ARCHIVE | Criteria | Corporates | Industrials:

Key Credit Factors For The Forest And Paper Products Industry

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(***Editor's Note:*** *This article is no longer current. We have included relevant content in "Guidance: Corporate Methodology," published on July 1, 2019.)*

1. This article presents S&P Global Ratings' methodology and assumptions for its key credit factors for the forest and paper products industry to help market participants better understand these key credit factors. This article is related to our global corporate criteria (see "Corporate Methodology") and to our criteria article "Principles Of Credit Ratings".

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SCOPE OF THE CRITERIA

3. These criteria apply to companies in the forest and paper products industry, globally. The forest and paper products industry includes companies whose primary activity is harvesting timber or converting wood or recycled cellulose fiber into products that are then sold as pulp, paper, paper-based packaging, or converted wood products.

SUMMARY OF THE CRITERIA

4. This article presents S&P Global Ratