principles by the issuer, the adequacy of its audit or financial reporting process, or the appropriateness of the accounting basis used to fairly depict the issuer's financial position and results for other purposes. Rather, our methodology reflects a fundamental difference between accounting and analysis. The accountant necessarily must find one number to use in presenting financial data. The analyst, by definition, picks apart the numbers. Good analysis looks at multiple perspectives, then uses adjustments as an analytical tool to depict a situation differently for a specific purpose or to gain another vantage point.)

Examples of common adjustments include:

- Trade receivables sold or securitized;
- Hybrid securities;
- Surplus cash and "near cash" investments;
- Capitalized interest;
- Share-based compensation expenses;
- Captive finance activity; and
- Asset retirement obligations.

(See "Ratios And Adjustments" chapter for a full list and discussion.)

Changes in accounting standards

As part of our surveillance process, we monitor the potential impact of recent and pending

changes in accounting and disclosure standards, and other legislation affecting information included in financial reports.

Accounting changes should not have any direct impact on credit quality unless they reveal new information about a company, which then needs to be factored into our understanding of the company. (For example, the ratings for a few U.S. companies were lowered following the implementation of new accounting for retiree medical liabilities in the early 1990s, because little information was previously available about these obligations.) However, accounting changes can produce indirect effects. These include triggering of financial covenant violations; regulatory or tax consequences; or adverse market reactions as a result of changes in market sentiment about the company's apparent leverage, profitability, or capitalization; and, accordingly, can even influence changes in business behavior.

Consider the example of U.S. accounting standard SFAS No. 158, which requires full recognition of pensions and other postretirement obligations (e.g., retiree healthcare) on the sponsoring employers' balance sheet. Because we have long reflected an issuer's full postretirement liability by virtue of our adjustments to leverage and capitalization ratios, the adoption of this pronouncement has no direct ratings implications. However, the potential ancillary effects could be equally important to our consideration: As a result of the new standard, many companies will report substantially lower shareholders' equity and will appear more leveraged—and could affect dividend policies. In addition, many employers are changing the structure and funding levels of their postretirement plans as a consequence of changes in legislation and accounting standards, resulting in potential changes to amounts and timing of related cash flows.

Another example of changes in accounting standards that caused pronounced behavioral shifts: SFAS No. 123R, requiring the expensing of stock-options and other share-based payments. In anticipation of that change, many companies chose to accelerate the vesting of employee stock options in the year prior to adoption. The effect of such acceleration

was to move compensation expense that would have been recognized in 2006 and future years to a pre-adoption year. (Such recognition was not required; only pro forma footnote disclosure of the expense was required under pre-SFAS No. 123R rules.) In addition, many companies have reconsidered their use of share-based pay as a result of the expensing requirement, and have made changes to their employee compensation plans—resulting, for some, in real changes to cash flows.

Information risk, restatements, and disclosure of significant events

To the extent we believe information risk exists, it can influence our decision to maintain a rating, assign a rating in the first place, or the level of the rating assigned. In cases where the information risk is so significant that it precludes meaningful analysis we would decline to assign a rating, or, where a rating is already assigned, withdraw or suspend that rating.

However, we ordinarily rely on the issuer's audited financial statements and the inherent checks and balances in the financial reporting process. Our analytical process does not include an audit, nor does it include a process of "verification."

A rating can sometimes be assigned even in the absence of audited financial statements. This especially is the case when a new company is formed from a division of another company that did produce audited financial statements. In other cases, there may be unaudited data—such as oil-production data—that corroborates company results.

Further, much additional information that is provided to us by management is unaudited, including preliminary financial data, quarterly financial statements, projections, operating data, pro-forma financial statements, cash flow data, and various scenario analyses, to name a few. We incorporate such data at our discretion, making judgments about the reliability of each input.

There have been many situations—especially recently—where rated companies have delayed filing their financial reports for various reasons, sometimes for significant periods of time. Such reporting delays, too, require judgment

regarding the implications, if any, for credit quality. We have no monolithic approach to such situations, rather, additional interaction with the company is required, as part of our surveillance process during the period in which formally issued and audited financial statements are lacking. Our interaction includes determining the cause for the delay and potential consequences, obtaining interim financial reports, discussing how the company is addressing ensuing regulatory or covenant matters, discussing liquidity prospects, and internal control matters, among others.

Filing delays happen for many reasons: In some cases, because of a restatement of prior-year financials; in others, from a review of an alleged financial-statement irregularity, or issues discovered with a company's internal controls process.

In any event, we are cognizant that lengthy reporting delays can result in adverse regulatory reactions and covenant compliance uncertainty. Delays, restatements, material weaknesses, and related investigations also can lead to other adverse results, such as auditor changes, personnel changes, lawsuits, management distraction, increased compliance costs, and challenges in accessing the capital market—the impact of which must be closely evaluated in our ratings process. The impact these events have on a rating depends on the unique facts and circumstances of each case.

With respect to violation of covenants, a liquidity crisis could result. Technical and actual defaults (including cross defaults) require waivers under debt agreements, and sometimes result in a company receiving a notice of default. Sometimes the question of whether or not a filing delay results in a default is not immediately clear when the delay is announced, or during the period of delay. In some cases, detailed information may not be available for some time, and we will react as we deem appropriate, based on our analysis of the best available information, through CreditWatch actions and intermediate rating changes, or—in extreme cases—withdrawal of the ratings.

In general, the impact of the instances involving financial-statement irregularities is hard to predict. The underlying reality can

range from an almost trivial problem to a complete audit and financial failure. Occasionally, a small problem can turn into a large one, as headline risk takes a toll on the company's access to financing. We critically weigh how pervasive these issues are, how they affect the enterprise's reputation and its ability to conduct future business, and broadly how proactively management and the board approach resolution to these matters.

Cash Flow Adequacy

Cash flow analysis focuses on understanding and forecasting how cash is generated and spent by a business. It incorporates identifying a company's cash flows, determining trends and sustainability, distinguishing operating from investing and financing flows, and understanding potential sources of distortion and future volatility.

All this must be considered in the context of a company's individual characteristics, such as, where it is in its life cycle. The ability to generate cash is determined by a firm's business prospects—competitiveness, market dynamics, economic environment, etc., while its need for cash is a consequence of the balance-sheet structure, management's financial strategy, and strategic needs.

An enterprise's capacity to pay debts or any other obligation, the core underlying concept of a credit rating, is determined by the ability to generate cash—not earnings, which is an accounting concept. Although there is generally a strong correlation between operating cash flow and profitability in the long run, many transactions and accounting entries may affect one and not the other during a specific period. Aggressive accounting policies, for example, regarding revenue and expense recognition, asset write-downs, or adjustments to depreciation schedules, can have a material impact on earnings and none whatsoever on actual cash generation.

Liquidity pressures can arise even when a company reports robust earnings—e.g., when gains not realizable in cash for a lengthy period comprise a significant component of earnings or where the enterprise faces large capital expenditure requirements. Accordingly, cash

flow adequacy is typically the single most critical aspect of credit rating analysis.

Measuring cash flow

Discussions of cash flow often suffer from lack of a uniform definition of terms. Our analysts use numerous cash flow measures in the credit decision process, and the terms we use to define specific cash flow concepts are summarized here.

We begin to measure an issuer's operating cash flow generation using its funds from operations (FFO), which is defined as net income from continuing operations adjusted for depreciation, amortization, and other noncash and nonrecurring items such as deferred taxes, write-offs, gains and losses on asset sales, foreign exchange gains and losses on financial instruments, and undistributed equity earnings or losses from joint ventures.

The availability of cash for debt service for companies on a high growth spurt is ordinarily better appreciated after backing out the changes in working capital, and arriving at the operating cash flow (OCF). The use of the FFO metric for some regulated utilities, for instance, can be misleading as it does not capture the variation in regulatory assets or liabilities. In Brazil, for example, tariffs are revised only annually: the time gap between when the actual cash revenues or costs occur and the recognition in the income statement is substantial and might affect different fiscal years. Similarly for working capital-intensive industries such as retailing, OCF may be a better indicator of the firm's actual cash generation. Working capital, on the other hand, could be managed or manipulated by management depending on its liquidity or accounting needs. Accordingly, FFO has been frequently used as a comparative indicator of cash from operations. As OCF tends to be more volatile, FFO is often used to smooth period-over-period variation in working capital. It is used as a better proxy of recurring cash flow generation rather than the actual cash flow generated by the ability to manage working capital.

By deducting capital expenditures from OCF we arrive at free operating cash flow (FOCF), which can be used as a proxy of a company's cash generated from core operations. We sometimes exclude discretionary

capital expenditures for capacity growth from the FOCF calculation, but in practice, it is often difficult to discriminate between expansion and replacement. And, while companies do have some flexibility to manage their capital budget to weather down cycles, such flexibility is generally temporary and unsustainable in light of intrinsic requirements of the business. For example, companies can be compelled to increase their investment programs because of strong demand growth or technological changes. Regulated entities (e.g., telecommunication companies) might also face significant investment requirements related to their concession contracts.

We calculate a company's discretionary cash flow by subtracting cash dividends (including to minority interests) from FOCF. The discretion in dividend pay-out will depend on a company's financial strategy. Companies with aggressive dividend pay-out targets might be reluctant to reduce the level of dividends even under some liquidity pressure. In addition, dividends of investment-grade companies are less likely to be reduced following some reversals—although they ultimately are discretionary.

Finally, cash used for acquisitions and/or received from asset disposals and other miscellaneous sources and uses of cash are subtracted or added to discretionary cash flow, and prefinancing cash flow is the end result. This metric represents the extent to which a company's cash flow from all nonfinancing sources has been sufficient to cover all internal needs, including the payment of dividends. We then reconcile prefinancing cash flow to various categories of external financing activity, such as borrowing or repayment, equity issuance, and to changes in the company's cash balances.

While EBITDA is a widely used indicator of cash flow, it has significant limitations. Because EBITDA derives only from income statement inputs, it can be distorted by the same accounting issues that limit the use of earnings as a basis of cash flow. Besides, EBITDA overlooks balance sheet items that might be tying or freeing up cash. It is better suited for more established companies, especially in relation to industry benchmarks.

Potential distortions affecting cash flows

Distortions to cash flow may arise from timeliness of income or expense recognition, classification of items, and other accounting issues. For example, the period in which companies choose to recognize income and expenses (such as the charge-off of uncollectible items, asset disposals, repairs and maintenance, etc.) depends on applicable GAAP, which may be subject to estimates and management's discretion.

Because cash flow is an indicator of a company's health and prospects, there is a bias to enhance apparent cash generation by treating cash inflows as operating in nature, and cash outflows as investing or financing in nature. But loose classification of flows into operating, investing, or financing can distort their true nature. Classification of investments as trading, available-for-sale, or held-to-maturity dictates if related cash-flows are treated as operating or investing. Operating margin hedging program results are treated as financing—while they reflect operational strategies.

Another source of distortion is translation of foreign-currency. Swings in working capital may only reflect the volatility of the foreign currency, and not the actual cash in the original currency. We would prefer to analyze working capital in the original currency—and reflect translation effects in a separate cash-flow entry.

Cash flow ratios

Analysts are encouraged to look at more than a single measure, to develop several perspectives. A company's individual characteristics and its business cycle will be better captured in certain ratios than in others.

Where long-term viability of a company is more certain (i.e., for more highly rated credits), there can be greater analytical reliance on FFO and its relation to total debt burden. In addition, more established, healthier companies usually have a wider array of financing possibilities to cover potential short-term liquidity needs and to refinance upcoming maturities. For more marginal situations, the focus shifts to free cash flow—after the various uses have been subtracted—and this is more directly related to current debt service. Some of the cash-flow metrics most used by our analysts include:

Debt payback ratios

- Funds from operations (FFO)/total debt: the most frequently used credit measure in industrial ratings;
- Operating cash flow (OCF)/total debt: captures working capital requirements;
- Debt/EBITDA: used as a proxy of debt repayment capacity for high-yield issuers; it can overstate repayment capacity by excluding interest burden—usually high for speculative ratings;
- Total debt/discretionary cash flow: provides an indication of how many years would be required to repay outstanding debt using current cash flows, but is subject to changes in dividend policy;
- Free operating cash flow (FOCF)/total debt: indicates a company's capacity to pay debt with internal operating cash flow; it is more critical when analyzing weaker companies, because speculative-grade issuers typically face near-term vulnerabilities that are better measured by free cash flow ratios.

Debt service ratios

- EBITDA/interest expenses: useful because of its simplicity, wide usage, and industry reference (peer comparisons, financial covenants, etc.);
- FOCF + interest expenses/interest expenses: similar to the EBITDA/interest ratio, but more comprehensive (after taxes, working capital and capital expenditure) and with lower potential for distortions;
- FOCF + interest expenses/interest expenses + 12-month debt maturities: measures the ability to pay interest and principal out of free cash flow; more appropriate for projects and entities with amortizing debts.

Financial flexibility ratios

- FFO/capital expenditures: indicates a company's internal flexibility to meet its capital budget;
- Capital expenditure/depreciation expense: a low ratio (typically, less than 100%) could indicate problems in the rate of replacement of plant and equipment—a strong ratio may indicate high-growth industries, and is needed to keep up with the competition.

Interpretation of ratios is not straightforward, and careful analysis always is required, because a similar ratio might lead to different conclusions, depending on company specifics. A company serving a low-growth or declining market may exhibit relatively strong free cash flow because of diminishing fixed and working capital needs. Growth companies, in contrast, exhibit thin or even negative free cash flow because of the investment needed to support growth. For the low-growth company, credit analysis weighs the positive, strong current cash flow against the danger that this high level of protection might not be sustainable. For the high-growth company, the opposite is true: Weighing the negatives of a current cash deficit against prospects of enhanced protection once current investments begin yielding cash benefits.

There is no simple correlation between creditworthiness and current levels of cash flow. Even for peer companies with very similar cash flow coverage ratios, the rating outcome can be very different, depending on their other business and financial characteristics.

Balance Sheet And Asset Protection

The main ratio we use for leverage analysis is total debt/total debt + equity.

What is considered “debt” and “equity” for the purpose of ratio calculation is not always so simple, and requires extensive analytical input. Our computation of total debt includes various off-balance sheet liabilities and analytical adjustments, as noted in the section on cash flow analysis. Similarly, the amount of equity is adjusted for hybrid securities in all their variations. (See *Hybrid instruments section of “Ratios And Adjustments” chapter for our adjustments and how we calculate them.*)

We sometimes calculate supplemental ratios that incorporate the market value equity. These can have especial relevance in comparing companies with significant intangible assets. Traditional measures focusing on long-term debt have lost much of their significance, because companies rely increasingly on short-term borrowings. It is now

commonplace to find permanent layers of short-term debt, which finance not only seasonal working capital but also an ongoing portion of the asset base.

Generally, we do not net out cash from the debt amount; however, we adopt a “net debt” approach in some situations, especially in countries (such as Japan and in Europe) where local practice is to maintain a large portfolio of cash and marketable securities. (In these situations, we also focus on cash flow to net debt.) Each situation is analyzed on a case-by-case basis, subject to additional information regarding a company’s liquidity position, normal working cash needs, nature of short-term borrowings, and funding philosophy. Funds earmarked for future use, such as an acquisition or a capital project, are not netted out. This approach also is used in the case of cash-rich U.S. pharmaceutical companies that enjoy tax arbitrage opportunities with respect to these cash holdings.

In the case of hybrid securities, too, the analysis is based on their specific features—not the accounting or the nomenclature. For debt that is convertible at the discretion of the investor, depending on the future value of the common shares, it would be somewhat presumptuous for us to predict whether and when conversion will occur, so we ordinarily give little, if any, weight to the conversion potential.

Original-issue discount debt, such as zero coupon debt, is included at the accreted value. However, since there is no sinking fund provision, the debt increases with time, creating a moving target. (The need, eventually, to refinance this growing amount represents another risk.)

Nonrecourse debt is often included in the calculation; moreover, even nonrecourse debt of a joint venture may be attributed to the parent companies, especially if they have a strategic tie to the operation. The analysis may burden one parent with a disproportionate amount of the debt if that parent has the greater strategic interest or operating control or its ability to service the joint-venture debt is greater. Other considerations that affect a company’s willingness to walk away from such debt—and other nonrecourse debt—include shared banking relationships and common country location. In some instances,

the debt may be so large in relation to the owner’s investment that the incentives to support the debt are minimized. In virtually all cases, however, the company likely would invest additional amounts before deciding to abandon the venture. Accordingly, adjustments would be made to reflect the owner’s current and projected investment, even if the debt were not added to the (parent) company’s balance sheet.

More fundamentally, the nature and valuation of a company’s asset mix is critical to determining the appropriate leverage for a given level of risk. Assets with stable cash flow or market values justify greater use of debt financing than those with clouded marketability. For example, grain or tobacco inventory are viewed positively, compared with apparel or electronics inventory; transportation equipment is viewed more favorably than other equipment, given its suitability for use by other companies.

Accordingly, we believe it is critical to analyze each type of business and asset class in its own right. While FASB and IAS now require consolidation of nonhomogenous business units, we analyze each separately. This is the basis for our methodology for analyzing captive finance companies.

Asset valuation

Knowing appropriate values to assign a company’s assets is key to our analysis. Leverage as reported in the financial statements is meaningless if the assets’ book values are materially undervalued or overvalued relative to economic value.

We consider the profitability of an asset as an appropriate basis for determining its economic value. Market values of a company’s assets or independent asset appraisals can offer additional insights. However, there are shortcomings in these methods of valuation—just as there are with historical cost accounting—that prevent reliance on any single measure. (Similarly, using the market value of a company’s equity in calculations of leverage has its drawbacks. The stock market emphasizes growth prospects and has a short time horizon; it is influenced by changes in alternative investment opportunities and can be very volatile. A company’s

ability to service its debt is not affected directly by such factors.)

The analytical challenge of which values to use is especially evident in the case of merged and acquired companies. Accounting standards allow the acquired company's assets and equity to be written up to reflect the acquisition price, but the revalued assets have the same earning power as before; they cannot support more debt just because a different number is used to record their value. Right after the transaction, the analysis can take these factors into account, but down the road the picture becomes muddled. We attempt to normalize for purchase accounting, but the ability to relate to pre-acquisition financial statements and to make comparisons with peer companies is limited.

Presence of a material goodwill account indicates the impact of acquisitions and purchase accounting on a company's equity base. Intangible assets are no less "valuable" than tangible ones, but comparisons are still distorted, because other companies cannot record their own valuable business intangibles, i.e., those that have been developed, rather than acquired. This alone requires some analytical adjustment when measuring leverage. In addition, analysts are entitled to be more skeptical about earning prospects of an acquisitive company when these rely on turnaround strategies or "synergistic" mergers.

Preferred stock

Preferred stocks can qualify for treatment as equity or be viewed as debt—or something between debt and equity—depending on their features and the circumstances. Preferred stocks with a maturity receive diminishing equity credit as they progress toward maturity.

Preferred stock that may eventually be refinanced with debt is viewed as a debt equivalent, not equity, all along. While "perpetual" on the surface, these securities often are merely a temporary debt alternative for companies that are not current taxpayers, until they once again can benefit from tax deductibility of interest expense. Redeemable preferred stock issues may be

expected to be refinanced with debt once an issuer becomes a taxpayer. Preferreds that can be exchanged for debt at the company's option also may be viewed as debt in anticipation of the exchange. However, the analysis also would take into account offsetting positives associated with the change in tax status. Often the trigger prompting an exchange or redemption would be improved profitability. Then, the added debt in the capital structure would not necessarily imply lower credit quality. The implications are different for many issuers that do not pay taxes for various other reasons, including availability of tax-loss carry-forwards or foreign tax credits. For them, a change in taxpaying status is not associated with better profitability, while the incentive to turn the preferred into debt is identical.

Auction preferreds are even more problematic, given that the holders of these preferreds would pressure for redemption in the event of a failed auction or even a rating downgrade.

Liquidity

Gradual erosion in a company's fundamentals can ultimately lead to liquidity problems. Yet, even a company with a solid business position and moderate debt use, can, when faced with sudden adversity, experience an actual or potential liquidity crisis, or an inability to access public debt markets. Possible causes of such adversity include:

- A dramatic setback in the business caused by, for example, a crisis in consumer confidence, such as the precipitous market downturn following the terrorist attacks of Sept. 11, 2001. In particular, this event had a significant negative impact on the airline and travel-related industries.
- A large, adverse litigation judgment.
- Real or alleged management impropriety, including accounting abuses such as those at Enron Corp. in 2001, and Tyco International Ltd. in 2002.
- Large derivatives or trading losses.
- Sovereign intervention, for example, in the form of foreign currency controls, controls on bank deposits, or pricing controls, such as those in Argentina in 2002.

We consider the challenges a company confronted by a shock or triggering event would face concerning its existing debt maturities, its ability to make internal adjustments to maximize near-term cash generation, and its access to external sources of liquidity and capital. Analyzing a company's ability to cope with such extraordinary challenges is a matter of assessing its liquidity or its options under stress.

Our analytical focus here is on the downside: whether the company can meet its obligations on a rainy day, rather than just under the expected circumstances. Speculative-grade issuers are more susceptible to liquidity crises, which, in their situations, can stem from upcoming interest and principal payments, financial covenants, and availability on revolving credit facilities.

In the context of a liquidity crisis, a company's business position cannot be considered a constant: The nervousness of customers and/or suppliers might impair the company's competitive standing, contributing to a downward spiral in its fortunes. Industrial companies with finance operations may be particularly vulnerable, given the funding required for such operations. Companies with trading operations are doubly vulnerable, given the risk-averse inclination of trading counterparties, coupled with heavy funding needs.

Often, the effect of such adversities is compounded by the triggering of contingent provisions included in credit lines, bond indentures, counterparty agreements, or operating agreements. Triggers can change minor adversity into a major crisis for the company (and, as such, we do not view ratings or other triggers favorably). These provisions take many different forms, with the trigger based on rating downgrades, the violation of financial benchmarks or ratio levels, "material adverse changes" (as interpreted by the creditor), share price declines, or ownership changes. They may set off default, acceleration, put, or collateralization requirements.

In any event, the starting point of liquidity analysis is the maturity schedule for debt and other long-term obligations. Near-term maturities include commercial paper; sinking fund payments and final maturity payments of long-term debt; borrowings under bank credit facilities with approaching expiration

dates; and mandatory redemptions of preferred stock. Other significant financial obligations may also need to be considered, for example, lease obligations, contingent obligations such as letters of credit, required pension fund contributions, postretirement employment payments, and tax payments. Even when analyzing highly creditworthy companies, it is necessary to be aware of the overall maturity structure and potential for refinancing risk.

Cash is king

The best sources of liquidity are surplus cash and near-cash on the balance sheet. This includes cash in the bank, cash equivalents, and short- and long-term marketable securities. (Indeed, we also look to some companies to maintain high cash balances against potential liquidity crises; these include bonding requirements in the case of U.S. cigarette companies, and cyclical reversals in the case of capital intensive manufacturers, such as the automobile companies.)

Of course, not all cash is surplus. Virtually every company has some base amount of cash necessary for day-to-day operations—which may be quite large, if the company is subject to wide swings in working capital. Companies with seasonal borrowing needs may build up large cash balances for use during the seasonal peak.

Additionally, restricted cash (disclosed separately) is unavailable for everyday funding and should not be factored into a liquidity analysis, because these funds have been set aside to satisfy a specific obligation. A subsidiary's loan agreements can also restrict dividends and upstream advances. This poses a problem for a holding company that would rely on such dividends or upstream loans to access cash at the subsidiary level.

Bank overdrafts should also be deducted from available cash balances. Offshore cash may be subject to a repatriation tax, in which case it should be discounted accordingly. For companies in emerging markets, it is important to consider whether the company's liquid asset position is held in local government bonds, local banks, or local equities, and whether the issuer will have access to these assets at times of stress on the sovereign.

To fully benefit from cash and near-cash holdings from a liquidity perspective, these assets must be readily accessible and available to support the company's immediate needs. Sometimes the company may not have free access to all the cash shown on the consolidated balance sheet. For example, offshore cash may not be available for a few business days—especially if it has to be converted from a foreign currency.

Other internal sources of liquidity

Any company faced with severe liquidity pressures can be expected to make internal adjustments to maximize near-term cash flow. Considering a company's flexibility to do so is an extension of normal cash flow analysis. There are several possible options for doing this.

Cash can be extracted from working capital by monetizing receivables through factoring or securitization, liquidating unneeded inventories, or stretching out payments to suppliers. However, if, for example, no factoring or securitization facilities are already in place, these may take several months to establish. If aggressive discounting is necessary to sell inventory quickly, such liquidations could have severe implications for the company's future pricing power and brand image. In stretching payment terms to suppliers, the company runs a risk of spreading alarm about its situation and, ultimately, making suppliers unwilling to ship goods.

Companies generally have some flexibility to reduce capital expenditures from planned levels, at least temporarily. As such, we look at maintenance, rather than discretionary capital spending plans. Maintenance capital spending may include plant refurbishing, and ordinary repair work and is necessary for the company to sustain normal operations. Pollution control projects needed to meet regulatory requirements have little deferral potential. Presumably, expenditures related to growth initiatives could be put on hold, and are discretionary in nature. In any case, it may take some time to reduce expenditures to the maintenance level if the company had already entered into contractual commitments related to its planned investments.

The business implications of reducing capital spending must also be considered.

Continued deferral of spending may make the company less competitive and more prone to operational problems. Additionally, beyond a certain point, management might rationally conclude that seeking protection from creditors through a bankruptcy filing would be preferable to permanently impairing the business by neglecting capital spending.

Curtailing operations with negative cash flow and divestitures

Discrete business units or product lines that are performing poorly or in a start-up mode could be suspended. Shutdown costs must be netted against the ongoing cash savings. Again, the implications of such actions for the business must also be weighed.

A company may choose to sell entire operations or lines of business to raise cash. These could include underperformers as well as strong businesses. Additionally, we consider the company's ability to realize value in light of market conditions for such assets, including the availability of interested buyers, as well as the likely time period for effecting transactions. Assets sold in a fire sale often do not recapture their full value. Dumping large blocks of stock may depress their value.

Asset sales may have mixed implications for the remaining business mix. For example, the sale of a profitable, cash-generating operation that had been the company's best business could have a negative impact on the company's business risk profile. Alternatively, a money-losing unit with heavy capital requirements could improve the business risk profile while bringing in some much needed cash.

Dividend deferrals offer a quick source of cash savings. But, dividend cuts often are visible signals of distress, and the negative perception in the capital markets that may result must also be considered: At the very least, such actions may hinder further equity issuance. Additionally, extended deferral of preferred dividends may create a growing liability on the balance sheet.

External sources of liquidity

A company's ability to tap external sources of funding may be jeopardized when it is overly

reliant on one source of financing. In general, a company's experience with different financial instruments and capital markets gives management alternatives if conditions in a particular market suddenly sour.

Company size and recognition can play a role in whether it can raise funds in the public debt markets. Similarly, a company's role in the national economy—particularly outside the U.S.—can enhance its access to bank and public funds. Large issuers in a relatively small country often are favorably positioned to attract financing from that country's banking system. External sources of liquidity, including commercial paper, bonds, bank credit facilities, and equity issuance are discussed below.

Of all the sources of debt funding, commercial paper is the least reliable. Use of commercial paper to fund short-term assets (typically, inventory and receivables) or as a small component of a company's long-term funding is fairly common. However, when faced with severe adverse circumstances, companies often will not be able to roll over outstanding commercial paper as it matures—let alone raise additional sums.

Typically, only companies viewed as having a strong credit standing can access the market. The market for commercial paper rated 'A-2' or lower is much smaller than the market for that rated 'A-1' or 'A-1+', in part because of SEC regulation 2(a)7, which severely restricts holdings of lower-rated commercial paper by U.S. money market funds. The U.S. market for commercial paper rated 'A-2' or lower in 2007 was estimated to total about \$72 billion, compared with the approximately \$1.7 trillion of 'A-1' and 'A-1+' paper outstanding. Moreover, the 'A-2' market is subject to significant pressure during credit crunches.

When market fears build regarding a particular issuer, the term of commercial paper the issuer can place typically shrinks to a few days, thereby heightening refinancing risk. Market confidence can be lost very quickly. This was evident following Altria Inc.'s loss of access to the commercial paper markets following an unfavorable verdict and \$12 billion bonding requirement in the Price class action lawsuit. And, in addition to legitimate

concerns about a declining credit, the market can be spooked by unwarranted fears. For example, Columbia Gas Systems Inc. unexpectedly filed for bankruptcy protection in 1991 because of onerous natural gas take-or-pay obligations. Suddenly, other natural gas pipeline companies, many of which had minimal take-or-pay exposure, found it difficult to sell commercial paper.

Backup liquidity

Given the commercial paper market's acute sensitivity to credit quality, and the speed with which confidence can be lost, we consider it prudent for companies that issue commercial paper to make arrangements in advance for backup sources of liquidity. Backup liquidity protects a company from defaulting if it is unable to roll over maturing paper with new notes because of shrinkage in the overall commercial paper market, or an issuer's inability to access the commercial paper market because of company-specific issues.

Backup for commercial paper generally is provided by committed credit facilities, yet sometimes may take the form of excess cash that is specifically committed for this purpose. *(For a discussion of our commercial paper backup policies, see "Commercial Paper.")*

Bonds

The public bond market is far less risk-averse than the commercial paper market. Most investment-grade companies in the U.S. can gain access to the public debt market for a new bond issue at a reasonable rate. In other, less-developed countries, the public bond market may at times become inaccessible for even the most creditworthy companies (e.g., South Korea in early 2001). Placing debt is easiest for a company that has regularly tapped the market and that can issue debt in large amounts—thereby providing investors with a more liquid secondary market.

Although the market for speculative-grade debt is very large, this market is much more volatile. Speculative-grade companies, especially those on a deteriorating trend, may well have only intermittent access to this market, depending on market sentiments and liquidity. There have been times when even

‘CCC’-rated debt found ready buyers, but there have also been periods when the entire junk bond market was effectively shut down.

Whatever the general market conditions, even investment-grade companies may have difficulty issuing public debt if one of the types of shocks discussed above has occurred. In theory, a company should be able to issue debt at some price, but in practice, debt issuance may well not be feasible if there is considerable uncertainty in the market about a company’s situation and underwriters are, therefore, understandably nervous about undertaking a transaction on behalf of the company.

The price of outstanding bonds may be a good gauge of market sentiments—although technical factors can also influence pricing. Obviously, if existing bond spreads have widened significantly relative to the market and are responding wildly to the day-to-day developments at a company, prospects for an additional public debt issuance are poor. (We monitor bond spreads as part of our ongoing surveillance.) The bond market has also been inaccessible during periods of overall market uncertainty following economic weakness, political changes, and terrorism actions or threats.

Bank credit facilities

Bank credit generally is a company’s most reliable source for debt capital. When a company loses access to the commercial paper and public debt markets, banks are often the lenders of last resort. It is typical for banks to provide a portion of a healthy firm’s company’s regular financing. Speculative-grade companies have also accessed these markets more frequently in lieu of traditional public subordinated debt offerings. In some countries (including almost all less-developed markets), banks are the major source of capital for both short-and long-term needs.

Banks offer various types of credit facilities that differ widely in the commitment to advance cash under all circumstances. Weaker forms of commitment, although less costly to issuers, give banks great flexibility to redirect credit at their discretion. For example, uncommitted lines are little more

than an invitation to do business at some future date, and are given little to no credit in our liquidity analysis.

The strongest facilities are those that are in place and confirmed in writing, or committed facilities. In the U.S., fully documented revolving credits represent such contractual commitments. In the absence of a contractual commitment, payment for the facility—whether by fee or balances—is important because it generally creates some moral commitment on the bank. Generally, a solid business relationship is key to determining whether a bank will stand by its client.

Dependence on just one or a few banks heightens risks. Apart from the possibility that the bank will not have adequate capacity to lend, it also may not be willing to lend to the issuer. Having several banking relationships diversifies the risk that a single bank will lose confidence in the borrower and hesitate to provide funds.

Although less common anymore, in some cases, companies establish separate credit agreements with each of their banks, which can make it unwieldy to quickly renegotiate terms of the agreements in a crisis. A group of lenders having pre-established lending commitments under a common credit agreement is generally more practical, effective, and predictable. Even here, though, some features of the agreement could greatly hinder the renegotiation process—for example, a requirement that the agreement can be modified only by unanimous consent.

Concentration of banking facilities also tends to increase the amount of an individual bank’s participation. As the amount of the exposure increases, the bank may be more reluctant to meet its commitment. In addition, the potential requirement of high-level authorizations at the bank for the release of funds could create logistical problems for the issuer in quickly accessing funds. On the other hand, a company will not benefit if it spreads its banking business so thinly that it lacks a substantial relationship with any of its banks. We expect banks themselves to be financially sound, and do not favorably view marginally investment-grade banks.

As with any source of debt funding, the analyst must consider the term structure of bank

credit facilities. Reliance on short-term facilities poses obvious risks. Even multiyear facilities will provide commitments for only a short time as the end of their terms approaches. We closely monitor a company's efforts to arrange for the continuation of its banking facilities well before they lapse. In normal situations, bank facility expirations may be viewed as "soft" maturities because the facilities are routinely renewed. But, if the company is under stress and the banks have lost confidence in the company's prospects, the banks might use the expiration to demand repayment.

Financial covenants and triggers

In assessing a company's access to bank capital and other sources of debt financing, the analyst must consider triggers that can block access to additional funding, accelerate the repayment of existing debt, or create a cross default with other debt obligations. The most common such triggers are financial covenants in the form of ratio benchmarks. In certain cases, investors may take comfort from knowing that covenants (e.g., leverage tests) impose discipline on an otherwise financially aggressive management by prohibiting debt-financed acquisitions and special distributions to shareholders. In severe adversity, however, tight covenants could imperil credit quality by provoking a crisis with lenders if the covenants are violated: the lenders would have the discretion to accelerate the debt, causing a default that might otherwise have been avoided. Triggers may also be in the form of credit rating changes themselves, for example, a change in rating from investment grade to non-investment grade.

In considering just how the issuer's risk profile is affected by such provisions, the key considerations are: How close the company is to the trigger thresholds; how severe and immediate the consequences are; the amounts involved; and how material the amounts are in the context of the specific company. Borrowing agreements, even of creditworthy companies, are sometimes structured with tight covenants. The initial expectation is that lenders will routinely renegotiate the terms as the issuer's circumstances change. Even here, though, the existence of covenants can be problematic if, for

example, the lenders' strategies change and they wish to reduce their exposure to the borrower, or if a company is unable to meet its financial forecasts that were used as a basis of setting these covenants.

Violation of covenants in public debt issues always is serious, given the cumbersome procedure the company must follow to obtain waivers or to modify the covenants. In all cases, it is important to monitor the performance of a company against its most restrictive financial covenants. (We obtain bank loan covenant compliance reports directly from issuers, given the nonpublic information needed to compute the covenant values.)

Material adverse change (MAC) clauses represent another form of trigger. Remedies include the full range of possibilities that also apply to financial covenants. The vague definition of such clauses leaves much discretion to lenders. Still, cases of MAC clauses actually being invoked against corporate borrowers are extremely rare. The bank's reputation would suffer if it was not judicious in invoking the clause—and it would be subject to litigation. There undoubtedly have been instances, though, when companies have been dissuaded from tapping their credit facilities by the threat of a MAC clause being invoked.

Springing liens also can be problematic regarding financing flexibility. Sometimes, lenders may require the company to post collateral after a downgrade—which is provided for in the loan documentation. When assessing the impact of a springing lien, we consider how close the company is to the trigger; for example, if the company is rated 'BBB-' with a negative outlook, it is pretty close to a lien that goes into effect upon dropping to speculative grade. (With respect to recovery analysis, we always assume that a springing lien has been activated. The context for recovery analysis is a default scenario—and we assume that the trigger would have been breached in advance of default.)

Equity issuance

In theory, equity issuance is another source of capital; in practice, this source cannot be relied on in a crisis scenario. The public equity markets are extremely fickle. Selling new common stock generally is feasible

only if the company is seen as having at least decent prospects and the overall stock market is favorable. Moreover, accessing the common stock market may primarily depend on management's willingness to accept dilution. We therefore do not give companies credit for potential equity issuances until such transaction has been completed.

Selling preferred stock may be more acceptable to management because this avoids dilution of the common shareholders' earnings, but this usually is viable only if the company's continuing ability to meet its preferred dividend requirements is apparent.

Companies owned by other corporate or government entities can seek fresh capital from these owners. Often a strong parent or equity sponsor is available to provide much needed capital during a liquidity crisis.

The management factor

Finally, management's skill in coping with a liquidity crisis can make the difference between corporate life and death. Prudent financial managers will:

- Avoid excessive short-term debt;
- Spread debt maturities over time;
- Maintain cordial relations and credibility with banks, during bad times and good;
- Negotiate bank loan covenants with ample cushion while the company is financially strong;
- Anticipate potential covenant defaults before they occur and renegotiate covenants on a timely basis with the bank group;
- Maintain bank lines in excess of anticipated needs, and begin negotiating renewals well before expiration; and
- Fully draw credit lines at the onset of major difficulties. ■

Ratios And Adjustments

Key Ratios And Glossary Of Terms

Table 4 **Key Ratios**

Ratio	Formula
Operating income before depreciation	Operating income before depreciation and amortization/revenues and amortization to revenues
EBIT interest coverage	EBIT/interest
EBITDA interest coverage	EBITDA/interest
FFO interest coverage	FFO, plus interest paid, minus operating lease adjustment to depreciation/interest*
Return on capital	EBIT/average beginning of year and end of year capital
FFO to debt	FFO/debt
FOCF to debt	FOCF/debt
Discretionary cash flow to debt	Discretionary cash flow/debt
Net cash flow to capital expenditures (capex)	Net cash flow/capex
Debt to EBITDA	Debt/EBITDA
Debt to debt plus equity	Debt/debt plus equity

*The numerator reflects FFO before interest paid; the denominator reflects interest expense.

Table 5 **Glossary Of Terms**

Term	Definition
Capital	Debt, plus noncurrent deferred taxes, plus equity.
Capital expenditures (capex)	Funds expended to acquire or develop tangible and certain intangible assets. It includes the cost of acquisition of assets through leases and similar arrangements, and excludes capitalized costs that we expense as an analytical adjustment.
Cash flow from operations	This measure reflects cash flows from operating activities, not investment and financing activities. It includes interest received and paid, dividends received, and taxes paid in the period. Additionally, for some items such as postretirement benefits and asset retirement obligations, we include the (net) cost for the period rather than actual cash outflows, in order to separate what we view as financing of these obligations from the operating cost component.

Table 5 Glossary Of Terms (continued)

Term	Definition
Debt	Total short- and long-term borrowings of the company (including maturities), adjusted by adding a variety of on- and off-balance sheet financing arrangements pursuant to our adjustment methodology, and subtracting surplus cash, where applicable. Borrowings are measured at amortized cost (including remeasurement upon change in ownership of the issuer). Foreign-currency unhedged borrowings are measured at each period-end spot rate.
Discretionary cash flow	Cash flow from operations minus capex, minus dividends paid.
Dividends	Dividends paid to common and preferred shareholders and to minority interest shareholders of consolidated subsidiaries.
EBIT	A traditional view of profit that factors in capital intensity. However, it also includes interest income, the company's share of equity earnings of associates and joint ventures, and other recurring, non-operating items.
EBITDA	Operating profits before interest income, interest expense, income taxes, depreciation, amortization, and asset impairment. Excludes undistributed equity earnings of affiliates. While at times EBITDA is considered a proxy for cash earnings, changes in accounting make this increasingly an accrual-based earnings measure. The difference between EBITDA and operating income before depreciation and amortization is in the adjustments we make for operating leases, exploration expense, and stock-based compensation. Exploration expense is added back to EBITDA, rather than being treated as an operating cost. The operating lease adjustment to EBITDA increases for the implicit interest component of rent expense, but not for the depreciation component. Finally, the charge to earnings for share-based compensation is reversed in calculating EBITDA.
Equity	Common equity and equity hybrids, and minority interest.
Equity hybrids	The portion of hybrid instruments attributed to equity pursuant to our methodology for classifying such securities.
FOCF	Cash flow from operations minus capex.
FFO	Operating profits from continuing operations, after tax, plus depreciation and amortization, plus deferred income tax, plus other major recurring noncash items.
Interest	The gross amount of interest incurred (including amounts capitalized), adjusted for charges related to items that we add to debt; no subtraction of interest income, except where derived from assets structurally linked to a borrowing.
Net cash flow	FFO minus dividends.
Operating income before depreciation & amortization	A measure of operating profitability that excludes depreciation and amortization, to partly neutralize capital intensity as a factor when comparing the profitability of companies.
Revenues	Total sales and other revenues we consider to be operating.

Incorporating Adjustments Into The Analytical Process

Our analysis of financial statements begins with a review of accounting characteristics to determine whether ratios and statistics derived from the statements adequately measure a company's performance and position relative to both its direct peer group and the larger universe of industrial companies. To the extent possible, our analytical adjustments are made to better reflect reality and to minimize differences among companies.

Our approach to adjustments is meant to modify measures used in the analysis, rather than fully recast the entire set of financial statements. Further, it often may be preferable or more practical to adjust separate parts of the financial statements in different ways. For example, while stock-options expense represents a cost of doing business that must be considered as part of our profitability analysis, fully recasting the cash implications associated with their grant on operating cash flows is neither practical nor feasible, given repurchases and complexities associated with tax laws driving the deduction timing. Similarly, the analyst may prefer to derive profitability measures from LIFO-based inventory accounting—while retaining FIFO-based measures when looking at the valuation of balance sheet assets.

Certain adjustments are routine, as they apply to many of our issuers for all periods (e.g., operating lease, securitizations, and pension-related adjustments). Other adjustments are made on a specific industry basis (e.g., adjustments made to reflect asset retirement obligations of regulated utilities and volumetric production payments of oil and gas producing companies).

Beyond that, we encourage use of nonstandard adjustments that promote the objectives outlined above. Individual situations require creative application of analytical techniques—including adjustments—to capture the specific fact pattern and its nuances. For example, retail dealer stock sometimes has the characteristics of manufacturer inventory—notwithstanding its legal sale to the dealer. Subtle differences or changes in the fact pattern (such as financing terms, level of inventory relative to sales, and seasonal variations) would influence the analytical perspective.

We recognize that the use of nonstandard adjustments involves an inherent risk of inconsistency. Also, some of our constituencies want to be able to easily replicate and even anticipate our analysis—and nonstandard adjustments may frustrate that ability. However, for us, the paramount consideration is producing the best possible quality analysis. Sometimes, one must accept the tradeoffs that may be involved in its pursuit.

In many instances, sensitivity analyses and range estimates are more informative than choosing a single number. Accordingly, our analysis at times is expressed in terms of numerical ranges, multiple scenarios, or tolerance levels. Such an approach is critical when evaluating highly discretionary or potentially varied outcomes, where using exact measurement is often impossible, impractical, or even imprudent (e.g., adjusting for a major litigation where there is an equal probability of an adverse or a favorable outcome).

Similarly, in some cases, the analyst must evaluate financial information on an adjusted and an unadjusted basis. For example, most hybrid equity securities fall in a grey area that is hard to appreciate merely by making numerical adjustments. So, while we do employ a standard adjustment that splits the amounts in two, we also prefer that our analysts look at measures that treat these instruments entirely as debt—and entirely as equity.

In any event, adjustments do not always neatly allow one to gain full appreciation of financial risks and rewards. For example, a company that elects to use operating leases for its core assets must be compared with peers that purchase the same assets (e.g., retail stores), and our lease adjustment helps in this respect. But we also recognize the flexibility associated with the leases in the event of potential downsizing, and would not treat the company identically with peers that exhibit identical numbers. Likewise, in a receivable securitization, while the sale of the receivables to the securitization vehicle generally shifts some of the risks, often the predominant share remains with the issuer. Beyond adjusting to incorporate the assets and related debt of the securitization vehicles, analysts must appreciate the funding

flexibility and efficiencies related to these vehicles and the limited risk transference that may pertain.

Apart from their importance to the quantitative aspects of the financial analysis, qualitative conclusions regarding the company's financial data can also influence other aspects of the analysis—including the assessment of management, financial policy and internal controls.

Communicating our adjustments and related criteria

We traditionally have incorporated analytical adjustments to the ratings process. Our published key ratio statistics are also adjusted to reflect many of the adjustments made.

Since 2003, we have published accounting sections that outline our view of the issuer's accounting characteristics, including the underlying considerations and key adjustments made in our published industrial companies' issuer reports. The purpose is to capture in one place the major accounting issues that affect an issuer's financials, their related analytical significance, and the adjustments made; it is not intended to be a summary of every accounting policy.

We provide a reconciliation table in our credit analysis reports on corporate issuers (*See "New Reconciliation Table Shows Standard & Poor's Adjustments To Company Reported Amounts," published Oct. 3, 2006, on Ratings Direct*). It is a bridge between a company's reported amounts and various Standard & Poor's adjusted measures. The reconciliation table begins with company reported amounts for a range of balance sheet, earnings, and cash flow measures, then lists adjustments to each measure by topic and our total adjusted measure. Not all adjustments are included as of yet in these reconciliation tables. We are modifying our software to incorporate additional adjustments—but some adjustments may not be included, as they do not lend themselves to precision or standardization (e.g., litigation or other contingencies).

Occasionally, adjustments are based in whole or in part on nonpublic information provided to us during the rating process. Our rating analysis, evaluation, and commentary

incorporate consideration of this information, but our published data refer exclusively to publicly available information.

Our criteria governing financial-statement adjustments are subject to ongoing review and occasional revisions necessary to address changes in accounting rules and in response to emerging financial products and structures—consistent with our broad objective of maintaining a dynamic criteria framework capable of addressing evolving market conditions in a timely and comprehensive manner.

When considering significant criteria changes (including ratio adjustments), we solicit public input and comments. In addition, we encourage ongoing dialogue with market participants regarding all criteria matters. We regard this dialogue as an important facet of maintaining a robust criteria framework, responsive to the needs of those who use our ratings and other market participants.

Encyclopedia Of Analytical Adjustments

The following sections outline the specific adjustments we use in analyzing industrial companies. At the end, we include our key ratios and their definitions. The list of adjustments, in alphabetical order, includes:

- Accrued Interest And Dividends
- Asset Retirement Obligations
- Capitalized Development Costs
- Capitalized Interest
- Captive Finance Operations
- Exploration Costs
- Foreign Currency Exchange Gains/Losses
- Guarantees
- Hybrid Instruments
- LIFO/FIFO: Inventory Accounting Methods
- Litigation
- Nonrecourse Debt Of Affiliates (Scope Of Consolidation)
- Nonrecurring Items/Non-core Activities
- Operating Leases
- Postretirement Employee Benefits/Deferred Compensation
- Power Purchase Agreements
- Share-Based Compensation Expense

- Stranded Costs Securitizations Of Regulated Utilities
- Surplus Cash
- Trade Receivables Securitizations
- Volumetric Production Payment
- Workers Compensation/Self Insurance

Accrued interest and dividends

Accrued interest that is not already included in reported debt is reclassified as debt. This adjustment allows more consistent comparisons of companies' financial obligations, by eliminating differences arising from the frequency of payments—for example, quarterly, rather than annually—or calendar dates of specific payments—for example, January 1 or December 31.

In a similar vein, accrued dividends on hybrid equity securities are treated as debt, irrespective of the extent of the securities' equity content. (Deferred amounts—whether the deferral was optional or mandatory—are also usually treated as debt, given the need to pay them in a relatively short time. Obviously, we would not include amounts that are non-cumulative, which never will be paid.)

Adjustment procedures

- Balance sheet: Accrued interest and dividends accrued on hybrid securities are reclassified as debt. There is no adjustment needed to equity.
- Cash flow statement: Because the impact usually is quite limited, no adjustment is performed to FFO or OCF. Annual cash flow is not affected by payment frequency or dates, except in the year a particular security is issued or retired.

Asset retirement obligations

We treat asset retirement obligations (AROs) as debt-like liabilities. AROs are legal commitments, assumed when commissioning or operating long-lived assets, to incur restoration and removal costs for disposing, dismantling or decommissioning those assets. Examples include the costs of plugging and dismantling on-and off-shore oil and gas facilities; decommissioning nuclear power plants and recycling or storing used nuclear fuel; and capping mining and waste-disposal sites.

These commitments are independent from the level and timing of any cash flow generated by the use of the assets. In certain instances, we expect ARO costs to be reimbursed to the entity through rates or assumed by other parties. When the asset operator's costs are reimbursed by the government or via a rate-setting process, the entity bears far different and less open-ended economic risks—and may not require debt imputation. We have tended to view AROs related to nuclear power plants of rate-regulated U.S. utilities in this light.

Several characteristics distinguish AROs from conventional debt, including timing and measurement uncertainties; tax implications; and the standing of claimants in bankruptcy.

ARO measurement involves a high degree of subjectivity and measurement imprecision. Our starting point is the reported liability amount, which may be adjusted for anticipated reimbursements, asset salvage value, and tax reductions, further adjusted for any assumptions we view as unrealistic.

Most AROs involve obligations to incur costs that may extend well into the future. Uncertainties inherent in their estimation include:

- The amount of the ultimate cost of abandonment, which will depend on the relevant country's laws and asset-specific environmental regulations at retirement; the condition of the markets for the specific assets' retirement services; possible economies of scale for the operator; and whether the activities ultimately are performed by the operator or by a third party.
- The timing of asset retirement, which is subject to assumptions that can change materially. For example, in extractive projects, future price expectations for hydrocarbon or minerals affect the economic life of the assets. For power generators, asset-retirement timing depends notably on local regulatory decisions. Their impact might be favorable (i.e., in the case of an operating license extension) or unfavorable (i.e., in the case of an early mandated closure).
- The discount rate to be used in the present value calculation. U.S. GAAP requires the use of an entity-specific discount rate. Hence, the stronger the entity's credit, the lower the discount rate—and the higher the

liability. Similarly, the periodic accretion rate is lower for stronger credits, and higher for weaker credits. If nothing else, this hinders comparability across companies using U.S. GAAP, as well as to IFRS-reporting companies, which use market-related rates adjusted to risk-specific factors attributable to the liability.

ARO's are recorded on a pretax basis under most accounting standards. Any expected tax benefits generally are reflected as a separate deferred tax asset on the balance sheet (because the ARO-related asset is depreciated). Tax savings, when they coincide with the ARO payments (as opposed to their provisioning), reduce the net cash cost, which we factor in our analysis to the extent we expect the company to generate taxable income in the particular jurisdiction.

- The obligation, net of any dedicated retirement-fund assets, salvage value, and anticipated tax savings, is added to debt. We generally adjust for the net aggregate funding position, even if some specific obligations are underfunded and others are overfunded.
- Adjustments are made on a tax-effected basis in cases where it is likely the company will be able to use the deductions.
- The accretion of the obligation reflects the time value of money and is akin to non-cash interest—similar to postretirement benefit (PRB) interest charges. Accordingly, we reclassify it (net of earnings on any dedicated funds, if applicable—but never less than zero) as interest expense for both income-statement and cash-flow statement analysis. We keep the net present value of the obligations newly incurred during the period (analogous to PRB service costs) within operating expenses. If dedicated funding is in place and the related returns are not entirely reflected in reported earnings and cash flows, the unrecognized portion of the return on these assets is added and the recognized portion is reclassified to interest expense and operating cash flow.
- Cash payments for abandonment and contributions into dedicated funds that exceed/are less than the sum of: newly incurred obligations plus accretion of existing obligations are reclassified as

repayment/incurrence of a debt obligation; this increases/decreases operating cash flow and funds from operations by the difference.

- For U.S. rate-regulated utilities that own nuclear power plants included in rate base, we have concluded that the decommissioning liability should not be viewed as a debt-equivalent liability. This is because of the safeguards that ensure funding sufficiency and collection of decommissioning costs in rates. Funding through customer rates and the probable nature of recovery result in a substantive liability defeasance.

Adjustment procedures

Data requirements

- The estimated asset retirement obligation (ARO), based on financial statement disclosure or analyst estimate.
- Any associated assets or funds set aside for the ARO.
- ARO interest costs, whether charged to operating or financing costs.
- New provisions (increases in liability during the period).
- Gain or loss on assets set aside for funding.
- Cash payments for AROs.

Calculations

- Subtract assets set aside to fund asset-retirement liabilities from the ARO to create a net ARO.
- Multiply this net obligation by (1 - the tax rate) to derive ARO adjustment for debt.
- Subtract both the gain (loss) on assets set aside from the sum of new provisions and interest costs and compare this amount to the cash payments made to arrive at the excess contribution/shortfall.
- Multiply this excess contribution/shortfall by (1 - the tax rate) to arrive at the ARO adjustments to funds from operations and cash flow from operations.

Procedures

- ARO debt is added to reported debt.
- ARO interest costs (net of ARO fund earnings) are removed from operating expenses, if they are included in these, and added to interest expense.
- The ARO adjustment to FFO is added to FFO.

(Please see “Asset Retirement Obligations: How SFAS 143 Affects U.S. Utilities Owning Nuclear Plants,” published March 31, 2004, and “Corporate Ratings Criteria, 2006 edition—Corporate Asset-Retirement Obligations,” on RatingsDirect.)

Capitalized development costs

Costs relating to the conceptual formulation and design of products for sale or lease commonly are expensed on the income statement—while costs incurred subsequent to establishing the technological feasibility of these products are capitalized. The asset is then amortized over its estimated economic life.

Defining feasibility involves substantial subjectivity. Accordingly, the treatment of product or asset development costs sometimes varies substantially among companies or accounting regimes. For example, many U.S. software companies do not capitalize any software development costs (an analytically conservative approach), while others capitalize certain expenditures and amortize them over future periods.

Expensing, rather than capitalizing, can have a meaningful impact on a company's financial statements and credit metrics, making peer comparisons difficult. Automaker accounting for tooling poses similar comparability issues relating to varying capitalization policies.

While it is acceptable under the applicable accounting rules for a company to capitalize certain development costs, in order to facilitate comparability, we adjust reported financial statements. The amounts capitalized are treated as if they had been expensed. To the extent that the amortization of past capitalization equals current development spending, there is no impact on operating expenses, operating profit, or EBIT, but there is an impact on EBITDA and operating profit before depreciation.

This approach helps make companies' operating performance more transparent and comparable, regardless of their stance on capitalizing software and similar development costs. Note, that with respect to energy exploration costs, we take the opposite approach (*see adjustment for exploration*

costs), given the objective of comparability with most companies in that industry and the pragmatic aspects of doing so.

A company's position in its product life cycle has a great effect on its current spending relative to the amortization of past capitalization of development costs. However, as a practical matter—in the absence of more accurate figures—we use the annual amortization figure reported in the financial statements as a proxy for the current year's development costs. We realize, too, that the amount amortized is not entirely comparable across companies, as the amortization period for these assets may vary. For example, in the case of software, it typically ranges from two to five years.

Adjustment procedures

Data requirements

- Amount of development costs incurred and capitalized during the period.
- Amount of amortization of relevant capitalized costs.

Calculations

- EBITDA, operating profit before depreciation, and capital expenditures: subtract the amount of net capitalized development costs, or, alternatively, the amortization amount for that period.
- EBIT and operating profit after depreciation: subtract (or add, as the case may be) the difference between the spending and amortization in the period.
- FFO and capital expenditures: Subtract the amount capitalized in the period.
- Balance sheet accounts: We do not carry through the adjustment to the cumulative asset (and equity) accounts, weighing the complexity of such adjustments against the limited impact that can be expected in most cases on amounts that are secondary to our analysis.

(Please see “Accounting Issues In The U.S. High Technology Group,” published Jan. 3, 2007, on RatingsDirect.)

Capitalized interest

We factor in capitalized interest as expense in the period when incurred. The valuation of property, plant, and equipment (PP&E) includes, under some GAAP, a cost of carry

element relating to multi-period project expenditures. Part of the rationale is that the company must factor the carrying costs when deciding on a project's economics, but this obscures the amount that actually must be paid during the period. Companies may also have significant discretion with respect to the amounts they capitalize, making comparisons difficult. Accordingly, we prefer to focus on total interest cost.

As a result, we reverse interest capitalization and include the amount as an expense. In the cash flow statement, we reclassify capitalized interest from investing to operating cash flow. This correspondingly reduces funds from operations and capital expenditure amounts. Free cash flow remains unchanged.

We do not adjust for the cumulative gross-up of PP&E resulting from interest capitalization, tax effects, or future depreciation effects. That is, we do not try to identify the portion of PP&E attributable to past interest capitalization, in order to reduce PP&E by the amount that would correspond to the expensed view taken on such interest capitalized in the past. It would be impractical to attempt to do so, given the lack of data available. Moreover, the more material impact tends to be to coverage and profitability measures, not to asset or equity-based ratios.

Adjustment procedures

Data requirements

- The amount of capitalized interest during the period.

Calculations

- Interest expense: add amount of capitalized interest; and
- Capital expenditures, FFO, and operating cash flows: reduce by amount of capitalized interest that is reclassified as operating cash flows.

Captive finance operations

A captive finance operation (captive) functions primarily as an extension of a company's marketing activities. The captive facilitates the sale of goods or services by providing financing (in the form of loans or leases) to the company's dealers and/or end customers. The captive can be structured as a legally separate subsidiary, or as

a distinct operating division or business line of the company. Captive finance units organized as separate subsidiaries are rated the same as their parents in the overwhelming majority of cases, meaning we view their default risk as indistinguishable from that of the parent.

Whatever the legal/organizational structure, the two businesses are not analyzed on a consolidated basis. Rather, we segregate financing activities from corporate/industrial activities and analyze each separately, reflecting the differences in business dynamics and economic characteristics, and the appropriateness of different financial measures. Our approach is to create a pro forma captive unit to enable finance-company analytical techniques to be applied to the captive finance activity, and correspondingly appropriate analytical techniques to the pure industrial company.

Finance assets (e.g., loans receivable and leases)—along with appropriate amounts of financial debt and equity—are allocated to the pro forma finance company; all other assets and liabilities are included in the parent/industrial balance sheet. Similarly, only finance-related revenues and expenses are included in the pro forma finance company income statement. The debt and equity of the parents and the captives are apportioned so that both entities will reflect, in most cases, identical credit quality.

In our analytical methodology for captive finance operations, we attribute debt and equity to the pro forma finance company based on our assessment of the quality of the finance assets, taking account of factors such as underwriting standards, charge-off policy, quality of the collateral, and portfolio concentration or diversity. The adjusted financial measures are highly sensitive to assumptions we make about the leverage appropriate to the finance assets in question. We continue to refine our leverage guidelines for major finance asset types.

Adjustment procedures

Note: In almost all instances, financial statements fully consolidate majority-owned captive finance operations: Here, consolidated

financial statements are assumed as the starting point. Where separate financial statements are also available for the finance unit, information from these can be used to refine the adjustment.

Data requirements

- On-balance-sheet finance receivables and leases, net;
- Finance receivables and leases sold or securitized—carried off-balance-sheet;
- Finance company revenues (if actual finance revenues are unavailable, we use 15% of total finance receivables);
- Finance company administrative expenses (if actual finance company expenses are unavailable, we use 3% of total finance receivables);
- Debt to equity ratio: determined to reflect our view of the “leveragability” of the captive’s assets (on- and off-balance-sheet finance receivables and leases);
- Interest rate (the average rate experienced by the company); and
- Required fixed charge coverage—an interest coverage appropriate for the rating. (Often, 1.25x is used.)

Calculations

- Total finance assets = on-balance-sheet finance receivables and leases + finance receivables and leases sold or securitized (carried off-balance-sheet).
- Finance company EBIT = finance company revenues – noninterest expenses.
- Finance company debt = Total finance assets times the debt-to-equity ratio/(1 + debt-to-equity ratio). This can never be more than reported consolidated debt; if so, the debt to equity ratio should be adjusted. (Separately, consolidated debt also is adjusted to reflect the debt equivalent of securitized assets and hybrid securities.)
- Finance company equity = total finance assets – finance company debt.
- Finance company interest = most recent two-year finance company debt x interest rate.
- Finance company required EBIT = finance company interest x required fixed charge coverage.
- Transfer payment = finance company EBIT – finance company required EBIT (which can be positive or negative).

- Subtract finance company revenues from total revenues to derive adjusted industrial company revenues.
- Subtract finance company operating expenses, including depreciation, from total operating expenses to derive adjusted industrial company operating expenses.
- Industrial EBIT = adjusted revenues – adjusted expenses + transfer payment.
- Reduce reported interest by finance company interest, if reported captive finance company’s interest is included in consolidated operating expenses; otherwise, no adjustment is required.
- Reduce reported debt (adjusted for securitized assets) by finance company debt.
- Reduce reported equity by finance company equity (after increasing total reported equity by the minority interests in the captive finance company’s equity, if the captive is not fully owned, and its reported equity excludes minority interests).
- Remove the finance company’s cash flows, including capital expenditures, from reported cash flows.

(Please see “Criteria: Request for Comment: Risk-Based Framework for Assessing the Capital Adequacy of Financial Institutions,” published Jan. 12, 2007; “Criteria: Captive Finance Operations,” published April 17, 2007; and *Finance Subsidiaries’ Rating Link To Parent*, in “Corporate Ratings Criteria 2006” edition, on RatingsDirect.

Exploration costs

Under some accounting systems, oil and gas exploration and production (E&P) companies may choose between two alternative accounting methods, full cost and successful efforts. These accounting methods differ in what costs these companies capitalize or expense. A successful-efforts-reporting company expenses the costs of unsuccessful exploration drilling (dry-hole costs) and exploration costs, such as geologic and geophysical expenditures (seismic surveys) and the costs of carrying and retaining undeveloped properties. In successful-efforts accounting, only exploratory drilling costs that result in the discovery and development of a commercial oil and gas field may be capitalized and

amortized based on the field's proved reserves on a unit-of-production basis; all dry-hole expenditures are expensed as incurred. Using the full-cost accounting method, all exploration and development expenditures are capitalized and amortized over the reserves of the related pool of properties.

Another difference is the size of the cost center used to amortize capitalized costs. Successful-efforts companies use smaller cost centers, such as a particular lease or field; full-cost companies generally use larger cost centers, which may be as large as an entire country.

We view successful-efforts accounting as more appropriate, given the highly risky nature of hydrocarbon exploration. Successful-efforts accounting does not have the potential to inflate equity and smooth earnings to the same degree as full-cost accounting. In general, large companies (e.g., major integrated companies) use the successful-efforts method, while smaller companies (e.g., independent E&P companies) use the full-cost system.

However, our analysis of exploration costs requires making comparisons between companies that use different accounting methods, which can best be accomplished by adding back exploration expense to EBITDA for successful-effort companies. (While we prefer the successful efforts approach, there is no practical way to adjust full cost users to a successful efforts method.) Exploration expense usually is disclosed on the face of the income statement of successful efforts companies. This number often is referred to as EBITDAX.

Given our preference for successful efforts, we limit this adjustment to EBITDA measures—and do not carry the adjustment through to all related accounts or to other ratios. Adjusting EBITDA usually suffices for comparative purposes. And, adjusting a successful efforts company's balance sheet to reflect what it would look like if it had used the full-cost method—or vice versa—is not really feasible. (Apart from the differences as to what companies can capitalize under the two methods, the rules for asset impairment tests also differ. The full-cost impairment test, called the ceiling test, generally is easier

to violate because of higher asset carrying costs and its trigger mechanism. (If the book value of assets falls below the discounted present value of cash flows, a charge may be necessary. The trigger for ordinary impairment is related to the undiscounted future cash flows.)

Adjustment procedures

Data requirements

- Exploration expenses (only applies to E&P companies using the successful-efforts method of accounting).

Calculations

- Adjustment to operating income before depreciation, depletion, and amortization to calculate EBITDA: We add exploration expense back to operating income before depreciation, depletion, and amortization in the EBITDA calculation. This increases EBITDA and operating income before D&A by the entire amount of exploration expense.

(Please see “Credit FAQ: Exploring Standard & Poor's Oil And Gas Company Reconciliation Tables,” published Feb. 12, 2007, on RatingsDirect.)

Foreign currency exchange gains/losses

Foreign currency exchange gains/losses can be related to transactions or translations:

- Transaction gains/losses arise from transactions that are denominated in a currency other than the entity's functional currency (generally the currency in which the entity principally transacts). Examples include buying and selling goods or services whose prices are denominated in a foreign currency, borrowing or lending in a foreign currency, or other contractual obligations denominated in a foreign currency. A change in the exchange rate will increase or decrease the amount of functional currency needed to settle the account between the time the transaction is recorded in the functional-currency accounts and the time it is settled, leading to exchange gains or losses. When translating the related accounts (e.g., loans receivable, accounts payable, and debt) into the reporting currency, such gains and losses are recognized in the income statement as incurred.

- Translation gains/losses occur when translating financial statements of a subsidiary from a local currency to the reporting currency of the enterprise for consolidation. Translation gains or losses are included in shareholders' equity (under U.S. GAAP, included in other comprehensive income for the period and in accumulated other comprehensive income in the owners' equity section of the balance sheet).

Foreign currency transaction gains/losses recognized in the income statement raise questions similar to those in Nonrecurring Items/Noncore Activity (*see below*). To present a representative view of operating performance and financial ratios, we typically adjust company income statements to exclude nonrecurring and other unusual transaction gains and losses.

Currency transaction gains and losses may be viewed as recurring or nonrecurring. We review transaction gains and losses and determine whether or not to adjust for them. We may adjust reported financial results for currency gains and losses that result from one-time or infrequent transactions; for example, we may adjust (or exclude) foreign currency gains or losses resulting from the infrequent purchase of a specialized capital asset payable in a foreign currency.

When the gains or losses result from recurring or ongoing transactions, we do not adjust. We consider transaction gains and losses as ongoing when the company has a history of entering into transactions denominated in foreign currencies. The purchase of inventory that is paid in a foreign currency is an example. Debt denominated in a foreign currency could also result in recurring foreign currency gains and losses that we would not adjust for.

Companies may not report currency gains or losses separately for recurring and nonrecurring transactions. Consequently, we may not make adjustments if the data are not available, or if the amount is immaterial. Our analysis must also take into account the potential for changes in actual cash flows that may be required to settle a transaction denominated in a foreign currency.

Translation gains/losses are not included in determining net income, but are included in

shareholders equity (and, under U.S. GAAP, in other comprehensive income) as mentioned above. Companies generally translate assets and liabilities using the exchange rate at the balance sheet date. The income statement is translated at the exchange rate in effect at the time revenues, expenses, gains and losses are recognized. The cash flow statement is translated using the exchange rate in effect at the time of the cash flow. As a practical matter, companies often use an average exchange rate for the reporting period for both income and cash flow statements. In addition, the cash flow statement reports the effects of exchange rate changes on cash balances held in foreign currencies on a separate line. We do not adjust the balance sheet, the income statement, or the cash flow statement for translation gains or losses included in other comprehensive income.

If a parent liquidates its investment in a foreign subsidiary (or investment), the amount of foreign currency gains or losses built up in equity are removed from equity and included in net income for the period. This amount should be excluded from income as a nonrecurring item (as would generally apply to the gain or loss resulting from the sale).

Adjustment procedures

Data requirements

- Amounts of nonrecurring (analytically determined) foreign currency exchange transaction gains and losses.

Calculations

- The amount of nonrecurring foreign currency gain or loss is added to or subtracted from operating income before and after D&A, EBITDA, and EBIT.

Guarantees

The accounting for guarantees can vary greatly. In many instances, a guarantee to support borrowings of unconsolidated affiliates or third parties is not recorded on the guarantor's consolidated balance sheet until it meets certain tests regarding probability of payment.

Alternatively, it may be recorded at the lowest amount in a range of possible outcomes or at a statistically calculated expected value (e.g., under IFRS, a contingent obligation may be

measured at a probability-weighted figure of potential payment amounts). To illustrate, if the company estimates a 70% chance of having to pay nothing and a 30% chance of having to pay €1 million, then the company obligation would be measured at €300,000, an amount that has no probability of being paid.

We may take a different approach, to reflect our own assessment of the risk of ultimately being required to pay (upon the default of the other party).

We add the guaranteed amount to the guarantor's total debt, unless the other party is sufficiently creditworthy (i.e., investment-grade) in its own right, or if we assess the likelihood of payment at a lower amount. (Interest is not imputed on such adjustment items, since the potential obligation may materialize far in the future, and there is no current need to service that potential obligation.)

In the case of an affiliate, we consider the possibility of support for the borrower's debt even absent a formal guarantee.

Performance guarantees are treated differently, because there should be little impact as long as the company maintains its work or product quality. Construction companies often provide performance guarantees as a condition in work contracts.

A company's track record of payments for performance guarantees could be an indicator of the amount of potential future liability. Only if the track record gives us specific reason for concern would we attempt an estimate of the liability—and add that amount to debt for ratio calculations.

Adjustment procedures

Data requirements

- Determine the value of the guarantees on and off the balance sheet to be added to debt, net of tax benefit, as applicable.

Calculations

- Debt: Add the amount of off-balance-sheet debt-equivalent; reclassify as debt the amount of on-balance-sheet liability.
- Equity: Subtract amount of off-balance-sheet debt-equivalent.

Hybrid instruments

Hybrid instruments have some characteristics of debt, and some of common equity. The

more weight the latter carries, the more equity content we attribute to the instrument. We classify corporate hybrids' equity content as minimal, intermediate, or high.

How to reflect hybrids in credit ratios is not a simple question. For many years, we did not divide the amounts involved in proportion to the equity content of the specific security, believing the resulting numbers could be misleading. As an example, a company might pay the stipulated periodic amount or defer it; under no scenario would it defer a fraction of the payment: Therefore, calculating a fixed-charge coverage ratio with a fractional amount has little intuitive meaning.

For hybrids with intermediate equity content, we instead computed financial ratios both ways—viewed alternatively, as debt and as equity. Two sets of coverage ratios were calculated—to display deferrable ongoing payments (whether technically dividends or interest) entirely as ordinary interest and, alternatively, as an equity dividend. Similarly, two sets of balance-sheet ratios were calculated for the principal amount of the hybrid instruments, displaying those amounts entirely as debt and entirely as equity.

For hybrids, analytical truth lies somewhere between these two perspectives, and analysts have been—and are—encouraged to continue viewing hybrids from all perspectives—i.e., computing ratios with the security as debt and, alternatively, as equity; to interpolate between the sets of ratios to arrive at the most meaningful depiction of an issuer's financial profile; and note and give effect to each more-equity-like or less-equity-like feature of various hybrids in the same category, although such nuances play, at most, a very subtle role in the overall rating analysis.

However, we changed our methodology in 2006 because it proved too challenging to communicate our previous, more abstract approach—and issuers, in particular, had trouble appreciating the potential impact on our view of their financial profile. Notwithstanding the issues mentioned above, we adopted the following adjustments (after adjusting convertible debt issued by IFRS reporting companies as described below):

- For hybrids in the intermediate category, we calculate ratios with outstanding amounts

(excluding unpaid accrued remunerations) split 50-50: One-half of the principal is categorized as debt and one-half as equity; one-half of the period payments is treated as common dividends and one-half as interest. (There is no adjustment to taxes.) This set of ratios is used as the basic adjusted measures, and these are the ratios we publish.

- Hybrids with minimal equity content are treated entirely as debt for calculating ratios.
- Hybrids with high equity content are treated entirely as equity for calculating ratios.
- Unpaid dividends that have accrued, prior to period end, are viewed as debt—even for equity-like securities.

Convertible debt is not treated as a hybrid—unless the conversion is mandatory, or it features appropriate tenor, subordination, and deferability characteristics. While IFRS and other accounting regimes split the issued value of a convertible debt obligation between its pure debt component (the fair value of a similar debt obligation without the conversion feature), accounted for as debt, and the embedded conversion feature (the difference between the debt component and the issue price), accounted for as equity, such convertible debt generally does not attract any equity credit in our methodology. Rather, we adjust reported debt by the value of the conversion option included in shareholders' equity. Cash-based measures such as FFO continue to reflect only the actual cash cost of the convertible debt, based on the coupon rate.

Adjustment procedures

Data requirements

- Amount of hybrid instrument in the balance sheet and shareholders' equity;
- Amount of associated expense and payments in the period; and
- Amounts of accrued unpaid interest/dividends.

Calculations

- A high-equity-content hybrid reported as equity is treated as reported, as are its associated dividends. However, accrued dividends are included as debt.
- A high equity content hybrid reported as debt is removed from debt and added to equity. The associated interest charge is

removed from interest expense and treated as a dividend. Additionally, interest payments are also adjusted as dividends in the FFO and operating cash flow calculations.

- An intermediate equity content hybrid reported as equity (e.g., preferred stock) has 50% of its value removed from equity and added to debt. Also, 50% of the dividend amount is removed and added to interest expense and interest paid, impacting the FFO and OCF calculations.
- An intermediate equity content hybrid reported as debt has 50% of its value removed from debt and added to equity. Also, 50% of the associated interest is removed from interest expense and interest paid and added to dividends.
- A minimal equity content hybrid reported as equity is removed from equity and added to debt. Its associated dividends are added to interest expense and interest paid, thereby also reducing FFO and OCF.
- A minimal equity content hybrid reported as debt is treated as reported, as is its associated interest.
- The accrued unpaid charges on hybrid instruments are categorized as debt.

Note: For optionally convertible instruments, prior to the reclassifications above, we recombine the instrument's issued amount (amortized cost) if it has been bifurcated (as described above, notably for IFRS-reporting companies). We also adjust the period's expense, where necessary and practicable, to equal the instrument's debt component multiplied by the company's refinancing rate, at the convertible's issuance date, for the equivalent nonconvertible instrument.

(Please see "Criteria: Equity Credit For Corporate Hybrid Securities, published May 8, 2006, on RatingsDirect;" "Criteria: Clarification Regarding Step-Ups Used In Equity Hybrids, Aug. 9, 2007; and "Criteria: Standard & Poor's Announces Several Refinements To Its Hybrid Capital Criteria," Oct. 30, 2007.)

LIFO/FIFO: Inventory accounting methods

The choice of inventory accounting methods under U.S. GAAP between first-in, first-out (FIFO); last-in, first-out (LIFO); weighted

average; and specific identification can provide dramatically different results for peers that engage in the same underlying activities. This issue is more pronounced in sectors that are inventory-intensive, and in particular, where inventory prices fluctuate significantly.

The challenge of comparing peers increases on a global dimension. Similar choice of accounting options exists in generally accepted accounting standards other than U.S. GAAP—while LIFO, widely used in the U.S., is not permissible under many other accounting standards, including IFRS. Tax treatment of permissible inventory costing methods is a key driver in management's decision to elect a method, and varies significantly by jurisdiction. (For example, LIFO is permitted for tax-reporting purposes in the U.S., and those who elect LIFO for tax purposes must also use it for their financial statement reporting.)

Moreover, some companies use a combination of costing methods. For example, management may elect to use the LIFO method for a portion of inventory in which prices are expected to rise and FIFO for the balance. In other instances, inventory reported on a consolidated financial statement can include inventory balances of subsidiaries in different countries, each of which use different accounting methods.

The greatest potential disparity of financial results is between FIFO and LIFO accounting methods. In a period of rising prices, the LIFO method results in a lower income than FIFO, because the most recent costs flow into cost of goods sold on the income statement, and the oldest costs are reflected in inventory on the balance sheet. Furthermore, cash flows are temporarily improved, because current income taxes are lower as a result of the lower income. Apart from inter-company comparisons, different methods can skew the perspective of corporate performance. For example, LIFO provides a better reflection of matching costs against revenues on the income statement, but creates a balance-sheet distortion by having older costs residing in inventory. The FIFO method, on the other hand, provides a more current valuation of inventory on the balance sheet, but can significantly understate cost of goods

sold in a period of rising prices, resulting in artificially overstated income.

- **Balance sheet:** Where significant to our analytical process or essential for peer comparability, we add back the LIFO reserve to inventory amounts on the balance sheet for companies that use the LIFO method. This enables us to reflect inventory balances at approximate current market value. (Companies that apply the LIFO method are required to disclose what the inventory valuation would be under FIFO, through an account called the LIFO reserve, which represents the cumulative effect on gross profit from the use of the LIFO method.) A corresponding adjustment, net of tax, is made to equity.
- **Income statement:** We do not adjust the income statement when companies use LIFO, believing the LIFO method results in costs of goods sold that are more indicative of replacement-cost values, and the best matching to revenues. While it might be desirable to adjust for those companies that use FIFO or average costs methods, the data generally are unavailable.
- When a company using the LIFO method has inventory balances that decrease over a period of time, LIFO liquidation may result. It means that older, less-recent layers of inventory are turned into cost of goods sold as a result. (These are older in terms of their accounting, not necessarily in any physical sense.) Assuming an inflationary environment, cost of goods sold is reduced, and as a result, income increases because of LIFO liquidation gains. To capture the true sustainable profitability of a company, the gains generated from LIFO liquidation generally are excluded from our current profitability measures and ratios.
- **Cash flows:** We typically do not adjust the cash flows, but we consider, qualitatively, the boost to cash flows the LIFO method affords during periods of price inflation (via taxes deferred to future periods).

Adjustment procedures

Data requirements

- For the balance-sheet adjustments: LIFO reserve.

- For the income statement adjustments:
LIFO liquidation gains.

Calculations

The balance sheet adjustments affect inventory (assets) and equity.

- LIFO reserve is added to inventory (assets).
- Equity is increased by the LIFO reserve (after-tax).

The income statement adjustment affects operating income before and after D&A, and EBITDA and EBIT.

- LIFO liquidation gains are deducted from operating income when calculating operating income before and after D&A, and EBITDA and EBIT.

Litigation

We make case-by-case judgments regarding the probability of a negative outcome, the potential financial effect, and its timing, including duration of any appeals process. We also regularly obtain additional data from the company involved, on a confidential basis, to enable a more meaningful analysis of plausible scenarios. These might include any available legal opinions and research; the company's legal strategy; and the number, size, and status of claims. To assist us, we may consult legal counsel to evaluate likely scenarios. This includes in-house legal staff, external counsel, and/or industry-related counsel.

To the extent that a monetary judgment is predictable, we size the amount that will be paid and treat it as a debt-equivalent. If payment is not imminent—if, for example, there is an extended appeals process—we would estimate the time until actual payment, and discount the eventual payment amount unless interest will be added. The adjusted debt ratios are calculated including the present value of the estimated payout, on an after-tax basis. Where applicable, we subtract any expected insurance recoveries.

It usually is very challenging to size litigation outcomes. Previous cases of similar nature can serve as benchmarks. Subjective judgments regarding the merits of a case may also inform our view of possible outcomes.

Sometimes, the company's litigation reserves recorded in its financial statements can offer insight. Companies must reserve for litigation they can quantify. In practice, most

companies tend to minimize legal reserves (although some companies—especially European companies—will over-reserve to enable smoothing of future earnings).

Therefore, to the extent that a company does reserve, one may ordinarily conclude there is a high likelihood that required payments will be at least that amount. The company's reserve is not a reliable indicator that the ultimate liability will not exceed that amount. In any event, providing reserves is merely an accounting recognition of the liability; it doesn't mean that the company has put aside cash to fund the liability. We would still need to adjust the debt figures to reflect the cash impact that a payment would entail. (On the other hand, there often will be a lengthy period until payment is made, so we also consider the company's ability to generate cash in the interim.)

A class-action suit permits a large number of individual claims to be combined and tried as one lawsuit. We view class-action lawsuits as the most troublesome type for credit quality because of the potential size of awards. Class-action suits must be certified by a court to proceed to trial; however, once certified, the lawsuit often takes years to wind through the litigation process.

Outside the U.S., litigation is less significant as a credit risk than in the U.S.

Typically, there is no award of punitive damages, class actions are limited, and/or trials may not come before juries that can react unpredictably to the litigation.

Because the specific financial effect of a lawsuit is difficult to quantify accurately, we may rely on analytical techniques such as calculating ranges of outcomes or performing sensitivity analysis. This can be very helpful if it allows us to conclude, for example, that the company can manage even the more dire potential outcomes without materially affecting its financial profile. Alternatively, if significant uncertainty remains, we might consider a downgrade based on a very large risk exposure.

Litigation poses several important, potentially troubling considerations beyond any direct financial consequences. We consider the potential damage to a company's reputation or ability to conduct normal business operations. For example, product liability

cases sometimes result in the product's being removed from the market. Substantial litigation may require an inordinate amount of management time and create quite a distraction from running the business.

More broadly, lawsuits can affect a company's reputation and/or its ability to garner further business or raise capital. Public mistrust and a negative perception of the company's operating strategy would definitely be of concern.

Last, but not least, bonding requirements can pose a tremendous liquidity challenge, especially in jurisdictions that have no bonding caps. Bonding can tie up cash that could otherwise be invested in the business, even if it does not pose an immediate threat to solvency. (Naturally, in the case of litigation expected to benefit the company, similar adjustments apply, in reverse.)

Adjustment procedures

Data requirements

- Determine the value of the litigation exposure to be added to debt.

Calculations

- Debt: Add the amount of debt equivalent (net of tax benefit, as applicable) to debt; and
- Equity: Subtract the amount of off-balance-sheet debt equivalent, net of tax.

(Please see "How Litigation Risk Affects Corporate Ratings," published Nov. 28, 2005, on RatingsDirect.)

Nonrecourse debt of affiliates (scope of consolidation)

In the context of corporate debt analysis, non-recourse debt often refers to a situation in which an affiliate or subsidiary of a company borrows funds, possibly pledging its assets as collateral, while the parent company and other subsidiaries in the corporate structure have no legal obligation to perform under the borrowing agreement. If an event of default occurs, the lender's claims are limited solely to the subsidiary that borrowed the money.

Non-recourse debt may exist for a variety of reasons. A company may want to legally isolate the bankruptcy risk of a subsidiary, for example, because the subsidiary's business

prospects are more unpredictable than those of the parent. Also, non-recourse debt may result from a particular jurisdiction's legal requirement to operate locally through a separate legal entity. In other cases, a company may own only a portion of a subsidiary, maybe even a minority interest, and the company may be unwilling to put itself on the hook to fund the obligations of the joint venture.

In non-recourse structures, the parent company has the legal right to walk away from the troubled (or bankrupt) subsidiary. This often is a by-product of corporate law and related legal isolation doctrines related to entities structured as corporations or other limited-liability structures. Notwithstanding the theory, history has shown this often is not the way things play out. The parent company often ends up providing economic support to the subsidiary, despite the non-recourse nature of the obligation.

In analyzing these situations, we attempt to understand the relationship between the parent and subsidiary, and make a judgment about whether the parent would be inclined to step in (and to what extent). While predicting the outcome of such a scenario is not an exact science, we believe that considering plausible scenarios is superior to relying solely on the legal framework, and ignoring the economic relationship extant between the entities.

The relationships between the affiliated entities can vary greatly. The entity issuing the debt considered to be non-recourse may simply represent a non-core, non-strategic investment; if so, the parent is not burdened with the subsidiary's debt obligations.

At the other end of the spectrum, the subsidiary's operations may be characterized as an integrated business. The analysis would then fully consolidate the subsidiary's financial statements, including debt. Furthermore, the risk profile of the subsidiary's operations would be integrated with the overall business risk analysis of its parent.

Often, the subsidiary issuing the debt may not fall neatly into either category; it may lie somewhere in the middle of the spectrum. Sometimes we use a pro rata consolidation to reflect this middle ground. For example, we would apply pro rata consolidation to joint ventures between partners of

comparable capacity and willingness to support for their respective strategic reasons. Even in cases that do not call for analytical consolidation, we presume there will be additional investment in the non-recourse entity, i.e., the money the company likely would spend to provide support or bail out the unit in which it invested.

No single factor determines the analytical view of the relationship with the affiliate; rather, several factors, taken together, will lead to one characterization or another, including:

- Strategic importance—integrated lines of business or critical supplier;
- Percentage ownership (current and prospective);
- Management control;
- Shared corporate name;
- Domicile in same country;
- Common sources of capital and lending relationships;
- Financial capacity for providing support;
- Significance of amount of investment;
- Investment relative to amount of debt at the venture or project;
- Nature of any other owners (strategic or financial; financial capacity);
- Management's stated posture;
- Track record of parent company in similar circumstances;
- The nature of potential risks;
- Shared collective bargaining agreements; and
- Jurisdiction's bankruptcy-law regime.

Adjustment procedures

There is no standardized adjustment, given the multiple fact patterns and subjective nature relating to subsidiaries/projects/joint ventures. As explained above, some consolidated entities—and their liabilities—might be deconsolidated, while some nonconsolidated entities may be consolidated.

Another possible adjustment is pro rata consolidation. This approach is not used too frequently, and typically applies only when both owners have similar financial profiles and motivations with respect to a joint venture.

Note that even in cases where we conclude that the liability will not ultimately be sup-

ported, we could well expect that the owner would extend partial support to the venture or subsidiary, including additional investments to attempt to rescue it. We would try to size such additional expenditures—and impute that amount as debt to the parent.

(Please see "Corporate Ratings Criteria," 2006 edition: Parent/Subsidiary Links, and "Credit FAQ: Knowing The Investors In A Company's Debt And Equity," published April 4, 2006, on RatingsDirect.)

Nonrecurring items/noncore activities

We typically make adjustments to a company's reported operating income and cash flow to remove items we consider nonrecurring and include those we consider recurring, so the historical financial ratios will be more indicative of future performance. These adjustments cover items including discontinued operations; effects of natural disasters; gains or losses on asset sales and sale/leasebacks; and one-time charges for asset write-downs, restructurings and plant shutdowns.

We review each potential nonrecurring item, and determine whether to adjust for it. Our view of these items may differ from the company's view, as presented in financial statements or footnotes.

We may view some supposedly one-time restructurings as ongoing for a particular company. Taking such a view may reflect a company's history of recurring restructuring charges, or the perceived need to address either company-specific or industry-wide competitive issues (for example, the need to move facilities offshore in order to be cost competitive).

We may also view certain other items that company management characterizes as one-time items as normal operating costs: In the retail industry, we do not typically view inventory write-downs or high store pre-opening costs from a rapid expansion program as unusual items.

In a similar vein, we often distinguish between a company's core business activity and other, ancillary activities—especially if there is some question about the latter's sustainability. A manufacturer may earn money from trading activity; it may even set up its

treasury operations as a profit center, but we may isolate, reclassify, and separately analyze the results of those operations.

For income derived from the sale and licensing of corporate assets, we similarly distinguish between sustainable, ongoing sales and those that are more opportunistic. Ancillary activities can distort measures of core operating performance, and peer analyses that rely on comparability of data, unless adjustments are made. An analogy can be drawn to the analytical segregation of non-homogenous activity. Some GAAP rules may require consolidation if a company owns both manufacturing and finance subsidiaries: We would separate the two for analytical purposes.

These adjustments require an appreciation of industry-specific contexts. For example, in the high-technology industry, companies dedicate substantial amounts of capital to research and development efforts and accumulate intellectual property in the form of patents, trade secrets, domain names, etc., which may be sold or licensed to complement revenues generated from core operations.

We consider revenue generated from the licensing of intellectual property to be a part of operating income, and therefore a component of EBITDA, because this arrangement allows for a relatively predictable, recurring source of revenue. However, revenue generated from the sale of intellectual property is not considered part of operating income. While there may be advantages in selling intellectual property, rather than licensing—e.g., the receipt of greater upfront proceeds or the elimination of future responsibilities—this arrangement normally is treated as non-operating income.

In other situations, the sale of assets may be considered recurring. For example, companies that lease or rent automobiles or industrial equipment routinely and periodically dispose of these assets via auctions and/or other sales.

Adjustment procedures

Data requirements

- Amounts of income, expense, and cash flows to be reclassified (including nonrecurring items reported as operating, and

recurring items not reported as operating). These amounts are judgmentally determined, based on information disclosed and our assessment.

Calculations

- Add or subtract amounts from respective measures, (e.g., revenue, operating income before and after D&A; D&A; EBIT; EBITDA; operating cash flows and FFO) to reclassify as appropriate. Because operating cash flows and FFO are post-tax measures, they also are adjusted to reflect the tax effects, where feasible.
- Beyond the standard adjustment, additional insights may be gleaned by adjusting individual line items within cost of goods sold or selling, general, and administrative (SG&A) expense, if there is sufficient data to reflect adjustments at such levels. Similarly, ancillary activities data are segregated and separately analyzed, to the extent practicable with available data.

Operating leases

Companies commonly use leasing as a means of financing. The accounting for leases distinguishes between operating and finance leases. Finance leases (also referred to as capital leases) are accounted for in a manner similar to a debt-financed acquisition of an asset, while many operating leases are reflected in the accounts on a pay-as-you go basis. We view the accounting distinction between operating and capital leases as substantially artificial. In both cases, the lessee contracts for the use of an asset, entering into a debt-like obligation to make periodic rental payments.

Our lease adjustments seek to enhance comparability of reported results (both operating and financial) and financial obligations among companies whether they lease assets under leases accounted for as operating or financing leases, or use debt to finance asset acquisition. The operating-lease-adjustment model is intended to bring companies' financial ratios closer to the underlying economics and more comparable, by taking into consideration all financial obligations incurred, whether on or off the balance sheet. The model improves our analysis of how profitably a company employs its leased and owned assets.

Our model does not fully replicate a scenario in which a company acquired an asset and financed it with debt; rather, our adjustment is narrower in scope: It attempts to capture only the debt equivalent of a company's lease contracts in place. For example, when a company leases an asset with a 20-year productive life for five years, the adjustment picks up only the payments relating to the contracted lease period, ignoring the cost of the entire asset that would have been purchased—and depreciated—by a company that chose to buy instead of lease. We have chosen not to use alternative methodologies that capitalize the entire asset because they entail various data and interpretation challenges. In cases where the company has an economic need to use the asset for longer than the lease term, we take account of this qualitatively; however, if the lease is viewed as artificially short, and there is adequate information, such as for sale/leaseback transactions, we capitalize the entire sale amount.

Adjustment procedures

Data requirements

- Minimum lease payments: Noncancelable future lease payment stream (and residual value guarantees if not included in minimum lease payments); discount factor; annual lease-related operating expense for the most recent year; and deferred gains on sale leaseback transactions that resulted in leases accounted for as operating.
- Future-lease payment data are found in the notes to the financial statements. Annual payments for the coming five years (itemized by year) and the aggregate amount for subsequent years are provided under U.S. GAAP. Our model assumes that future payments for years beyond the fifth year approximate the fifth-year amount. Under IFRS, companies are permitted to disclose amounts payable in years two through four in a single combined amount, instead of disclosing separate amounts for each of the next five years. In this case, we assume a flat level of payments in years two through four, based on the total minimum lease payment disclosed for these three years. This approximation—caused by the limited

disclosure—does not capture how future payments may decline in these years. Future lease payments are considered net of sublease rental only when the lease and sublease terms match, and the sub-lessee is sufficiently creditworthy.

- The discount factor is determined in one of the following ways: ideally, the imputed discount rate associated with the lease would be used, but rarely is available, and unlikely to be available for all companies in an industry; use the average rate on the company's secured debt; and/or use a rate imputed from the company's total interest expense and average debt.
- Annual operating-lease-related expense is sometimes available in the notes and will be used. When the amount is not separately disclosed (e.g., when presented with contingent rent and other amounts, or incorporated with other costs), it is estimated using the average of the first projected annual payment at the end of the most recent and prior year.

Calculations

- Debt: The present value of the payment stream, determined using the discount factor, is added to debt. (Lease debt is not tax-effected because its taxes will never reflect the analytical construct underlying our adjustment. The company is, in fact, getting the tax treatment afforded to leases—assuming GAAP and tax treatment as operating lease is the same. The actual tax amounts are those included in the accounts—and generally require no adjustment. This contrasts with PRB and ARO adjustments—which may be tax-effected. Those adjustments are based on the anticipation that tax-deductible recognition of the obligations will ultimately be required.)
- Operating income and cash flow measures: The operating-lease-related expense is apportioned to interest and depreciation components, as described below. The effect is to increase operating income measures: SG&A—by the entire amount of the expense; EBIT—by the implicit interest portion; EBITDA—by the implicit interest portion; and FFO—by the implicit depreciation portion. In addition, operating

income would be adjusted to reverse gain or loss on sale/leaseback transactions.

- Interest expense: Interest expense is increased by the product of the discount rate multiplied by the average first-year projected payment for the current and previous years.
- Depreciation: Operating-lease depreciation, i.e., the operating-lease-related expense amount less the calculated lease interest, is added to depreciation expense. (We deliberately calculate EBITDA without adding back the imputed depreciation component, despite the apparent definitional conflict. The cash flow characteristics of leasing do not neatly conform with the alternative of borrowing to acquire—even though our adjustment attempts to equate them. Lease payments represent ongoing cash outflows—quite different than depreciation, or even amortization of asset acquisition-related debt.)
- Capital expenditures: Capital expenditures are increased by an implied amount calculated as the year-over-year change in operating lease debt plus annual operating lease depreciation. This amount cannot be negative. Capital expenditures are also adjusted in the same fashion for capital leases.
- Property plant & equipment: Operating lease debt is added to PP&E to approximate the depreciated asset cost.

Postretirement employee benefits/deferred compensation

Defined-benefit obligations for retirees, including pensions and health care coverage (collectively referred to as PRB), and other forms of deferred compensation are financial obligations that must be paid over time, just as debt must be serviced, so we include them in debt ratios. A company may pre-fund the obligation or part of it (and companies often do pre-fund their pension obligations), which offsets the financial burden. Our objective, therefore, is to reflect the level of underfunding of defined-benefit pension obligations, as well as typically not-funded health care obligations and retiree lump-sum payment schemes, and other forms of deferred compensation. In arriving at adjusted financial measures, we must undo accounting short-

comings that affect balance sheets, cash flow statements, and income statements (under most current GAAP). The adjustments pertain to obligations already incurred, without trying to capture future levels of liability.

When PRB obligations constitute a major rating consideration, we delve more deeply into the company's particular circumstances and its benefits plans. Also, for some companies, funding and liquidity considerations surrounding retiree obligations can be much more important to the credit profile than imputing debt to the financial ratios. This situation typically pertains to speculative-grade companies that tend to have fewer available resources for cash requirements, including meeting mandated funding of PRB obligations.

We do not include in debt any amounts for defined-contribution plans, because they entail no obligations or risks to the sponsor related to past services beyond the current period's payments. We also have a slightly different position regarding multi-employer plans, not otherwise dealt with here. (See *“Standard & Poor's Approach To Analyzing Employers' Participation In U.S. Multi-Employer Pension Plans,”* published May 30, 2006, on RatingsDirect.)

A key difference between debt and PRB obligations is the inherent measurement uncertainty, as the benefits and related assets, to the extent they are funded, are variable. Quantifying PRB obligations relies on numerous assumptions, including:

- Employee turnover rates and length of service, according to which benefits vary;
- Mortality rates and dependency status/longevity assumptions, as the employee and his/her dependents' lifespan determine how long the benefit will be paid;
- Future compensation levels, to the extent wages prior to retirement are a factor in determining the amount of the benefit;
- Health care cost inflation, use, and delivery patterns; and
- Discount rate assumptions required to calculate a present value of the future required cash outflows.

Standard financial adjustments cannot easily factor in deviations from normal assumptions on these measurement drivers. However, for some factors, the analysis can, at least,

gauge the sensitivity to changes in those assumptions. For example, a rough rule of thumb is that for each percentage point increase or decrease in the discount rate, the liability decreases or increases by at least 10%, and often by 15%-20%. (The more mature the plan, or the higher the market interest rates, the lesser the impact.)

To simplify the numerical analysis, we combine all retiree benefit plan assets and liabilities, for pension, health, and other obligations, netting the positions of a company's plans in surplus against those that are in deficit.

In theory, and over the long term, companies with multiple plans should be able to curtail contributions to over-funded plans and redirect contributions to under-funded plans. In the near term, however, funding surpluses are often hard to tap—and may have adverse tax consequences if drawn—even while cash contribution requirements may be onerous on other, under-funded plans. But, if meeting near-term cash requirements is an important issue for a particular company, its credit profile likely will be driven by liquidity considerations, while debt ratio levels would be of secondary importance.

We focus on the measure of the obligation that reflects a going-concern view. For example, under U.S. GAAP for pensions, this is the projected benefit obligation (PBO), or an equivalent actuarial measure of the ultimate liability. The going-concern view of the company includes the effect of expected wage increases if the benefit attributable to past employment services is tied to employee compensation according to some formula. However, for collectively bargained labor contracts, the PBO does not take account of expected wage increases beyond the term of the existing contract.

We do not use the accumulated benefit obligation (ABO), which takes into account only the benefits payable upon plan termination at period end, or the vested benefit obligation (which is no longer disclosed under U.S. GAAP), because they reflect a shutdown value perspective, rather than an ongoing firm perspective. Similarly, in the U.K., we do not focus on the value of beneficiaries' claims based on a full buyout basis

(i.e., based on the price prevailing on the annuity market, where demand is currently insufficiently covered by supply), which often considerably exceeds the amount equivalent to PBO under IFRS or U.K. GAAP. (The ABO and full buyout value are more appropriate measures in our recovery and subordination analyses.)

For other postretirement obligations—including medical liabilities, we use a measure equivalent to the pension PBO. For example, under U.S. GAAP, this is the accumulated postretirement benefit obligation (APBO).

We tax-effect our PRB adjustments—unless the related tax benefits have already been, or are unlikely to be, realized. We use the rates applicable to the company's plans, or, if this is unavailable, the current corporate rate—even while recognizing that fiscal reality may be more complex or dynamic as the company's fortunes change over time. In the typical situation, the company has credible prospects of generating sufficient future taxable income to take advantage of PRB-related deductions and reduce future tax payments. When a company's ability to generate profits is indeed dubious, we would not tax-effect. Moreover, in such cases, the company likely would be so pressured that liquidity—rather than capitalization or coverage levels—would be the overriding analytical focus.

Capital structure

We adjust capitalization for PRB effects by adjusting both debt and equity, where applicable. Debt is grossed up by the company's tax-effected unfunded PRB obligation. Equity is adjusted by the difference between the amount accrued on the corporate balance sheet and the amount of net over/under-funded obligation (net surplus/deficit), net of tax.

Companies following U.S. GAAP recently adopted SFAS 158, and record the unfunded PRB obligation on their balance sheets; companies following IFRS have the option to fully recognize actuarial gains and losses on their balance sheets. Accordingly, our equity adjustment is no longer required in many instances.

Debt is not adjusted down for net surpluses, so net over-funding (surplus) leaves debt

unchanged. Equity can be adjusted up (if the net recognized asset is less than the pre-tax surplus) or down. We do not split the debt adjustment between short- and long-term.

While the surplus is not treated as a cash equivalent, it nonetheless can be of value, especially to obviate future contributions. Sometimes it becomes evident that the amount is unrecoverable or cannot be used to offset future contributions. Given inconsistent accounting disclosure regarding the recoverability of surpluses, we rely on inquiries to company management.

Cash flow

We try to identify catch-up contributions made to reduce unfunded obligations, which would artificially depress reported operating cash flows. We view these contributions as akin to debt amortization, which represents a financing, rather than an operating cash flow. Specifically, cash paid (plan contributions plus benefits paid directly to beneficiaries) exceeding the sum of current-period service and net interest costs (that is, interest cost net of actual or expected returns on plan assets) is added back to FFO on a tax-effected basis. We look at actual investment returns for the period and returns normalized for potentially nonrecurring, unusually high or low performance.

Conversely, if the company is funding postretirement obligations at a level substantially below its net expense (service cost and net interest cost), we interpret this as a form of borrowing that artificially bolsters reported cash flow from operations.

In order to appropriately interpret adjusted numbers, note that our cash flow adjustment:

- Reallocates to the period certain costs (service and interest) that often differ from the cash impact in the period;
- Ignores prior service costs and other items such as curtailments, settlements and special termination benefits, and foreign-exchange variations;
- Ignores any income or charge (whether through income-statement or directly recognized into equity) that reflected the recognition of actuarial gains and losses; and
- Until early 2006, was capped at zero (no longer the case).

Income statement

In analyzing profitability (including operating profit and EBITDA), we disaggregate the benefits-cost components that may be lumped into operating income and expenses, allocate the amounts to operating and financial components, and eliminate those components we believe have no economic substance. The period's current service cost—reflecting the present value of future benefits earned by employees for services rendered during the period—is the sole item we keep as part of operating expenses.

The components, if any, that represent accounting artifacts and stem from the smoothing approach of the accounting rules—e.g., amortization of variations from previous expectations regarding plan benefits, investment performance, and actuarial experience—are eliminated from our income measures. As a result of these adjustments, pre-tax and after-tax income no longer match reported amounts.

Interest expense, which results from applying the discount rate to the beginning-of-period obligation to accrete the liability with the passage of time for the reporting period, is essentially a finance charge—and is reclassified as such, if reported differently.

The expected return on plan assets represents management's subjective, long-range expectation about the performance of the investment portfolio; in some accounting systems—such as U.S. GAAP—it may be applied to a smoothed, market-related value, rather than the fair-market values of the assets. We may choose instead to apply a standardized return, to gauge what multiyear average returns can be expected. We note the risks in the asset mix, but only subjectively. (In the future, we may find a way to reflect the risk profile of the portfolios in a more quantitative manner.)

Either way, the return on plan assets is netted against PRB-related interest expense up to the amount of the interest expense reported, but not beyond, as the economic benefits to be derived from such overage are limited. If, however, the actual return is negative, the full amount is treated as an addition to interest expense because the

resulting economic detriment to the company is quite tangible.

Adjustment procedures

Data requirements

For the income and cash flow adjustments, amounts for the period of:

- Service cost;
- Interest cost;
- Expected return on plan assets;
- Actual return on plan assets;
- Actuarial gains/losses (amortization or immediate recognition in earnings);
- Prior service costs (amount included in earnings);
- Other amounts included in earnings (e.g., special benefits, settlements/curtailments);
- Total benefit costs; and
- The sum of employer contributions and direct payments made to participants.

For the balance-sheet adjustments:

- PRB-related assets on the balance sheet, including intangible assets, pre-paid or noncurrent assets, or any other assets;
- PRB-related liabilities on the balance sheet, including current and noncurrent liabilities;
- PRB-related deferred tax assets (or tax rate applicable to PRB costs);
- Fair value of plan assets; and
- Total plan obligations.

Note: Relevant pension and other postretirement benefit amounts are combined for all plans.

Calculations

Income-statement adjustments include adjustments to expenses and interest.

- Total PRB costs charged to operating income, less the service cost, yields the PRB adjustment to operating income. This is added to operating income before and after D&A, EBIT, and EBITDA.
- Interest cost less the expected return is PRB interest. In some cases, we may adjust expected returns to normalize it at a more realistic level. If net PRB interest is a cost, we include it in adjusted interest expense (we do not reduce interest expense if expected returns exceed interest cost). This PRB interest is added to reported interest when the net benefit costs are included in operating income. If reported interest already includes an interest component for

PRBs (e.g., as may be the case under IFRS), we adjust it, if necessary, to ensure it reflects the amount of PRB interest cost. A similar calculation is made using the actual, rather than expected, return on plan assets.

The adjustment to funds from operations starts with a calculation of excess contributions or PRB borrowing:

- Total employer contributions (including direct payments to retirees), less service costs, less interest costs, plus expected return yields the excess contribution, if positive, or PRB borrowing, if negative. (A similar calculation is made using actual, rather than expected return.)
- The excess contribution or PRB borrowing is reduced by taxes at the rate applicable to PRB costs. That is, the amount is multiplied by $(1 - \text{tax rate})$ to create the PRB adjustment to FFO.
- The excess contribution on PRB borrowing is added or subtracted to or from FFO.

The balance-sheet adjustments affect assets, debt, and equity.

- Plan obligations less assets equals the net pension and postretirement funded status (deficit or surplus).
- The net balance sheet asset (liability) position is determined as the balance sheet assets less liabilities. For the adjustment to debt, if net pension and postretirement funded status is a surplus, debt is not adjusted. If the net pension and postretirement is a deficit, this amount is reduced by the expected tax shield, that is, the amount is multiplied by $(1 - \text{tax rate})$.
- In some jurisdictions, the tax benefit is realized in advance of funding the deficit or paying benefits, for example, when the liability is accrued for tax purposes. The expected tax shield used in our calculation only takes into account amounts that have not yet been received. The adjustment to equity also considers existing balance sheet amounts.
- Equity is adjusted for the tax-effected difference between the deficit/surplus and the net balance sheet assets/liabilities, i.e., multiplied by $(1 - \text{tax rate})$.

Unlike the adjustment to debt, the adjustment to equity can be an increase or decrease.

(Please see “Corporate Ratings Criteria,” 2006 edition: Postretirement Obligations; and “Ratings Implications Of New FASB Standard On Pensions And Other Postretirement Benefit Obligations,” published Sept. 29, 2006, on RatingsDirect.)

Power purchase agreements

We view purchased power supply agreements (PPAs) as creating fixed, debt-like, financial obligations that represent substitutes for debt-financed capital investments in generation capacity. In a sense, a utility that has entered into a PPA has contracted with a supplier to make the financial investment on its behalf. Consequently, by adjusting financial metrics to incorporate PPA fixed obligations, we achieve greater comparability of utilities that finance and build generation capacity and those that purchase capacity to satisfy customer needs.

PPAs do benefit utilities by shifting various risks to the suppliers, such as construction risk and most of the operating risk. The principal risk borne by a utility that relies on PPAs is the recovery of the costs of the financial obligation in rates. Differentiating the risk profiles of utilities that take divergent approaches is incorporated in our qualitative business-risk assessments.

We calculate the present value (PV) of the future stream of capacity payments under the contracts as reported in the financial statement footnotes, or as supplied directly by the company. The discount rate used is equivalent to the company's average cost of non-securitization debt. For U.S. companies, notes to the financial statements enumerate capacity payments for the coming five years, and a thereafter period. We often have access to company forecasts that show the detail underlying the thereafter amount; otherwise, we divide the amount reported as thereafter by the average of the capacity payments in the preceding five years to derive an approximation of annual payments after year five.

In calculating the amount we add to debt, we also consider new contracts that will commence during the forecast period. Such contracts are not reflected in the notes to the financial statements—but information regard-

ing these contracts may be provided to us by the company.

If these contracts represent extensions of existing PPAs, they are immediately included in the PV calculation. However, a contract sometimes is executed in anticipation of incremental future needs, so the energy will not flow until some later period and there are no interim payments. In these instances, we incorporate that contract in our projections, starting in the year that energy deliveries begin under the contract, just as if the company had purchased a plant at that juncture. That way, the debt imputation is viewed in the context of all the related activity, including revenues and cash flow from the forecast demand. (Of course, the projected PPA debt is included in projected ratios. That way, the future PPA figures as a current rating factor, even if it is not included in the current-year ratio calculations.)

The calculated PV is adjusted to reflect the benefits of regulatory or legislative cost recovery mechanisms. The adjustment reduces the debt-equivalent amount by multiplying the PV by a specific risk factor that pertains to each contract. The stronger the recovery mechanisms, the smaller the risk factor. These risk factors typically range between 0% and 50%, but can be as high as 100%.

A 100% risk factor would signify that substantially all risk related to contractual obligations rests on the company, with no mitigating regulatory or legislative support. For example, an unregulated energy company that has entered into a tolling arrangement with a third-party supplier would be assigned a 100% risk factor. Conversely, a 0% risk factor indicates that the burden of the contractual payments rests solely with ratepayers. This fact pattern frequently is found among regulated utilities that act as conduits for the delivery of a third party's electricity, and essentially deliver power, collect charges, and remit revenues to the suppliers. These utilities typically have been directed to divest their generation assets; are barred from developing new generation assets; and the power supplied to their customers is sourced through a state auction or third parties that act as intermediaries between retail customers and electricity suppliers.

Intermediate degrees of recovery risk are presented by a number of regulatory and legislative mechanisms. For example, we employ a 50% risk factor in cases where regulators use a utility's rate case to establish base rates to provide for the recovery of the fixed costs created by a PPA. While we view this type of mechanism as generally supportive of credit quality, the utility still needs to obtain approval to recover costs and the prudence of PPA capacity payments in successive rate cases to ensure ongoing recovery of its fixed costs. If a regulator has established a power cost adjustment mechanism that recovers all prudent PPA costs, a risk factor of 25% is employed, because the recovery hurdle is lower than it is for a utility that must litigate time and again its right to recovery costs.

In certain jurisdictions, true-up mechanisms are more favorable and frequent than the review of base rates, but still do not amount to pure fuel adjustment clauses. Such mechanisms may be triggered by financial thresholds or passage of prescribed periods of time. In these instances, a risk factor between 25% and 50% is employed.

Legislatively created cost-recovery mechanisms are long-lasting and more resilient to change. Consequently, such mechanisms lead to risk factors between 0% and 15%, depending on the legislative provisions for cost recovery and the supply function borne by the utility. Legislative guarantees of complete and timely recovery of costs are particularly important to achieving the lowest risk factors.

We do not impute debt for supply arrangements if a utility acts merely as a conduit for the delivery of power. As an example, New Jersey's vertically integrated utility companies were transformed into pure transmission and distribution utilities. The state commission, or an appointed proxy, leads an annual auction in which suppliers bid to serve the state's retail customers, and the utilities are protected from supplier default. The state's utilities merely deliver power and collect revenues from retail customers on behalf of the suppliers. Therefore, we impute debt only to New Jersey utilities' qualifying facility and exempt wholesale generator contracts—and not for other electricity supply contracts where the utilities merely act as conduits between the

winners of the regulator's supply auction and the end-user, retail customers.

We also exclude PPAs with durations of less than one year where they serve merely as gap fillers, pending either the construction of new capacity or the execution of long-term PPA contracts. These contracts are temporary—and we focus on the more permanent situation, which is factored into the forecast ratios.

Given the long-term mandate of electric utilities to meet their customers' demand for electricity, and also to enable comparison of companies with different contract lengths, we use an evergreening methodology. Evergreen treatment extends the duration of short- and intermediate-term contracts to a common length of around 12 years. To quantify the cost of the extended capacity, we use empirical data regarding the cost of developing new peaking capacity, incorporating regional differences. The cost of new capacity is translated into a dollars-per-kilowatt-year figure using a proxy weighted average cost of capital and a proxy capital recovery period.

Some PPAs are treated as operating leases for accounting purposes—based on the tenor of the PPA or the residual value of the asset upon the PPA's expiration. We accord PPA treatment to those obligations, in lieu of lease treatment, if companies identify them to us. That way, such PPAs will not be subject to a 100% risk factor for analytical purposes as though they were ordinary leases; rather, the PV of the stream of capacity payments associated with these PPAs is reduced to reflect the applicable risk factor. (PPAs treated as capital leases for accounting purposes do not fall under our PPA adjustment.)

Long-term transmission contracts can also serve in lieu of building generation, and, accordingly, fall under our PPA methodology. In some cases, these transmission contracts provide access to specific power plants, while other transmission arrangements provide access to competitive wholesale electricity markets. We view these types of transmission arrangements as extensions of the power plants to which they are connected or the markets that they serve. Accordingly, we impute debt for the fixed costs associated with such transmission contracts.

Adjustment procedures

Data requirements

- Future capacity payments obtained from the financial statement footnotes or from management.
- Discount rate: the company's cost of nonsecuritized debt.
- Analytically determined risk factor.

Calculations

- Balance-sheet debt is increased by the PV of the stream of capacity payments multiplied by the risk factor.
- Equity is not adjusted, because the recharacterization of the PPA implies the creation of an asset, which offsets the debt.
- PP&E and total assets are increased for the implied creation of an asset equivalent to the debt.
- An implied interest expense for the imputed debt is calculated by multiplying the utility's average cost of nonsecuritized debt by the amount of imputed debt (or, average PPA imputed debt, if there is fluctuation of the level), and is added to interest expense.
- The cost amount attributed to depreciation is reclassified as capex, thereby increasing operating cash flow and FFO.
- We impute a depreciation component to PPAs. The depreciation component is derived by multiplying the relevant year's capacity payment by the risk factor and then subtracting the implied PPA-related interest for that year. Accordingly, the impact of PPAs on cash flow measures is tempered.
- Some PPA contracts refer only to a single, all-in energy price. We identify an implied capacity price within such an all-in energy price, to calculate an implied capacity payment associated with the PPA. This implied capacity payment is expressed in dollars per kilowatt-year, multiplied by the number of kilowatts under contract. (In cases that exhibit markedly different capacity factors, such as wind power, the relation of capacity payment to the all-in charge is adjusted accordingly.)
- Operating income before D&A and EBITDA are increased for the imputed interest expense and imputed depreciation component, the total of which equals the entire amount paid for PPA (subject to the risk factor).

- Operating income after D&A and EBIT are increased for interest expense.

(Please see "Standard & Poor's Methodology For Imputing Debt for U.S. Utilities' Power Purchase Agreements," Published May 7, 2007, and "Credit FAQ: Imputed Debt Calculation For U.S. Utilities' Power Purchase Agreements," published March 30, 2007, on RatingsDirect.)

Share-based compensation expense

We view the value of equity instruments (*for example, stock options and restricted shares awards*) granted to employees and/or other service providers as an outlay that should be taken into account in evaluating issuers' performance and profitability. When we assess a company's ability to generate a real, all-in return on capital employed, we should not view differently companies granting equity from peers using cash as a form of compensation. Although often not representing a direct or an immediate call on a company's cash resources, these grants are made in exchange for, or in anticipation of, services to be provided: They have a real economic value and so should be considered.

In analyzing the financial aspects of equity awards granted by an issuer, we consider adjustments to:

- Normalize the value of these grants in calculating earnings and performance-based metrics. That is, certain accounting regimes mandate expensing of stock-based grants while others do not. In addition, certain practices employed by management, such as vesting acceleration and other award modifications, could meaningfully affect reported results. Accordingly, certain adjustments may be warranted for more meaningful peer and period-over-period comparisons.
- Highlight the effect that these arrangements might have over time on cash flows. That is, although most awards do not result in cash being exchanged upon grant, future cash flows are clearly affected. This occurs as a result of payments received by the company upon exercise or issuance of shares; payments made by the company for share repurchases (to mitigate EPS dilution); a company's practice to settle the value of equity grants in cash in lieu of

shares; and tax savings generated by the favorable tax treatment generally afforded to options and other grants.

- Separately, we try to ascertain the effectiveness of a company's grants in aligning employee incentives with shareholders' and creditors' objectives.

Until recently, the major accounting regimes (e.g., IFRS, U.S. GAAP, Canadian GAAP, and Australian GAAP) did not mandate expensing of these costs. Now most require the fair value of equity-based grants (or an approximation of that value) to be included as an expense in the income statement. This amount is generally expensed over the benefiting period, i.e., the period the employee is assumed to provide services in exchange for the award. Often the vesting period is used as a proxy. Prior to the advent of IFRS and the recent mandating of expensing under U.S. GAAP for all stock-based grants, the accounting was greatly fragmented and inconsistent among companies and jurisdictions, and also varied according to the form of the award. For example, although restricted shares or stock appreciation rights may be economically equivalent to stock option grants, the accounting differed. Further, disclosures of stock-based compensation arrangements, which were lacking in the past, have vastly improved as a result of governance and transparency requirements by accounting-standard setters, securities regulators, and exchanges, providing more pertinent data on these arrangements.

Profitability analysis

Our objective is to capture compensation cost in our profitability measures—regardless of the means of payment (i.e., whether paid in cash, shares, options or other in-kind payment)—as fully and as consistently as possible.

With the recent accounting changes, most rated companies now expense the cost of equity-based grants, so the consistency of reported earnings is significantly enhanced, obviating in many cases the need to define a different common basis for analysis. However, where information enabling quantification is not available, we employ a qualitative assessment, to be conscious of the difference among peers.

Companies may, at times, modify their share-based awards, grant a one-time award (e.g., upon an acquisition), or accelerate vesting (e.g., upon a change in control or downsizing). These actions could meaningfully alter reported income and introduce discrete volatility to earnings. However, adjustments for these variants generally are not feasible as a practical matter, and are attempted only where material and the relevant information is available.

Cash-flow analysis

When a company grants share-based awards, generally no cash is paid or received. Cash-flow consequences, if any, only arise when the options are exercised (e.g., as a result of payment of the exercise price and from associated tax benefits). For some other grants, such as stock appreciation rights (SARs) payable in shares and restricted share grants, no cash changes hands at all. Just as with all issuance of equity, the company's financial position is enhanced, or at least is not diminished, as a result of the grant (assuming settlement is effected with shares, and the grant/exercise is not tied to commensurate repurchases). From a cash-flow standpoint, companies would gain flexibility to the extent that stock-based grants provide an alternative to cash compensation and their creditors should be better off, while their shareholders will be diluted.

Our cash-flow measures, such as FFO and OCF, are not affected by share-based grants. Being a non-cash item, share-based related expense will continue to be backed out on the cash flow statement. Because options and restricted share grants represent non-cash events, our key cash flow ratios—FFO to total debt, EBITDA to interest, and debt to EBITDA—exclude stock option expense. Accordingly, for companies whose stock-based compensation expense (payable in shares) has been deducted, we adjust EBITDA measures by adding back the expense.

Unlike options or restricted share awards, certain other share-based arrangements are payable solely in cash (e.g., stock appreciation rights required to be settled in cash), and represent a future call on a company's cash

flow. The obligations under these arrangements are treated as debt.

For tax-reporting purposes, the exercise or the point of vesting (not granting) of certain stock-based awards often generates a tax-deductible expense, regardless of whether the company has been expensing stock-option grants for financial reporting purposes. Tax credits are shown as an operating item on the cash flow statement under U.S. GAAP only to the extent they relate to the accounting expense; if the tax deduction exceeds the amount attributable to the accounting expense, such excess is a financing item. Analytically, we view tax benefits more appropriately as a financing item on the cash flow statement, since they are triggered only upon equity issuance.

To mitigate dilution caused by options and other share-related grants, companies often engage in share repurchases. Arguably, if a company regularly reverses the dilution resulting from the exercise of share-based awards through share repurchases, the related cash outlays (net of cash proceeds from the exercise) could be treated as a cash operating expense. However, we view a company's decision to repurchase its shares as a separate matter—and part of the company's overall corporate finance strategy. Accordingly, we determine the level of expected share repurchases in the context of a broader assessment of liquidity, capitalization, and financial policy.

In contrast, when an issuer enters into derivative or similar contracts to repurchase shares at a future date, we view these contracts as precursors to such purchases—and incorporate the repurchase immediately in the analysis. Still, even in the absence of such contractual arrangements, the analysis incorporates the eventual share repurchases if they are anticipated. We adjust debt by adding amounts that are anticipated as necessary to fund these transactions.

Additional considerations

For U.S. tax purposes, generally the exercise (not granting) of certain stock options results in a tax-deductible expense to the employer. However, for GAAP purposes, the company expenses the fair value of stock options,

which is determined at the grant date, ratably over the related service period. As a result of the use of the grant date fair value to determine the accounting expense, rather than an exercise-date intrinsic or other value for tax deduction purposes, the book and the tax expenses will differ. Furthermore, U.S. GAAP does not allow companies to record a reduction to income tax expense on their income statements for these excess tax benefits. Instead, the tax benefit is recorded directly as an incremental increase to equity (more specifically, additional paid-in capital) and a reduction of taxes payable (i.e., never recorded in as a benefit in the income statement). Consistent with our view that the tax benefits are more financing in nature, because they relate to equity issuance, this will not give rise to an adjustment.

If the options ultimately expire unexercised, any previously recorded accounting expense (recorded based on the award's initial fair value) is not reversed under U.S. GAAP. Although in this circumstance no tax deduction would be generated at all, it would result in a deferred tax asset being recorded on the company's balance sheet over the expense recognition period (because the book expense and resulting deferred tax assets are calculated based on the initial fair value). This tax asset is reversed through earnings only upon expiration of the exercise period. This requirement can cause large deferred tax assets, unlikely to be realized, to remain on a company's balance sheet, causing artificially inflated equity balance in circumstances in which a company's fortunes are adversely changing, and its options are moving substantially out of the money (rendering both exercise and use of the tax benefit improbable). Analytically, it would be more appropriate to reverse the asset amount against equity when it becomes apparent that use of the benefits is unlikely. Adjustments for these situations are considered only in rare circumstances.

Both IFRS and U.S. GAAP now require the expensing of stock options and other share-based employee compensation. However, to facilitate the transition from the prior approach of not expensing, the transition provision allows companies to apply this approach only

to grants that were made after a specific date (e.g., Nov. 7, 2002, under IFRS). As a result, costs for an increasing proportion of outstanding grants will be expensed over time. We have generally not attempted to adjust earnings measures to include the missing expenses in the early years of the transition.

Adjustment procedures

Data requirements

- Total period share-based compensation expense reflected in the financial statements. (Amounts may be available in the statements or in the notes.)
- In jurisdictions that do not require expensing of such compensation, an estimate of what would be expensed.
- Amount of deferred taxes unlikely to be realized.
- Tax cash flows included in operating that we view as financing.
- Estimate of amounts to be used for share repurchases.

Calculations

- EBITDA: Where noncash stock compensation costs have been expensed, we reverse the expense amount.
- SG&A, Operating income before and after D&A, and EBIT: In jurisdictions where share-based compensation is not required to be expensed, the estimated amount is deducted from these profitability measures.
- Tax assets that are unlikely to be realized are subtracted from assets and equity.
- Taxes that are financing in nature are added to operating cash flow and FFO.
- Debt is increased—and equity decreased—for related share repurchases that are contractually committed or otherwise imminent. (Please see “Analytic Implications Of Stock-Based Compensation Accounting,” published March 24, 2005, and “Camouflaged Share Repurchases: The Rating Implications of Total-Return Swaps and Similar Equity Derivatives,” published Dec. 7, 2000, on RatingsDirect.)

Stranded costs securitizations of regulated utilities

For rate-regulated utilities, we remove the effects of debt related to securitization of

stranded costs, to the extent that debt is serviced separately by the utilities’ customers through direct inclusion in rates. Because the customers, not the utility, are responsible, by statute, for principal and interest payments, we remove the debt from the balance sheet for analytical purposes. We also remove related amounts from revenue, depreciation, and interest.

Adjustment procedures

Data requirements

- Amount of securitized debt related to stranded costs on the utility’s balance sheet at period end;
- Interest expense related to securitized stranded-cost debt for the period; and
- Principal repayments on stranded-cost securitized debt during the period.
- Note: We obtain the data from the financial statements and footnotes of the utility; or separate special purpose vehicle (SPV) created for the debt securitization; or information received directly from the utility.

Calculations

- Adjustment to debt: We subtract the stranded-cost securitized debt from total debt.
- Adjustment to revenues: We remove the revenue earned from customers that is committed to paying securitized debt principal and interest from total revenues. We assume that revenue equals the sum of interest and principal payments made during the year.
- Adjustment to operating income before depreciation and amortization and EBITDA: We remove the revenue earned from customers committed to paying principal and interest on securitized debt.
- Adjustment to operating income after depreciation and amortization and EBIT: We remove the revenue earned from customers committed to paying principal and interest. We also remove depreciation and amortization related to the regulatory asset, which we assume equals the sum on principal payments during the period. As a result, the reduction to operating income after D&A is only for the interest portion.
- Adjustment to interest expense: We reduce interest expense by interest expense of the securitized debt.

- Operating cash flows: We reduce operating cash flows for revenues and increase for the assumed interest amount related to the securitized debt. This results in a net decrease to operating cash flows equal to the principal repayment amount.
(Please see “Securitizing Stranded Costs,” published Jan. 18, 2001, on RatingsDirect.)

Surplus cash

The credit profile of companies that have accumulated cash is, of course, enhanced by the available liquidity. But our analytical methodology regularly goes a step further, by adjusting both financial and operating ratios to reflect a company’s surplus cash (that is, unless the surplus is deemed to be only temporary).

Industrial credit ratios are intended to capture the degree to which a company has leveraged its risk assets, and highly liquid financial assets often involve virtually no risk. Moreover, ratios are designed to indicate a company’s ability to service and repay debt obligations from operating cash flow, and surplus cash and/or highly-liquid assets are, in a sense, available to repay debt apart from ongoing cash flow generation. Accordingly, we often net surplus cash against debt and debt-like obligations—so that net debt is what figures in ratio calculations.

In some situations—only where the surplus cash is structurally linked to debt that would not be needed, were it not for the cash holdings—we also use a net interest expense when calculating the denominator of coverage ratios, such as FFO/interest, EBIT/interest and EBITDA/interest. (Absent such linkage, we use gross interest in the denominator. Also, since interest income is differentiated from operating income, it is generally not included in the numerator.)

Further, maintenance of surplus cash distorts operational benchmarks and return on assets (ROA) measures that are important for peer comparisons in some sectors, such as pharmaceuticals. Given the relatively low returns on low-risk financial assets, maintaining such assets depresses asset-related margins (even without taking into account interest expense required if the company is financing the cash with debt that otherwise would not be needed).

The key analytical considerations regarding net debt adjustments are the quality of the financial assets themselves, and the company’s purpose and strategies for maintaining them—although doing so involves commensurately higher levels of debt. Some of the possible strategies—and what they imply for the permanence of the surplus—are discussed below.

Virtually all companies require some cash to facilitate their operations. Retailers, restaurants, and supermarkets, for example, need cash to make change. More broadly, companies require a certain level of cash for very-near-term liquidity. We do not give any special credit or make any adjustments for cash that is merely adequate to support ongoing operations, even though the amount can sometimes be quite substantial—especially for companies that operate numerous facilities, and those that transact in diverse currencies.

Companies engage in dialogue with us to help us gauge these near-term operating liquidity needs, and our sector comparisons and reviews also target peer consistency regarding maintenance of sufficient liquidity. Apart from potential netting for surpluses, maintaining adequate liquidity is always an important rating consideration. A company with a deficient level of cash for working capital needs would be penalized in its rating assignment.

However, many companies possess still greater cash, and/or liquid, low-risk, financial resources. Several different possible purposes and strategies could apply. This is important to our analytical treatment: There are many situations in which we use net calculations and, many others where we do not, usually determined by the company’s strategies. The strategies explained below are in descending order, starting with the most supportive of a net approach and concluding with a number of strategies that do not lead to a net approach.

Strategies that support net-debt treatment

- Defeasance (both legal and economic).
Because the company places very high-quality assets in a trust to cover the interest and principal of a specific debt issue, this is the most obvious application of the net debt adjustment. (See “Defeasance Of

Corporate Bonds May Be Gaining Popularity,” published July 25, 2006, on RatingsDirect).

- Tax arbitrage. Some companies manufacture in various tax havens; retain related profits in those low-tax locales and avoid tollgate taxes by holding financial investments there; while financing and incurring tax-deductible interest expense in higher-tax rate jurisdictions. Such structural basis for maintaining cash is another solid reason for applying the net debt adjustments. (However, for analytical purposes, any “tollgate” taxes payable upon repatriation are subtracted from the cash.) The large, cash-rich U.S. pharmaceutical companies offer a good example of this tax arbitrage strategy. And, given the magnitude of this aspect of these companies’ finances, profitability measures could be quite distorted without also adjusting return on asset ratios to a net basis. (See “Credit FAQ: Tax Relief On Foreign Cash And Its Special Benefit To U.S. Drug And Medical Device Firms,” published Sept. 14, 2004, and “Ratings Implications Of Earnings Repatriations Under The American Jobs Creation Act,” published June 26, 2006, on RatingsDirect.)
- Funding future payment of obligations—especially retiree obligations. Some companies may earmark financial assets on their balance sheet to provide for their retiree benefit obligations. In particular, some large German corporations assert that this is their financial policy. Indeed, while these assets are not legally segregated, we would view them as offsetting the liability. Application of the net debt approach in such cases presumes that the liability itself is sufficiently debt-like to be included in our definition of adjusted debt. (U.S., U.K., and Dutch companies, among others, are forced by law to fund their pension obligations in a trust. Our pension adjustment adds back only any unfunded portion, which is equivalent to netting these financial assets against the debt-like pension liability.)
- Meet seasonal requirements. A company may choose to pre-fund its intrayear borrowing needs, by borrowing (or not repay-

ing outstanding debt balances), holding the proceeds in cash or near-cash investments, drawing down the cash as the year progresses, and then replenishing it at period end. The company should not be penalized relative to a company that instead relies on borrowing only as the need actually materializes, thus avoiding the debt showing up on its yearend financial statements. (In both cases, there may be equal prudence, since the latter company would typically be able to rely on a revolving credit agreement.) To avoid such a distortion and promote comparability, we would use a net-debt approach. However, it would be tricky to estimate the impact on interest expense involved for this pattern, which is one reason we are reluctant to focus on net interest expense.

- Maintain access to financial markets. Very similar to the above strategy, some companies believe it is in their best interests to keep a fairly stable presence in the financial markets, especially in commercial paper markets. They maintain market presence on a regular basis, and avoid going in and out of the markets as their cash flow patterns would dictate.

Strategies that do not support net-debt treatment

- Cyclical safety net. Some companies tend to accumulate cash during good times, and hold onto it for self-preservation during expected lean years. For companies that have large ongoing capital requirements, this can be critical. The large U.S. auto companies offer a dramatic example. Similarly, high-technology companies tend to operate with a large cash cushion, given the vicissitudes of the technology product life cycles. Such cash is not really an offset to debt, and net debt is not used as the basis for analysis in these instances. (Nonetheless, it is hard to forecast how much cash is appropriately dedicated to spending in future downturns. So the analyst might calculate supplementary ratios based on netting, just to gain perspective and for peer comparison purposes.)
- Reserve for investment opportunities. Cash earmarked for investment in operations—

expansion or capital projects—or acquisitions does not qualify for netting against debt. The cash position is temporary, although some companies may take their time until the opportunity they seek arrives. Of course, having such cash to invest is a great positive that must not be overlooked; it figures in other aspects of the analysis: The potential additional cash flow that can be anticipated from enlarged operations is considered in financial projections, and the current availability of cash enhances liquidity.

- Awaiting return to shareholders. In the current financial environment, this situation may be the most common, at least in the U.S. Many companies that have been successful at generating surplus cash are motivated to repurchase stock or pay out special dividends. While shareholder enrichment programs may stretch out over several quarters or even a few years, the cash position of such companies is ephemeral, and should not be netted against debt.

There are many instances where the purpose may be mixed or the strategy unclear. Local business practice can then form the basis for deciding whether the cash position is likely to be long-lasting. Accordingly, companies with surplus cash that operate in the European context are regularly afforded net debt treatment, given the acceptance—even tradition—of companies operating permanently with surplus cash. (Whatever portion is deemed to be needed for operations is excluded from the adjustment.)

In contrast, North American companies operate in an environment that looks askance at cash accumulation. Shareholders expect these funds to be invested, or returned to them for reinvestment. We therefore presume that, in most cases, surplus cash will be distributed to shareholders sooner or later. Accordingly, few companies in North America are analyzed on a net-debt basis.

Some companies participate in global industries, and may be influenced, to some extent, by the behavior of cross-border peers. This could provide additional insight into what to expect in those instances.

A company's excess cash may be invested in assets of varying quality or liquidity. We

tend to be fairly conservative about which assets can be used to fully offset debt. However, a diversified portfolio of assets—such as traded equities, for example—can constitute a reasonably high quality investment, and is certainly very liquid. We have sometimes taken a net approach even with respect to nonfinancial assets, when they exhibit similar critical aspects of low risk and liquidity. For example, agricultural commodity and energy trading companies hold inventory against committed orders. Netting the value of these commodities against debt allows a better picture of the true credit risks.

To the extent that asset values may be subject to decline, we would haircut the investment prior to the netting adjustment. There are situations where we would not adjust for excess cash on the balance sheet because the company has only limited access to the funds. Such exceptions include:

- Funds held at partially owned subsidiaries. Joint-venture partners or minority shareholders may insist on maintaining significant liquidity at the subsidiary level, or may otherwise limit the repatriation of cash to the group's central treasury operations. Restrictive bank loan covenants at these units create similar restrictions.
- Operating subsidiaries that are regulated. These business units may be prevented from up-streaming cash to their parents, or may have to maintain substantial cash balances for regulatory reasons.
- Captive insurance subsidiaries. While cash appears unencumbered, it usually has to be invested in line with the subsidiary's insurance status and regulations.
- Pension funding vehicles. Even pension surpluses are generally regarded as inaccessible for all practical purposes.

Adjustment procedures

Data requirements

- The amount of surplus cash is judgmentally determined, based on our assessment of liquidity available to repay debt.
- Estimated taxes that would be subject to collection upon repatriation, if applicable.

Calculations

- Debt and cash and investments are reduced by the surplus cash amount, net of related

taxes. However, the resulting debt amount may never be negative.

- If the cash and debt are structurally linked, interest expense is reduced by an amount that corresponds to earnings on the surplus cash.

(Please see “Net Debt Adjustments Reflect Asset Quality, Strategic Intent,” published Feb. 22, 2007, on RatingsDirect.)

Trade receivables securitizations

Securitization is an important financing vehicle for many companies, often providing lower—cost, more diverse sources of funding and liquidity than otherwise available to the company. However, securitizations do not ordinarily transform the risks or the underlying economic reality of the business activity, and do not necessarily provide equity relief (i.e., that having accomplished a securitization, the issuer can retain less equity, or incur more debt, than otherwise would be the case, without any change in its credit quality).

To the extent the securitization accomplishes true risk transfer (i.e., all risks—contractual, legal, and reputational), the transaction is interpreted as an asset sale. Yet, in the much more common case, the company retains the bulk of risks related to the assets transferred, and the transaction is akin, in our view, to a secured financing. More importantly, perhaps, we do not give any benefit for securitization of assets that will be re-generated in the ordinary course of business (and financed on an ongoing basis).

Key considerations in assessing the extent of equity relief include:

- Riskiness of the securitized assets. The only risk that can be transferred is that which existed in the first place. If, as is often the case, an issuer securitizes its highest-quality or most liquid assets, that limits the extent of any meaningful equity relief.
- First-loss exposure. The issuer commonly retains the first-loss exposure, to enhance the credit protection afforded for the securitized debt. For the securitized debt to be highly rated, the extent of enhancement must be a multiple of the expected losses associated with the assets. The first-loss layer thus encompasses the preponderance of risk associated with the securitized assets, and the issuer’s total realizations from the

securitization will vary depending on the performance of the assets. Often, only the risk of catastrophic loss is transferred to third-party investors—risk generally of little relevance in the corporate rating analysis.

- Moral recourse. How the company would behave if losses did reach catastrophic levels. Empirical evidence suggests companies often believe they must bail out troubled financings (for example, by repurchasing problematic assets or replacing them with other assets) to preserve access to this funding source and, more broadly, to preserve their good name in the capital markets, even though they have no legal requirement to do so. Moral recourse is magnified when securitizations are a significant part of a company’s financing activity, or when a company remains linked to the securitized assets by continuing in the role of servicer or operator.
- Ongoing funding needs. Even if it were contractually and legally certain that the risks related to a given pool of assets had been fully transferred and the issuer would not support failing securitizations, equity relief (or an analytical deconsolidation) still would not necessarily have been achieved. If, for whatever reason, losses related to the securitized assets rose dramatically higher than initially anticipated, and if the issuer has a recurring need to finance similar assets, future access to the securitization market would be dubious—at least economically. Future funding needs would then have to be met by other means, with the requisite equity (and the equivalent level of borrowings) to support them. Thus, even if a company separately sells the first-loss exposures, or sells the entire asset without retaining any first-loss exposure, it would not achieve equity relief.

The accounting treatment of securitizations may not be congruent with our analytical perspective, and, accordingly, adjustments to the reported financials often are necessary (especially for companies reporting under U.S. GAAP, since many securitizations remain on-balance sheet under IFRS).

For transactions in which a company retains the preponderance of risks (including those related to ongoing funding needs), we calculate ratios where the outstanding

amount of securitized assets are consolidated, along with the related securitized debt—regardless of the accounting treatment. If securitization is used essentially to transfer risk in full and there are no contingent or indirect liabilities, we view the transaction as the equivalent of an asset sale. When necessary, then, we recast the assets, debt, earnings and cashflows, and shareholders' equity accordingly, including adjusting for deferred tax effects and imputed interest.

Issues/limitations of adjustments

When securitizations are accounted for as sales, they commonly give rise to upfront gain/loss-on-sale effects, which represent the present value of the estimated difference between the asset yield and the securitization funding rate and other securitization-related costs. For securitizations that we are putting back on the balance sheet, it is appropriate to back out such gains and spread them out over the life of the securitizations, given the uncertainty about whether the earnings will ultimately be realized as expected and their essentially non-recurring character. Losses that reflect the discount on sale are also backed out, to avoid double-counting the interest component of the transactions.

To impute interest, we generally have to approximate a rate, given the lack of precise information that is available. Since securitizations tend to be relatively well-secured and risk-free for the investor, we assume a rate that approximates the risk-free rate, currently 5%.

In theory, it might be desirable to fully recast the income statement, and consolidate off-balance-sheet securitizations, but as a practical matter, this is difficult to accomplish. Still, some companies have voluntarily included pro forma schedules in their public disclosures to enable such analysis.

Cash inflows or outflows related to working capital assets or liabilities, or finance receivables, are classified as operating in nature on the statement of cash flows under U.S. GAAP and IFRS. Hence, securitizations affect operating cash flow, with particularly significant effects possible in reporting periods when securitizations are initiated or mature. The reporting convention varies in line with the balance sheet classification. If

the securitization is consolidated, the related borrowings are treated as a financing activity. If the securitization is not consolidated, it is as if the assets self-liquidated on an accelerated basis: No debt incurrence is identified separately, either as an operating or financing source of cash. When our analytic view is that securitizations should be consolidated (or, in rare situations, when those that are consolidated should not be), it would be desirable to recast the statement of cash flow accordingly—to smooth out the variations in operating cash flow that can result from the sale treatment of the securitization, which can give a distorted picture of recurring cash flow. Again, as a practical matter, this often can be difficult to accomplish.

Adjustment procedures

Data requirements

- Identify the period-end amount and average outstanding amount of trade receivables sold or securitized, for which an adjustment is warranted, that are not on the balance sheet.

Calculations

- Debt and receivables are increased by the amount of trade receivables sold or securitized.
- Interest expense is increased by an amount of interest imputed at the risk-free discount rate.
- Operating cash flows are adjusted to remove the proceeds from the securitization when there is an increased level of securitization—upon initiation of securitization or subsequent fluctuation in amounts securitized. Merely rolling over existing securitization requires no cash flow adjustment.

(Please see "Securitization's Effect On Corporate Credit Quality," published Nov. 28, 2005, and "Finance Company Rating Methodology: Credit Ratios To Be Analyzed On A Managed Basis," published Feb. 23, 2001, on RatingsDirect.)

Volumetric production payments

A volumetric production payment (VPP) is an arrangement in which an exploration and production (E&P) company agrees to deliver a specified quantity of hydrocarbons from

specific properties to a counterparty (often a financial institution) in return for a fixed amount of cash received at the beginning of the transaction. The seller often bears all of the production and development costs associated with delivering the agreed-upon volumes. The buyer receives a nonoperating interest in oil and gas properties that produce the required volumes. The security is a real interest in the producing properties that is expected to survive bankruptcy of the E&P company that sold the VPP. When the total requisite units of production are delivered, the production payment arrangement terminates and the conveyed interest reverts back to the seller.

We view production payments structured with a high level of security to production coverage as debt-like obligations, and adjust financial and operating analysis accordingly. The retention of risk in VPPs is central to our treatment of such deals as largely debt-like.

The accounting for VPPs affects the seller's financial statements and also operating statistics in several ways. The VPP volumes (i.e., the amount of oil and gas required to be delivered under the agreement) are removed from the seller's reserves. Proceeds received for the VPP increase the seller's cash balances, and the seller books a deferred revenue liability—or debt—to reflect the obligation under the agreement. Revenues and costs incurred to produce the VPP volumes are included in the seller's income statement as and when the oil and gas is produced. Operating statistics calculated on a per-barrel basis will be overstated because they include both the amortization of deferred revenues and costs, but do not factor in the volumes related to the VPP. In the case of lifting costs, for example, barrels produced in the numerator are lower, while the expense in the denominator continues to include the cost of producing the VPP volumes.

When the necessary data are available, we adjust the reported results to minimize the distortion caused by accounting for a production payment. The required volumes are returned to reserves and deferred revenue is treated as debt. Similarly, the oil and gas volumes produced to meet the VPP requirements are added to the E&P company's production when calculating per-barrel sales and lifting costs. This

treatment reflects the view that VPPs are conceptually similar to secured debt, rather than asset sales. The similarity pertains in typical deals, in which the reserves included in the production agreement are significantly greater than the required volumes. The seller bears the obligation to deliver the agreed-upon volumes, and retains the production and a significant amount of reserve risk, while receiving the benefit of fixing commodity prices. A VPP structured with minimal coverage would be viewed as closer to an asset sale, since the transfer of risk would be more substantial.

Adjustment procedures

Data requirements

- Amount of VPP-related deferred revenue reported on the balance sheet at period end;
- Oil and gas reserve data (related to VPPs that have been removed from reported amounts);
- Remaining quantity of oil and gas reserves removed from reported reserves at end of period (yet to be delivered); and
- Oil and gas volumes produced during the year from the VPPs.

The amount of deferred revenue related to VPPs at period end is obtained from the financial statements. Reserve quantities may come from the financial statements or from the company.

Calculations

- Adjustment to debt: We add the amount of deferred VPP revenue at period end to debt.
- Adjustment to interest expense: We impute interest expense on the adjustment to debt. The rate is that inherent in the contract, or a rate estimated by the analyst based on the company's secured borrowing rates. In either case, it is applied to the average of the current period end, and the previous period end deferred VPP revenue balance.
- We add period-end reserve volumes related to VPPs back to reported reserves.
- Similarly, we add the oil and gas volumes produced to meet the VPP requirements to the company's production and sales statistics used to calculate per-barrel selling prices and lifting costs.
- Adjustment to operating cash flow: We reclassify cash proceeds from VPPs as

financing cash flows. Future cash flows will be adjusted (if practicable and data are available) upon delivery, to reflect the cash flows associated with the properties.

(Please see “Credit FAQ: Volumetric Production Payments For U.S. Oil And Gas Companies,” published April 14, 2005, and “Oil And Gas Volumetric Production Payments: The Corporate Ratings Perspective,” published Dec. 4, 2003, on RatingsDirect.)

Workers compensation/self insurance

Workers compensation systems provide compensation for employees injured in the course of employment. While schemes differ between jurisdictions, provisions may be made for payments in lieu of wages, compensation for economic losses (past and future), reimbursement for or payment of medical and like expenses, general damages for pain and suffering, and benefits payable to the dependents of workers killed during employment. (For example, U.S. coal mining companies, under the Federal Coal Mine Health and Safety Act, are responsible for medical and disability benefits to existing and former employees and their families who are affected by pneumoconiosis, better known as black lung disease.)

Workers compensation coverage may be provided through insurance companies, and thus is not a financial concern for the company. But, in certain instances and/or industries,

employers assume direct responsibility for medical treatment, lost wages, etc.

In these cases, under U.S. GAAP or IFRS, the incurred liabilities usually are recorded on the company's balance sheet as other liabilities, based on an actuarially determined present value of known and estimated claims.

Accordingly, these obligations represent a call on future cash flow, distinguishing them from many other, less-certain contingencies. They are analogous to postretirement obligations, which we also add to debt.

Treating the workers-compensation liability as debt affects many line items on the financial statements. Ideally, if there is sufficient disclosure available, we would adjust fully (in a manner akin to our post-retirement adjustments). In practice, the data are not available, so we reclassify these obligations, adjusted for tax, as debt. Similarly, we may also treat other analogous self-insurance-type liabilities as debt.

Adjustment procedures

Data requirements

- Net amount recognized as a liability for workers compensation obligations and for self-insurance claims.

Calculations

- Add amount recognized for workers compensation obligations (net of tax) and net amount recognized for self-insurance claims (net of tax) to debt. ■

Rating Each Issue

We assign two types of credit ratings—one to corporate issuers and the other to individual corporate debt issues (or other financial obligations). The first is called a Standard & Poor’s corporate credit rating. It is our current opinion on an issuer’s overall capacity to pay its financial obligations, i.e., its fundamental creditworthiness. This opinion focuses on the issuer’s ability and willingness to meet its financial commitments on a timely basis. It generally indicates the likelihood of default regarding all financial obligations of the company, because, in most countries, companies that default on one debt type—or file for bankruptcy—virtually always stop payment on all debt types.

The corporate rating does not reflect any priority or preference among obligations. In the past, we published the “implied senior-most rating” of corporate obligors—a different term for precisely the same concept. “Default risk rating” and “natural rating” are additional ways of referring to this issuer rating.

(Generally, a corporate credit rating is published for all companies that have issue ratings—in addition to those companies that have no ratable issues, but request just an issuer rating. Where it is germane, both a local currency and foreign currency issuer rating are assigned.)

We also assign credit ratings to specific issues. In fact, the vast majority of credit ratings pertain to specific debt issues. Long-

term issue ratings are a blend of default risk (sometimes referred to as “timeliness”) and the recovery prospects (loss given default, or LGD) associated with the specific debt being rated. Debt with relatively good recovery prospects—especially well-secured debt—is rated above the corporate credit rating; debt with relatively poor prospects for such loss-given-default—especially junior debt—is rated below the corporate credit rating. Notching does not apply to short-term ratings (*see Commercial Paper chapter of this book*).

Recovery ratings were added in 2003. These ratings address only recovery prospects, using a scale of one to six, rather than the letter ratings.

Notching Down; Notching Up

The practice of differentiating issues in relation to the issuer's fundamental creditworthiness is known as "notching." Issues are notched up or down from the corporate credit rating level. Payment on time as promised obviously is critical with respect to all debt issues. The potential for recovery in the event of a default—i.e., ultimate recovery, albeit delayed—also is important, but timeliness is the primary consideration. That explains why issue ratings are still anchored to the corporate credit rating. They are notched—up or down—from the corporate credit rating in accordance with established guidelines explained here.

As default risk increases, the concern over what can be recovered takes on greater relevance and, therefore, greater rating significance. Accordingly, the loss-given-default aspect of ratings is given more weight as one moves down the rating spectrum. For example, subordinated debt can be rated up to two notches below a non-investment grade corporate credit rating, but one notch at most if the corporate credit rating is investment grade. (In the same vein, issues of companies with a 'AAA' rating need not be notched at all.)

For investment-grade companies, we seek to differentiate those financial obligations judged to have materially inferior recovery prospects by virtue of being unsecured or subordinated—either contractually or structurally. Priority in bankruptcy is considered in broad terms; there is no attempt to specify a default scenario.

In the speculative-grade categories, we do seek to predict specific recovery levels based on full-blown default-scenario modeling. Because any default would presumably be less distant in time than for investment-grade companies, it is more reasonable to analyze a specific anticipated default scenario, with associated asset mix and realizable values. When such a rigorous recovery analysis is performed, we assign a recovery rating and base the notching on the specific outcome. We focus on a central tendency of approximately 50%. Therefore, issues with recovery rates significantly above 50% are rated above the corporate rating; conversely, issues recovering significantly less than 50% are rated below

the corporate rating. We go into greater detail in "Speculative-grade").

Notching relationships underlying issue ratings are subject to review and change when actual developments vary from expectations. Changes in notching do not necessarily have to be accompanied by changes in default risk.

Notching guidelines are a function of the bankruptcy law and practice in the legal jurisdiction that governs a specific instrument. For example, distinguishing between senior and subordinated debt can be meaningless in India, where companies may be allowed to continue paying even common dividends at the same time they are in default on debt obligations; accordingly, notching is not applied in India. The majority of legal systems broadly follow the practices underlying our criteria for notching—but it always is important to be aware of nuances of the law as they pertain to a specific issue.

Preferred stock

Preferred stock carries greater credit risk than debt in two important ways: The dividend is at the discretion of the issuer, and the preferred represents a deeply subordinated claim in the event of bankruptcy. Prior to 1999, Standard & Poor's used a separate preferred stock scale. In February 1999, the debt and preferred stock scales were integrated.

Accordingly, now, preferred stock generally is rated below subordinated debt. When our credit rating on a company is investment grade, its preferred stock is rated two notches below the corporate credit rating. For example, if the corporate credit rating is 'A+', the preferred stock would be rated 'A-'. (In case of a 'AAA' corporate credit rating, the preferred stock would be rated 'AA+'.) When the corporate credit rating is non-investment grade, the preferred stock is rated at least three notches (one rating category) below the corporate credit rating. Deferrable payment debt is treated identically to preferred stock, given subordination and the right to defer payments of interest.

There are situations in which the dividend is especially jeopardized, so notching would exceed the guidelines above. For example, state charters restrict payment when there is a

deficit in the equity account. This can occur following a write-off, even while the company is healthy and possesses ample cash to continue paying. Similarly, covenants in debt instruments can endanger payment of dividends, even while there is a capacity to pay.

In all cases, the risk of deferral of payments is analyzed from a pragmatic, rather than a legal, perspective. If a company defers a payment or passes on a preferred dividend, it is tantamount to default on the preferred issues. The rating is changed to 'D' once the payment date has passed. The rating usually would be lowered to 'C' in the interim, to the extent non-payment can be anticipated—e.g., if the company were to announce that its directors failed to declare the preferred dividend. Whenever a company resumes paying preferred dividends but remains in arrears with respect to payments it skipped, the rating is, by definition, 'C'.

Convertible preferred/equity units

Some securities provide for mandatory conversion into common stock of a company. Such securities vary with respect to the formula for sharing potential appreciation in share value. In the interim, these securities represent a subordinated debt or preferred stock claim. Other offerings package a short-life debt or preferred stock with a deferred common stock purchase contract to achieve similar economics.

Ratings on the issue address primarily the likelihood of interim payments and the solvency of the company at the time of conversion to enable it to honor its obligation to deliver the shares. These ratings do not address the amount or value of the common stock investors ultimately will receive. The equity risk that pertains is reflected merely by limiting the rating to the equivalent of the company's preferred equity securities. (We once highlighted this risk by appending an "r" to the ratings of these hybrid securities, but now rely on the market's familiarity with such instruments and their terms.)

Reflecting Recovery In Issue Ratings

If we can confidently project recovery prospects exceeding 70% for an individual security, that issue is typically rated higher than the corporate

rating; conversely, if we project recovery for a given security to be under 30%, the issue is typically rated lower than the corporate rating. When we cannot confidently model absolute recovery because of jurisdictional issues or because the corporate credit rating is investment-grade and the issue is unsecured, we notch down when a debt issue's junior standing, relative to other debt issues of the company, indicates relatively poor recovery prospects.

The weighting of recovery aspects in issue ratings also varies as the potential for default becomes more meaningful, as explained below.

Investment grade

For investment-grade companies, notching relationships are based on broad guidelines that combine consideration of asset protection and ranking. The guidelines are designed to identify material disadvantage for a given issue by virtue of the existence of better-positioned obligations. The analyst does not seek to predict specific recovery levels, which would involve knowing the exact asset mix and values at a point well into the future. Therefore we do not generally perform a fundamental recovery analysis, given the difficulty of doing meaningful default scenario analysis while the company is still so strong.

(For example, we would not presume that default occurs while the company's capital structure remains roughly the same—as we generally do in the recovery analysis of speculative grade companies. With respect to currently strong credits—with relatively unburdened balance sheets—such an approach would be inappropriate. Indeed, currently, we typically do not assign recovery ratings for debt issues of investment-grade corporates—with the exception of utility first mortgage bonds.)

Rather, we use a rule-of-thumb approach to identify debt issues with inferior recovery prospects—or, for consideration of adding notches, we use discrete asset valuations if there is collateral (modified somewhat in the case of regulated utilities).

Rating below the corporate credit rating: "Notching down"

When a debt issue is judged to be junior to other debt issues of the company, and thereby to have relatively poor recovery prospects,

that issue is notched down from the corporate credit rating. As a matter of rating policy, the differential is limited to one rating designation in the investment-grade categories given the critical role of timeliness for investment grade debt. Loss-given-default is just less significant in the scheme of things for investment grade—leading to less weight given to recovery; investors are focused on getting paid in the first place.

Whenever a threshold percentage of the company's assets would first be used to satisfy other claims, this translates into a meaningful disadvantage for the "junior" creditors. The threshold for notching is reached when more-senior claims cover over 20% of the assets (unless less-valuable assets make up the collateral or there exist mitigating factors, such as upstream guarantees).

While we do not make specific judgments regarding the level of absolute recovery for investment-grade debt, the material disadvantage of junior issues is designed to roughly correspond to the 30% absolute-recovery benchmark that applies for speculative-grade notching. More often than not, junior debt recovers less than 30% (although this figure may vary by jurisdiction).

The threshold level takes into account that it normally takes more than \$1 of book assets—as valued today—to satisfy \$1 of priority debt. In the case of secured debt—which limits the priority to the collateral pledged—the remaining assets are still less likely to be sufficient to repay the unsecured debt, inasmuch as the collateral ordinarily consists of the company's better assets and often substantially exceeds the amount of the debt.

Moreover, in all likelihood, there will be additional debt by the time of default, as pointed out above. Since such debt—as well as the refinancing of existing debt—will be incurred as the company approaches default, it is more likely to be on a secured basis (or directly to the entity that holds the operating assets, in the case of an operating company/holding company structure).

To the extent that certain obligations have a priority claim on the company's assets, lower-ranking obligations are at a disadvantage because a smaller pool of assets will be

available to satisfy the remaining claims. As mentioned above, debt can be junior by virtue of being contractually subordinated—that is, the terms of the issue specifically provide that debt holders will receive recovery in a bankruptcy only after the claims of other creditors have been satisfied.

Another case is when the issue is unsecured, while assets representing a significant portion of the company's value collateralize secured borrowings. (If the collateral that secures a particular debt issue is of dubious value, while the more valuable collateral is pledged to another loan, even secured debt may be notched down from the corporate credit rating.)

A third form of disadvantage can arise if a company conducts its operations through an operating subsidiary/holding-company structure. In this case, if the whole group is bankrupt, creditors of the subsidiaries—including holders of even contractually subordinated debt—would have the first claim to the subsidiaries' assets, while creditors of the parent would have only a junior claim, limited to the residual value of the subsidiaries' assets remaining after the subsidiaries' direct liabilities have been satisfied. The disadvantage of parent-company creditors owing to the parent/subsidiary legal structure is known as "structural subordination." Even if the group's operations are splintered among many small subsidiaries, the individual debt obligations of which have only dubious recovery prospects, the parent-company creditors may still be disadvantaged compared with a situation in which all creditors would have an equal claim on the assets.

If a company has an atypical mix of assets, the 20% threshold could be higher or lower to reflect the relative amounts of better or worse assets. Goodwill especially is suspect, considering its likely value in a default scenario. In applying the notching guidelines, Standard & Poor's generally eliminates from total assets goodwill in excess of a normal amount—10% of total adjusted assets. As distinct from goodwill, intangibles are considered potentially valuable—for example, established brands in the consumer products sector. We do not, however, perform detailed asset appraisals or attempt to postulate specifically about how market values might fluctuate in a hypothetical

cal stress scenario (except in the case of secured debt).

The concept behind these thresholds is to measure material disadvantage with respect to the various layers of debt. At each level, as long as the next layer of debt still enjoys plenty of asset coverage, we do not consider the priority of the top layers as constituting a real disadvantage for the more junior issuers. Accordingly, the nature of the individual company's asset is important: If a company has an atypical mix of assets, the thresholds could be higher or lower to reflect the relative amounts of better or worse assets.

The relative size of the next layer of debt also is important. If the next layer is especially large—in relation to the assets assumed to remain after satisfying the more senior layers—then coverage is impaired. There are numerous LBOs financed with outsized issues just below the senior layers. Although the priority debt may be small (below the threshold levels), it poses a real disadvantage for junior issues: given the paucity of coverage remaining, the junior debt should be notched down.

One other note to keep in mind is that “absolute trumps relative.” If for structural or other issue-specific (or jurisdiction specific) reasons we can confidently anticipate recovery above 30% (and below 70%), we would equate the issue rating with the corporate credit rating, regardless of the result of the priority debt calculation. Similarly, if there were structural, issue-specific, or jurisdiction-specific reasons to anticipate recovery below 30%, we would rate the issue one notch below the corporate credit rating. These absolute recovery ranges are similar to those used for speculative-grade issue rating guidelines where we assign recovery ratings.

Application of guidelines

In applying the guidelines above, lease obligations—whether capitalized in the company's financial reporting or kept off balance sheet as operating leases as priority debt—and the related assets are included on the asset side. Similarly, sold trade receivables and securitized assets are added back, along with an equal amount of priority debt. Other creditors are just as disadvantaged by such financing arrangements as by secured debt. In

considering the surplus cash and marketable securities of companies that presently are financially healthy, we assume neither that the cash will remain available in the default scenario, nor that it will be totally dissipated, but rather that, over time, this cash will be reinvested in operating assets that mirror the company's current asset base, subject to erosion in value of the same magnitude.

Local- and foreign-currency issue ratings. In determining local-currency issue ratings, the point of reference is the local-currency corporate credit rating: local-currency issue ratings may be notched down one notch from the local-currency corporate credit rating in the case of investment-grade issuers, or one or two notches in the case of speculative-grade issuers. A foreign-currency corporate credit rating on a company is sometimes lower than the local-currency corporate credit rating, reflecting the risk that a sovereign government could take actions that would impinge on the company's ability to meet foreign-currency obligations. But junior foreign-currency issues are not notched down from the foreign-currency corporate credit rating, because the government action would apply regardless of the senior/junior character of the debt. Of course, the issue would never be rated higher than if it had been denominated in local currency. For example, if the local-currency corporate credit rating on a company were ‘BB+’ and the foreign-currency corporate credit rating were ‘BB-’, subordinated foreign currency-denominated issues could be rated ‘BB-’. But, if the local-currency corporate credit rating were ‘BB+’ and the foreign currency corporate credit rating was ‘BB’, the subordinated foreign-currency denominated issues would be rated ‘BB-’, as would the subordinated local-currency denominated issues.

Rating above the corporate credit rating: “Notching up”

Since we generally do not perform specific default scenario modeling for investment-grade companies, identifying issues with superior recovery characteristics usually relies on security provisions of a specific issue. Candidates for notching up are secured debt issues, where collateral consists of assets with

a well-established track record with respect to recovery, such as first mortgage bonds of regulated utilities.

As explained above, the weight given to recovery in assigning issue ratings diminishes as one moves up the rating spectrum. When a company's rating is in the 'BBB' category, its well-secured debt is rated one or two notches above the corporate rating, depending on the extent of the collateral coverage. For the 'A' category, the maximum addition is limited to one notch—and this applies only when full recovery is anticipated. For 'AAA' and 'AA' categories, notching up is phased out entirely.

Structural subordination

At times, a parent and its affiliate group have distinct default risks. The difference in risk may arise from covenant restrictions, regulatory oversight, or other considerations. This is the norm for holding companies of insurance operating companies and banks. In such situations, there are no fixed limits governing the gaps between corporate credit ratings of the parent and its subsidiaries. The holding company has higher default risk, apart from post-default recovery distinctions. If such a holding company issued both senior and junior debt, its junior obligations would be notched relative to the holding company's corporate credit rating by one or two notches.

Often, however, a parent holding company with one or more operating companies is viewed as a single economic entity. When the default risk is considered the same for the parent and its principal subsidiaries, they are assigned the same corporate credit rating. Yet, in a liquidation, holding-company creditors are entitled only to the residual net worth of the operating companies remaining after all operating company obligations have been satisfied. Parent-level debt issues are notched down to reflect structural subordination when the priority liabilities create a material disadvantage for the parent's creditors, after taking into account all mitigating factors. In considering the appropriate rating for a specific issue of parent-level debt, priority liabilities encompass all third-party liabilities (not just debt) of the subsidiaries—including trade

payables, pension and retiree medical liabilities, and environmental liabilities—and any relatively better positioned parent-level liabilities. (For example, parent-level borrowings collateralized by the stock of the subsidiaries would be disadvantaged relative to subsidiary liabilities, but would rank ahead of unsecured parent-level debt.) Potential mitigating factors include:

Guarantees

Guarantees by the subsidiaries of parent-level debt (i.e., upstream guarantees) may overcome structural subordination by putting the claims of parent company creditors on a *pari passu* basis with those of operating company creditors. Such guarantees have to be enforceable under the relevant national legal system(s), and there must be no undue concern regarding potential allegations of fraudulent conveyance. Although joint and several guarantees from all subsidiaries provide the most significant protection, several guarantees by subsidiaries accounting for a major portion of total assets would be sufficient to avoid notching of parent debt issues in most cases.

The legal analysis outcome depends on the specific fact pattern, not legal documentation—so one cannot standardize the determination. But, if either the guarantor company received value or was solvent for a sufficiently long period subsequent to issuing the guarantee, the upstream guarantee should be valid. Accordingly, we consider upstream guarantees valid if any of these conditions are met:

- The proceeds of the guaranteed obligation are provided (downstreamed) to guarantor. It does not matter whether the issuer downstreams the money as an equity infusion or as a loan. Either way, the financing benefits the operations of the subsidiary which justifies the guarantee;
- The legal risk period—ordinarily, one or two years from entering into the guarantee—has passed;
- There is a specific analytical conclusion that there is little default risk during the period that the guarantee validity is at risk; or
- The rating of the guarantor is at least 'BB-' in jurisdictions that involve a two-year risk,

or at least 'B+' in jurisdictions with one year risk.

Operating assets at the parent

If the parent is not a pure holding company, but rather also directly owns certain operating assets, this gives the parent's creditors a priority claim to the parent-level assets. This offsets, at least partially, the disadvantage that pertains to being structurally subordinated with respect to the assets owned by the subsidiaries.

Diversity

When the parent owns multiple operating companies, more liberal notching guidelines may be applied to reflect the benefit the diversity of assets might provide. The threshold guidelines are relaxed (but not eliminated) to correspond with the extent of business and/or geographic diversification of the subsidiaries. For bankrupt companies that own multiple, separate business units, the prospects for residual value remaining for holding company creditors improve as individual units wind up with shortfalls and surpluses. Also, holding companies with diverse businesses—in terms of product or geography—have greater opportunities for dispositions, asset transfers, or recapitalization of subsidiaries. If, however, the subsidiaries are operationally integrated, economically correlated, or regulated, the company's flexibility to reconfigure is more limited.

Concentration of debt

If a parent has a number of subsidiaries, but the preponderance of subsidiary liabilities are concentrated in one or two of these, e.g., industrial groups having finance or trading units, this concentration of liabilities can limit the disadvantage for parent-company creditors. Although the net worth of the leveraged units could well be eliminated in the bankruptcy scenario, the parent might still obtain recoveries from its relatively unleveraged subsidiaries. In applying the notching guideline in such cases, it may be appropriate to eliminate the assets of the leveraged subsidiary from total assets, and its liabilities from priority liabilities. The analy-

sis then focuses on the assets and liabilities that remain, and the standard notching guideline must be substituted by other judgments regarding recovery prospects.

Downstream loans

If the parent's investment in a subsidiary is not just an equity interest, but also takes the form of downstream senior loans, this may enhance the standing of parent-level creditors because they would have not only a residual claim on the subsidiary's net worth, but also a debt claim that could be *pari passu* with other debt claims. However, most intercompany claims are subject to equitable subordination and/or other elimination in the bankruptcy process. Such assessment of downstream advances must take into account the applicable legal framework. (On the other hand, if the parent has borrowed funds from its subsidiaries, the resulting intercompany parent-level liability could further dilute the recoveries of external parent-level creditors.)

Adjustments

We eliminate from the notching calculations subsidiaries' deferred tax assets and liabilities and other accounting accruals and provisions that are not likely to have clear economic meaning in a default.

Speculative grade

For speculative grade issuers, we perform a fundamental recovery analysis, which is communicated via our recovery ratings. The different levels of recovery are factored into our debt issue ratings by adding or subtracting notches from the corporate credit rating (*see table 6*).

Recovery ratings assess a debt instrument's ultimate prospects for recovery of estimated principal and pre-petition interest (i.e., interest accrued but unpaid at the time of default) given a simulated payment default. Our recovery methodology focuses on estimating the percentage of recovery that debt investors would receive at the end of a formal bankruptcy proceeding or an informal out-of-court restructuring. Lender recoveries could be in the form of cash, debt or equity securities of a reorganized entity, or some combination thereof.

We focus on nominal recovery (rather than discounted present value recovery) because we believe discounted recovery is better identified independently by market participants who can apply their own preferred discount rate to our nominal recovery. (However, in jurisdictions with anticipated workout periods of longer than two to three years, we factor the delay into both recovery ratings and issue ratings to account for the time value of money and the inherent incremental uncertainty.)

While informed by historical recovery data, our recovery ratings incorporate fundamental deal-specific, scenario-driven, forward-looking analysis. They consider the impact of key structural features, inter-creditor dynamics, the nature of insolvency regimes, multi-jurisdictional issues, in the context of a simulated default.

We acknowledge that recovery analysis (including default modeling, valuation, and restructuring dynamics) is complex and does not lend itself to precise or certain predictions. Outcomes invariably involve unforeseen events and are subject to extensive negotiations that are influenced by the subjective judgments, negotiating positions, and agendas of the various stakeholders. Even so, we believe our methodology of focusing on a company's unique and fundamental credit risks—together with the composition and structure of its debt, legal organization, and

non-debt liabilities—provides valuable insight into creditor recovery prospects.

In this light, our recovery ratings are intended to provide educated approximations of post-default recovery rates, rather than exact forecasts. Recovery ratings, when viewed together with a company's risk of default as estimated by our corporate credit rating, can help investors evaluate a debt instrument's risk/reward characteristics and determine their expected return.

Jurisdiction-specific adjustments for recovery and issue ratings

Full-blown, fundamental recovery analysis is limited to jurisdictions where insolvency regimes are reasonably well established and sufficient precedent and data are available. In other jurisdictions, we do not assign recovery ratings—and the basis for rating a specific issue different from than the corporate credit rating is similar to that used in investment-grade situations. That is, we employ a simple rule-of-thumb approach to identify issues that are junior—and thereby materially disadvantaged with respect to recovery prospects. If claims that come ahead of a given debt issue equal 15% of assets, we subtract one notch from the corporate credit rating level; if such priority claims reach the 30% level, we subtract two notches. We do not rate issues more than two notches below the corporate

Table 6 Recovery Rating Scale And Issue Rating Criteria

(For issuers with a speculative-grade corporate credit rating)

Recovery rating	Recovery description	Recovery expectations (%)*	Issue rating notches relative to corporate credit rating
1+	Highest expectation, full recovery	100	+3
1	Very high recovery	90–100	+2
2	Substantial recovery	70–90	+1
3	Meaningful recovery	50–70	0
4	Average recovery	30–50	0
5	Modest recovery	10–30	-1
6	Negligible recovery	0–10	-2

*Recovery of principal plus accrued but unpaid interest at the time of default. †Very high confidence of full recovery resulting from significant overcollateralization or strong structural features.

credit rating on the basis of inferior recovery considerations.

We are in the process of reviewing all significant jurisdictions around the world to assess how insolvency proceedings in practice affect post-default recovery prospects and to consistently incorporate jurisdiction-specific adjustments. With the help of local insolvency practitioners, we assess each jurisdiction's creditor friendliness—in theory as well as in practice (about 30 jurisdictions have been assessed to date).

The four main factors that shape our analysis of the jurisdictions' creditor friendliness are:

- Security,
- Efficiency and control,
- Adherence to priorities, and
- Time to resolution.

Based on these factors, we classify the reviewed countries into three categories, according to their creditor-friendliness. This classification enables us to make jurisdiction-specific adjustments to our recovery analysis. We cap both recovery ratings and the differential between the issuer credit and debt issue ratings in countries with debtor-friendly insolvency regimes. (See “*Jurisdiction-Specific Adjustments To Recovery And Issue Ratings*,” published July 5, 2007, on RatingsDirect.)

Recovery Methodology For Industrials

Recovery analytics for industrial issuers has three basic components: determining the most likely path to default for a company; valuing the company following default; and distributing that value to claimants that we identify, based upon the relative priority of each claimant.

Establishing a simulated path to default

This step is a fundamental; we must first understand the forces most likely to cause a default before we can estimate a level of cash flow at default or value a company. This step draws on the company and sector knowledge of our credit analysts to formulate and quantify the factors most likely to cause a company to default, given its unique business risks and financial risks.

At the outset of this process, we deconstruct the borrower's cash flow projections

to understand management's general business, industry, and economic expectations. Once we understand management's view, we make appropriate adjustments to key economic, industry, and firm specific factors to simulate a payment default. While we recognize that there are many possible factors—both foreseen and unforeseen—that could lead to a default, we focus on the key operating factors that would most likely contribute to default.

Forecasting cash flow at default

The simulated default scenario is our assessment of the borrower's most likely path to a hypothetical payment default. The “insolvency proxy” is the point along that path that the company would default. The insolvency proxy is ordinarily defined as the point at which funds available plus free cash flow is exceeded by fixed charges.

The terms in this equation are:

Funds available. The sum of balance sheet cash and revolving credit facility availability (in excess of the minimal amount a company needs to operate its business at its seasonal peak).

Free cash flow. EBITDA in the year of default, less a minimal level of required maintenance capital expenditures, less cash taxes, plus or minus changes in working capital. For default modeling and recovery estimates, our EBITDA and free cash flow estimates ignore noncash compensation expenses and do not use our adjustments for operating leases.

Fixed charges. The sum, in the year of default, of:

- Scheduled principal amortization. Bullet or ballooning maturities are not treated as fixed charges, because lenders typically would refinance these amounts as long as a company can otherwise comfortably service its fixed charges.
- Required cash interest payments, including assumed increases to LIBOR rates on floating-rate debt and to the margin charged on debt obligations that have pricing grids or maintenance financial covenants; and
- Other cash payments the borrower is either contractually or practically obligated to pay that are not already captured as an operating expense. (Lease payments, for

example, are accounted for within free cash flow and are not considered a fixed charge.)

A projected default may occur even if fixed charges are fully covered in a few special circumstances:

- Strategic bankruptcy filings, when a borrower may attempt to take advantage of the insolvency process primarily to obtain relief from legal claims or onerous contracts;
- When a borrower in distress may rationally be expected to retain a large amounts of cash (e.g., to prepare for a complex, protracted restructuring; if it is in a very capital-intensive industry; if it is in a jurisdiction that does not allow for super-priority standing for new credit in a post-petition financing); or
- When a borrower's financial covenants have deteriorated beyond the level at which even the most patient lender could tolerate further amendments or waivers.

Free cash flow is not necessarily equal to the level at point of default, though. Cash flow may decline below the insolvency proxy if the borrower's operating performance is expected to continue to deteriorate due to whatever competitive and economic conditions are assumed in the simulated default scenario. In any event, we attempt to identify a level of cash flow as one basis for our valuation.

Determining valuation

We consider a variety of valuation methodologies, including market multiples, discounted cash flow (DCF) modeling, and discrete asset analysis. The market multiples and DCF methods are used to determine a company's enterprise value as a going concern. This is generally the most appropriate approach when our simulated default and recovery analysis indicates that the borrower's reorganization (or the outright sale of the ongoing business or certain segments) is the most likely outcome of an insolvency proceeding.

We use discrete asset valuation most often for industries in which this valuation approach is typically used, or when the simulated default scenario indicates that the borrower's liquidation is the most likely outcome of insolvency.

If a company is expected to reorganize, but certain creditors hold collateral consisting of only particular assets, then enterprise value is inappropriate—and we assess the collateral based in its discrete values.

Market multiples

The key to valuing a company using a market-multiples approach is to select appropriate comparable companies, or comps. The analysis should include several comps similar to the company being valued with respect to business lines, geographic markets, margins, revenue, capital requirements, and competitive position. Of course, an ideal set of comps does not always exist, so analytical judgment often is required to adjust for differences in size, business profiles, and other attributes. In addition, in the context of a recovery analysis, the multiples must consider the competitive and economic environments assumed in our simulated default scenario, which are often very different than present conditions. As a result, our analysis strives to consider a selection of multiples and types of multiples.

Ideally, we are interested in multiples for similar companies that have reorganized because of circumstances consistent with our simulated default scenario. In practice, however, the existence of such “emergence” multiple comps are rare. As a result, our analysis often turns to transaction or purchase multiples for comparable companies, because these generally are more numerous. With transaction multiples, we try to use forward multiples (purchase price divided by projected EBITDA), rather than trailing multiples (purchase price divided by historical EBITDA), because we believe forward multiples, which incorporate the benefit of perceived cash flow synergies used to justify the purchase price, provide a more appropriate reference point. In addition, trading multiples for publicly traded companies can be useful because they allow us to track how multiples change over economic and business cycles. This is especially relevant for cyclical industries and for sectors entering a different stage of development, or experiencing changing competitive conditions.

A selection of multiples helps match our valuation with the conditions assumed in our simulated default scenario. For example, a company projected to default in a cyclical trough may warrant a higher multiple than one expected to default at a cyclical midpoint. Further, two companies in the same industry may merit meaningfully different multiples if one is highly levered and at risk of default from relatively normal competitive stresses, while the other is unlikely to default unless there is a large unexpected fundamental deterioration in the cash flow potential of the business model (which could make historical sector multiples irrelevant).

Our multiples analysis may also consider alternative industry-specific multiples—such as subscribers, hospital beds, recurring revenue, etc.—where appropriate. Alternatively, such metrics may serve as a check on the soundness of a valuation that relied on an EBITDA multiple, DCF, or discrete asset approach.

Discounted cash flow (DCF)

Our valuation is based on the long-term operating performance of the reorganized company. We use a perpetuity growth formula, which contemplates a long-term steady-state growth rate deemed appropriate for the borrower's business. However, when applicable, we start with specific annual cash flow forecasts for a period of time following reorganization, while relying on the perpetuity growth formula for subsequent periods.

Discrete asset valuation

We value the relevant assets by applying industry- and asset-specific advance rates or third-party appraisals.

Identifying and estimating the value of debt and nondebt claims

After valuing a company, we identify and quantify the debt obligations and other material liabilities that would be expected to have a claim against the company. Potential claims fall into three broad categories:

- Principal and accrued interest on all debt outstanding at the point of default,

whether issued at the operating company, subsidiary, or holding company level;

- Bankruptcy-related claims, such as debtor-in-possession (DIP) financing and administrative expenses for professional fees and other bankruptcy costs;
- Other nondebt claims, such as taxes payable, certain securitization programs, trade payables, deficiency claims on rejected leases, litigation liabilities, and unfunded post-retirement obligations.

Our analysis of these claims and their potential values takes into consideration each borrower's particular facts and circumstances, as well as the expected impact on the claims as a result of our simulated default scenario.

We estimate debt outstanding at the point of default by reducing term loans by scheduled amortization up to the point of our simulated default. We assume that all committed debt facilities, such as revolving credit facilities and delayed draw term loans, are fully drawn. For asset-based lending (ABL) facilities, we consider whether the borrowing base formula would allow the company to fully draw the facility in a simulated default scenario. For letters of credit, especially those issued under dedicated synthetic letter of credit tranches, we assess whether these contingent obligations are likely to be drawn.

Our estimate of debt outstanding at default also includes an estimate of prepetition interest, which is calculated by adding six months of interest (based on historical data from Standard & Poor's LossStats® database) to our estimated principal amount at default. The inclusion of pre-petition interest makes our recovery analysis more consistent with banks' credit risk capital requirements under the Basel II Framework.

Our analysis focuses on the recovery prospects for the debt instruments in a company's current or pro forma debt structure, and generally does not make estimates for other debt that may be issued prior to a default. We feel that this approach is prudent and more relevant to investors because the amount and composition of any additional debt (secured, unsecured, and/or subordinated) may materially impact lender recovery rates, and it is not

possible to know these particulars in advance. Further, incremental debt added to a company's capital structure may materially affect its probability of default, which could in turn affect all aspects of our recovery analysis (i.e., the most likely path to default, valuation given default, and loss given default). Consequently, changes to a company's debt structure are treated as events that require a reevaluation of our default and recovery analysis.

Still, we take into account the potential for additional debt by limiting the recovery ratings assigned to unsecured debt—and, in turn, the notches above the corporate rating that might be added. For companies with a 'B' category rating, the recovery rating would ordinarily be limited to '2'. For companies in the 'BB' category we would limit the recovery ratings assigned to unsecured issues to '3'. (Because they are further from potential default, there is a greater likelihood that interim change of their capital structure would occur.)

Also we add more debt to the extent that this is consistent with our specific expectations for a given issuer. Similarly, we may assume the repayment of near-term debt maturities—without refinancing—if the company is expected to retire these obligations and has the liquidity to do so. Furthermore, revolving credit facilities with near-term maturities are generally assumed to roll over with similar terms.

Determining distribution of value

Distributions are assumed to follow a waterfall approach that reflects the relative seniority of the claimants, reflecting the specific laws, customs, and insolvency regime practices for the relevant jurisdictions for a company. In the U.S., our general assumption of the relative priority of claimants is:

- Super-priority claims, such as DIP financing;
- Administrative expenses;
- Federal and state tax claims;
- Senior secured claims;
- Junior secured claims;
- Senior unsecured debt and nondebt claims;
- Subordinated claims;
- Preferred stock; and
- Common stock.

However, this priority of claims is subject to two critical caveats:

- The beneficial position of secured creditor claims, whether first-priority or otherwise, is only valid to the extent that the collateral supporting such claims is equal to, or greater than, the amount of the claim. If the collateral value is insufficient to fully cover a secured claim, then the uncovered amount or deficiency balance will be *pari passu* with all other senior unsecured claims.
- Structural issues may alter the priority of certain claims against specific assets or entities in an organization based on the company's legal entity structure and the relevant terms and conditions of the debt instruments.

The recovery prospects for different debt instruments of the same type (senior secured, senior unsecured, senior subordinated, etc.) might be very different, depending on the structure of the transactions. We review a company's debt and legal entity structure, the terms and conditions of the various debt instruments as they pertain to borrower and guarantor relationships, collateral pledges and exclusions, facility amounts, covenants, and debt maturities. In addition, we must understand the breakout of the company's cash flow and assets as it pertains to its legal organizational structure, and consider the effect of key jurisdictional and intercreditor issues. Key structural issues to explore include identifying:

- Higher priority liens on specific assets by forms of secured debt such as mortgages, industrial revenue bonds, and ABL facilities;
- Non-guarantor subsidiaries (domestic or foreign) that do not guarantee a company's primary debt obligations or provide asset pledges to support the company's secured debt;
- Claims at non-guarantor subsidiaries that will have a higher priority (i.e., a structurally superior) claim on the value related to such entities;
- Material exclusions to the collateral pledged to secured lenders, including the lack of asset pledges by foreign subsidiaries or the absence of liens on significant domestic assets, including the stock of foreign or domestic nonguarantor subsidiaries (whether due to concessions demanded by and grant-

ed to the borrower, poor transaction structuring, regulatory restrictions, or limitations imposed by other debt indentures); and

- Whether a company's foreign subsidiaries are likely to file for bankruptcy in their local jurisdictions as part of the default and restructuring process.

While our analysis typically reduces the enterprise value by the amount of secured claims in accordance with its priority, there may be meaningful excess collateral value that is available to other creditors, especially those with a second lien. For example, this is often the case when secured debt collateralized by a first lien on all noncurrent assets also takes a second-priority lien on working capital assets that are already pledged to support an asset-based revolving credit facility.

Significant domestic or foreign nonguarantor entities must be identified because these entities have not explicitly promised to repay the debt. Thus, the portion of enterprise value derived from these subsidiaries does not directly support the rated debt. As a result, debt and certain nondebt claims at these subsidiaries have a structurally higher priority claim against the subsidiary value. Accordingly, the portion of the company's enterprise value stemming from these subsidiaries must be estimated and treated separately in the distribution of value to creditors. This requires an understanding of the breakout of a company's cash flow and assets. Because these subsidiaries are still part of the enterprise being evaluated, any equity value that remains after satisfying the structurally superior claims would be available to satisfy other creditors of the entities that own these subsidiaries. Well-structured debt will often include covenants to restrict the amount of structurally superior debt that can be placed at such subsidiaries. Further, well-structured secured debt will take a lien on the stock of such subsidiaries to ensure a priority interest in the equity value available to support other creditors. In practice, the pledge of foreign subsidiary stock owned by U.S. entities is usually limited to 65% of voting stock for tax reasons. The residual value that is not captured by secured lenders through stock pledges would be expected to be available to all senior unsecured creditors on a pro rata basis.

Material assets (other than whole subsidiaries or subsidiary stock) not pledged to support secured debt would be shared by all senior unsecured creditors on a pro rata basis.

An evaluation of whether foreign subsidiaries would also be likely to file for bankruptcy is also required, because this would likely increase the cost of the bankruptcy process and create potential multi-jurisdictional issues that could impact lender recovery rates. The involvement of foreign courts in a bankruptcy process presents a myriad of complexities and uncertainties. For these same reasons, however, U.S.-domiciled borrowers that file for bankruptcy seldom also file their foreign subsidiaries without a specific benefit or reason for doing so. Consequently, we generally assume that foreign subsidiaries of U.S. borrowers do not file for bankruptcy unless there is a compelling reason to assume otherwise, such as a large amount of foreign debt that needs to be restructured to enable the company to emerge from bankruptcy. When foreign subsidiaries are expected to file bankruptcy, our analysis will be tailored to incorporate the particulars of the relevant bankruptcy regimes.

Intercreditor issues may affect the distribution of value and result in deviations from absolute priority (i.e., maintenance of the priority of the claims, including structural considerations, so that a class of claims will not receive any distribution until all classes above it are fully satisfied). In practice, Chapter 11 bankruptcies are negotiated settlements and the distribution of value may vary somewhat from the ideal implied by absolute priority for a variety of inter-creditor reasons, including, in the U.S., "accommodations" and "substantive consolidation."

Accommodations refer to concessions granted by senior creditors to junior claimants in negotiations to gain their cooperation in a timely restructuring. We generally do not explicitly model for accommodations because it is uncertain whether any concessions will be granted, if those granted will ultimately have value (e.g., warrants as a contingent equity claim), or whether the value will be material enough to meaningfully affect our projected recovery rates.

Substantive consolidation—in its pure form—represents a potentially drastic deviation from the ordering of priorities and distribution of value in bankruptcy plans of reorganization. In a true “legal” substantive consolidation, the assets and liabilities of an affiliated corporate group are collapsed into a single legal entity. This effectively would eliminate the credit support provided by structural priority, by treating creditors of the parent *pari passu* with creditors of operating units. However, true substantive consolidation is a rarely implemented, discretionary judicial doctrine. Our analysis relies on the low likelihood of true substantive consolidation, though we acknowledge that this risk could affect recoveries in certain cases.

Many more reorganization bankruptcy plans do involve a consolidation of a more limited nature. These consolidations do not radically affect the priority of external creditor claims—but do eliminate many inter-company claims, guaranties, and distributions and simplify the plan approval process and distributions to creditors under the plan. These “deemed” consolidations typically promote the resolution of complex multi-party negotiations and settlements along the lines of the relative legal priorities and bargaining strengths of creditors.

The bankruptcy process involves an inherent element of uncertainty. Indeed, the impact of deemed consolidation on recovery can vary. The extent to which more-senior creditors are willing to make concessions to more junior creditors to keep the process moving smoothly and to arrive at a consensual plan is impossible to predict.

However, in practice, the result of court-ordered consolidation is not sufficiently material enough of the time to be considered in our recovery rating assignments.

Surveillance of recovery ratings

Our recovery analysis at origination is unlikely to identify all of the actual claims at bankruptcy, or precisely predict the value of the company or the collateral given a default. Ratings are subject to periodic and event-specific surveillance. Factors that could impact our recovery analysis or ratings include:

- Acquisitions and divestitures;

- Updated valuation assumptions;
- Shifts in the profit and cash flow contributions of borrower, guarantor, or non-guarantor entities;
- Changes in debt or the exposure to non-debt liabilities;
- Inter-creditor dynamics; and
- Changes in bankruptcy law.

Features of U.S.-domiciled corporate bankruptcies

Debtor in possession financing. DIP facilities are usually super-priority claims that enjoy repayment precedence over unsecured debt and, in certain circumstances, secured debt. However, it is not possible to accurately quantify the size or likelihood of DIP financing or to forecast how DIP financing may affect the recovery prospects for different creditors. This is because the size or existence of a theoretical DIP commitment is unpredictable, DIP borrowings at emergence may be substantially less than the DIP commitment, and such facilities may be used to fully repay over-collateralized pre-petition secured debt. Further, the presence of DIP financing might actually help creditor recovery prospects by allowing companies to restructure their operations and preserve the value of their business. As a result of these uncertainties, estimating the impact of a DIP facility is beyond the scope of our analysis, even though we recognize that DIP facilities may materially impact recovery prospects in certain cases.

Administrative expenses. Administrative expenses relate to professional fees and other costs associated with bankruptcy that are required to preserve the value of the estate and complete the bankruptcy process. These costs must be paid prior to exiting bankruptcy, making them effectively senior to those of all other creditors. The dollar amount and materiality of administrative claims usually correspond to the complexity of a company’s capital structure. We expect that these costs will be less for simple capital structures that can usually negotiate an end to a bankruptcy quickly and may even use a pre-packaged bankruptcy plan. Conversely, these costs are expected to be greater for large borrowers with complex capital structures where the

insolvency process is often characterized by protracted multiple party disputes that drive up bankruptcy costs and diminish lender recoveries. When using an enterprise value approach, our methodology estimates the value of these claims as a percentage of the borrower's emergence enterprise value thusly:

- Three percent for capital structures with one primary class of debt;
- Five percent for two primary classes of debt (first-and second-lien creditors may be adversaries in a bankruptcy proceeding and are treated as separate classes for this purpose);
- Seven percent for three primary classes of debt; and
- Ten percent for certain complex capital structures.

When using a discrete asset valuation approach, these costs are implicitly accounted for in the orderly liquidation value discounts used to value a company's assets.

Other nondebt claims

Taxes. Various U.S. government authorities successfully assert tax claims as either administrative, priority, or secured claims. However, it is very difficult to project the level and status of such claims at origination (e.g., tax disputes en route to default are extremely hard to predict). However, their overall amount is seldom material enough to impact lender recoveries, so we generally do not reduce our expectation for lenders' recovery by estimating potential tax claims.

Swap termination costs. The U.S. Bankruptcy Code accords special treatment for counterparties to financial contracts, such as swaps, repurchase agreements, securities contracts, and forward contracts, to ensure continuity in the financial markets and to avoid systemic risk (so long as the type of contract and the type of counterparty fall within certain statutory provisions). Recent amendments to the Bankruptcy Code expanded this safe harbor by, among other things, including within the definition of a "swap" a range of transactions widely used in the capital markets (such as total return swaps and credit swaps) and expanding the definitions of counterparties (whether to swaps, repurchase agreements, securities contracts, or for-

ward contracts) eligible to exercise these rights. In addition to not being subject to the automatic stay that generally precludes creditors from exercising their remedies against the debtor, these financial contract counterparties have the right to liquidate, terminate, or accelerate the contract in a bankruptcy. Most currency and interest rate swaps related to secured debt are secured on a *pari passu* basis with the respective loans. Other swaps are likely to be unsecured. Quantifying such claims is beyond the scope of our analysis.

Securitizations. Standard accounts receivable securitization programs involve the sale of certain receivables to a bankruptcy-remote special purpose entity in an arms length transaction under commercially reasonable terms. The assets sold are not legally part of the debtor's estate (although in some circumstances they may continue to be reported on the company's balance sheet for accounting purposes), and the securitization investors are completely reliant on the value of the assets they purchased to generate their return. As a result, the securitization investors do not have any recourse against the estate and we do not consider them claimants when we use an enterprise valuation approach in our default and recovery analysis. However, the debtor emerging from bankruptcy will need to finance its trade receivables anew, creating an incremental financing requirement that must be considered in the recovery analysis.

When a discrete asset valuation approach is used, the sold receivables are not available to any creditors. Additionally, future-flow types of securitization, which securitizes all or a portion of the borrower's future revenue and cash flow (typically related to particular contracts, patents, trademarks, or other intangible assets), would effectively reduce all or a part of the enterprise value available to other corporate creditors.

Trade creditor claims. Typically, trade creditor claims are unsecured claims that rank *pari passu* with a borrower's other unsecured obligations. However, because a borrower's viability as a going concern hinges upon continued access to goods and services, some prepetition claims are either paid in the ordinary course or treated as priority administrative claims. This concession to critical trade

vendors ensures that they remain willing to carry on their relationships with the borrower during the insolvency proceedings, thereby preserving the value of the estate and enhancing the recovery prospects for all creditors. Our analysis assumes that these costs continue to be paid as part of the company's normal working capital cycle.

Accordingly, we include trade credit claims as priority obligations only to the extent that we believe there will be valid claims at the time of emergence—or that the company will incur additional debt (including DIP facilities) to pay those claims.

Leases. U.S. bankruptcy law provides companies the opportunity to accept or reject leases during the bankruptcy process. (For commercial real property leases, the review period is limited to 210 days, including a one-time 90-day extension, unless the lessor agrees to an extension.) If a lease is accepted, the company is required to keep rent payments on the lease current, meaning that there will be no claim against the estate. This also allows the lessee to continue to use the leased asset, with the cash flow (i.e., value) derived from the asset available to support other creditors.

If a lease is rejected, the company gives up the use of the asset. (The lessor may file a general unsecured claim against the estate for damages arising from the breach of contract.) We estimate the impact of lease rejection, starting with a lease rejection rate for the firm based on the types of assets leased, the industry, and our simulated default scenario. Leases are typically rejected for one of three reasons:

- The lease is priced above market rates;
- The leased asset is generating negative or insufficient returns; or
- The leased asset is highly vulnerable to obsolescence during the term of the lease.

Our evaluation may ballpark the rejection rate by assuming it matches the percentage decline in revenue in our simulated default scenario or, if applicable, by looking at common industry lease rejection rates. Case-specific considerations might include, for example, that leased assets are unusually old, underutilized, or priced above current market rates; a higher rejection rate in such cases may be warranted.

In bankruptcy, the amount of unsecured claims from rejected leases is determined by taking the amount of lost rental income and subtracting the net value available to the lessor by selling or re-leasing the asset in its next best use. However, the deficiency claims of commercial real estate lessors is further restricted to the greater of one year's rent or 15% of the remaining rental payments, not to exceed three years' rent. Lessors of assets other than commercial real property do not have their potential deficiency claims capped, but such leases are generally not material and are usually for relatively short-periods of time. With these issues in mind, we quantify lease deficiency claims for most companies by multiplying their estimated lease rejection rate by three times their annual rent.

However, there are a few exceptions to our general approach. Deficiency claims for leases of major transportation equipment (e.g., aircraft, railcars, and ships) are specifically analyzed because these lease obligations do not have their claims capped, may be longer term, and are typically for substantial amounts. In addition, we use a lower rent multiple for cases in which a company relies primarily on very short-term leases (three years or less). Further, we do not include any deficiency claim for leases held by individual asset-specific subsidiaries that do not have credit support from other entities (by virtue of guarantees or co-lessee relationships) because of the lack of recourse against other entities and the likelihood that these subsidiaries are likely to be worthless if the leases are rejected. (This situation was relevant in many of the movie exhibitor bankruptcies in the early 2000 time period.)

Employment-related claims. Material unsecured claims may arise when a debtor rejects, terminates, or modifies the terms of employment or benefits for its current or retired employees. To reflect this risk for unsecured debtholders, we are likely to include some level of employment-related claims for companies—but only where uncompetitive labor or benefits costs are a factor in our simulated default scenario.

Pension plan termination claims. The ability to terminate a defined benefit pension plan is provided under the U.S.

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Employee Retirement Income Security Act (ERISA). Under ERISA, these plans may be terminated voluntarily by the debtor as the plan sponsor, or involuntarily by the Pension Benefit Guaranty Corporation (PBGC) as the agency that insures plan benefits. Typically, any termination during bankruptcy will be a “distress termination,” in which the plan assets would be insufficient to pay benefits under the plan. However, the bankruptcy of the plan sponsor does not automatically result in the termination of its pension plans, and even underfunded plans may not necessarily be terminated; the debtor must demonstrate

that it would not be able to successfully reorganize unless the plan is terminated.

In a distress termination, the PBGC assumes the liabilities of the pension plan up to the limits prescribed under ERISA and gets an unsecured claim in bankruptcy against the debtor for the unfunded benefits. The calculation of this liability is based on different assumptions than the borrower’s reported liability in its financial statements. This, in addition to the difficulty of predicting the funded status of a plan at some point in the future, complicates our ability to accurately assess the value of these claims. ■

Commercial Paper

Commercial paper (CP) consists of unsecured promissory notes issued to raise short-term funds. CP ratings pertain to the program established to sell such notes. There is no review of individual notes. Typically, only companies of strong credit standing can sell their paper in the money market, although there periodically is some issuance of lesser quality, unrated paper (notably, prior to the junk bond market collapse late in 1989). Alternatively, companies sell commercial paper backed by letters of credit (LOC) from banks. Credit quality of such LOC-backed paper rests entirely on the transaction's legal structure and the bank's creditworthiness. As long as the LOC is structured correctly, credit quality of the direct obligor can be ignored.

Rating Criteria

Evaluation of an issuer's commercial paper reflects our opinion of the issuer's fundamental credit quality. The analytical approach is virtually identical to the one followed in assigning a long-term corporate credit rating, and there is a strong link between the short-term and long-term rating systems. Indeed, the time horizon for CP ratings is not a function of the typical 30-day life of a commercial-paper note, the 270-day maximum maturity for the most common type of commercial paper in the U.S., or even the one-year tenor typically used to determine which instrument gets a short-term rating in the first place.

To achieve an 'A-1+' CP rating, the company's credit quality must be at least the equivalent of an 'A+' long-term corporate credit rating. Similarly, for commercial paper to be rated 'A-1', the long-term corporate credit rating would need to be at least 'A-'. In fact, the 'A+/A-1+' and 'A-/A-1' combinations are rare. Ordinarily, 'A-1' CP ratings are associated with 'A+' and 'A' long-term ratings.

Conversely, knowing the long-term rating will not fully determine a CP rating, considering the overlap in rating categories. However, the range of possibilities is always narrow. To the extent that one of two CP ratings might be assigned at a given level of long-term credit

quality (e.g., if the long-term rating is 'A'), overall strength of the credit within the rating category is the main consideration. For example, a marginal 'A' credit likely would have its commercial paper rated 'A-2', whereas a solid 'A' would almost automatically receive an 'A-1'. Exceptional short-term credit quality would be another factor that determines which of two possible CP ratings are assigned. For example, a company may possess substantial liquidity—providing protection in the near or intermediate term—but suffer from less-than-stellar profitability, a longer-term factor. Or, there could be a concern that, over time, the large cash holdings may be used to fund acquisitions. (Having different time horizons as the basis for long- and short-term ratings implies either one or the other rating is expected to change.)

Backup Policies

Ever since the Penn Central bankruptcy roiled the commercial-paper market and some companies found themselves excluded from issuing new commercial paper, we have deemed it prudent for companies that issue commercial paper to make arrangements in advance for alternative sources of liquidity. This alternative, backup liquidity protects companies from defaulting if they are unable to roll over their maturing paper with new notes, because of a shrinkage in the overall commercial-paper market or some cloud over the company that might make commercial paper investors nervous.

Many developments affecting a single company or group of companies—including bad business conditions, a lawsuit, management changes, a rating change—could make commercial-paper investors flee the credit. Given the size of the commercial-paper market, backup facilities could not be relied on with a high degree of confidence in the event of widespread disruption. A general disruption of commercial-paper markets could be a highly volatile scenario, under which most bank lines would represent unreliable claims on whatever cash would be made available through the banking system to support the market. We neither anticipate that such a scenario is likely to develop, nor assume that it never will.

Having inadequate backup liquidity affects both the short- and long-term ratings of the issuer because it could lead to default, which would ultimately pertain to all of the company's debt. Moreover, the need for backup applies to all confidence-sensitive obligations, not just rated commercial paper. Backup for 100% of rated commercial paper is meaningless if other debt maturities—for which there is no backup—coincide with those of the commercial paper. Thus, the scope of backup must extend to euro-denominated commercial paper, master notes, and short-term bank notes.

The standard for industrial and utility issuers has long been 100% coverage of confidence-sensitive paper for all but the strongest credits. Companies rated 'A-1+' can provide 50%-75% coverage. A higher-rated entity is less likely to encounter business reverses of significance and—in the event of a general contraction of the commercial-paper market—the higher-rated credit would be less likely to lose investors. In fact, higher-rated companies could actually be net beneficiaries of a flight to quality.

While the backup requirement relates only to outstanding paper—rather than the entire program authorization—a company should anticipate prospective needs. For example, it may have upcoming maturities of long-term debt that it may want to refinance with commercial paper, which would then call for backup of greater amounts.

Available cash or marketable securities are ideal to provide backup. (Of course, it may be necessary to "haircut" their apparent value to account for potential fluctuation in value or tollgate taxes surrounding a sale. And it is critical that they be immediately saleable.) Yet the vast majority of commercial paper issuers rely on bank facilities for alternative liquidity.

The high standard for back-up liquidity has provided a sense of security to the commercial paper market—even though backup facilities are far from a guarantee that liquidity will, in the end, be available. For example, a company could be denied funds if its banks invoked material adverse change clauses. Alternatively, a company in trouble might draw down its credit line to fund other cash

needs, leaving less-than full coverage of paper outstanding, or issue paper beyond the expiration date of its lines.

In 1999, we introduced a new approach that offers companies greater flexibility regarding the amount of backup they maintain, if they are prepared to match their maturities carefully with available liquidity. The alternative approach differentiated between companies that are rolling over all their commercial paper in just a few days and those that have a cushion by virtue of having placed longer-dated paper. The basic idea was that companies—if and when they lose access to commercial paper—should have sufficient liquidity to cover any paper coming due during the time they would require to arrange additional funding. However, companies encountered practical difficulties in implementing the new approach. Moreover, changes in the banking environment have since made us more leery about a company arranging new facilities when under stress.

Still, notes that come due only 11-12 months from now do not require backup so far in advance. Companies should begin to actively arrange liquidity backup approximately six months prior to maturity. Similarly, 12-month notes that automatically extend their maturity month by month do not require back-up arrangements from day one. They will be able to arrange backup when and if the extensions stop, leaving a full 12 months to do so.

Extendible commercial notes (ECNs) provide built-in backup by allowing the issuer to extend for several months if there is difficulty in rolling over the notes; accordingly, there is no need to provide backup for them—i.e., until the extension is effected. However, there is no way to prevent the issuer from tapping backup facilities intended for other debt and use the funds to repay maturing ECNs, instead of extending. This risk is known as leakage. Accordingly, for issuers that provide 100% backup, unbacked ECNs must not exceed 20% of extant backup for outstanding conventional commercial paper.

All issuers—even if they provide 100% backup—must always ensure that the first few days of upcoming maturities are backed with excess cash or funding facilities that provide

for immediate availability. For example, a bank backup facility that requires two-day notification to draw down will be of no use in repaying paper maturing in the interim. The same would hold true if foreign exchange is needed, and the facility requires a few days to provide it. Moreover, if a company issuing commercial paper in the U.S. were relying on a bank facility in Europe, differences in time zones or bank holidays could prevent availability when needed. Obviously, a bank facility in the U.S. would be equally lacking with respect to maturing euro-denominated commercial paper. So-called swing lines typically equal 15%-20% of the program size to deal with the maximum amount that will mature in any three-to four-day period.

Quality Of Backup Facilities

Banks offer various types of credit facilities that differ widely regarding the degree of the bank's commitment to advance cash under all circumstances. Weaker forms of commitment, while less costly to issuers, provide banks great flexibility to redirect credit at their own discretion. Some lines are little more than an invitation to do business at some future date.

We expect all backup lines to be in place and confirmed in writing. Pre-approved lines or orally committed lines are viewed as insufficient. Specific designation for commercial-paper backup is of little significance.

Contractually committed facilities are desirable. In the U.S., fully documented revolving credits represent such contractual commitments. The weaker the credit the greater the need for more reliable forms of liquidity. As a general guideline, if contractually committed facilities cover 10-15 days' upcoming maturities of outstanding paper, that should suffice.

Even contractual commitments often include "material adverse change" clauses, allowing the bank to withdraw under certain circumstances. While inclusion of such an escape clause weakens the commitment, we do not consider it critical—or realistic—for most borrowers to negotiate removal of "material adverse change" clauses.

In the absence of a contractual commitment, payment for the facility—whether by fee or balances—is important because it gen-

erally creates some degree of moral commitment on the part of the bank. In fact, a solid business relationship is key to whether a bank will stand by its client. Standardized criteria cannot capture or assess the strength of such relationships. We therefore are interested in any evidence—subjective as it may be—that might demonstrate the strength of an issuer's banking relationships. In this respect, the analyst is also mindful of the business cultures in different parts of the world and their impact on banking relationships and commitments.

Dependence on just one or a few banks also is viewed as an unwarranted risk. Apart from the potential that the bank will not have adequate capacity to lend, there is the chance it will not be willing to lend to this issuer. Having several banking relationships diversifies the risk that any bank will lose confidence in this borrower and hesitate to provide funds.

Concentration of banking facilities also tends to increase the dollar amount of an individual bank's participation. As the dollar amount of the exposure becomes large, the bank may be more reluctant to step up to its commitment. In addition, the potential requirement of higher-level authorizations at the bank could create logistical problems with respect to expeditious access to funds for the issuer. On the other hand, a company will not benefit if it spreads its banking business so thinly that it lacks a substantial relationship with any of its banks.

There is no analytical distinction to be made between a 364-day and a 365-day facility. Even multiyear facilities will provide commitment for only a short time as they approach the end of their terms. It obviously is critical that the company arranges for the continuation of its banking facilities well in advance of their lapsing.

It is important to reiterate that even the strongest form of backup—a revolver with no “material adverse change” clause—does not enhance the underlying credit and does not lead to a higher rating than indicated by the company's own creditworthiness. Credit enhancement can be accomplished only through an LOC or another instrument that unconditionally transfers the debt obligation to a higher-rated entity.

Banks providing issuers with facilities for backup liquidity should themselves be sound. Possession of an investment-grade rating indicates sufficient financial strength for the purpose of providing a commercial paper issuer with a reliable source of funding.

There is no requirement that the bank's credit rating equal the CP issuer's rating; nonetheless, we look askance at situations where most of a company's banks were only marginally investment grade. That would indicate an imprudent reliance on banks that might deteriorate to weaker, noninvestment-grade status. ■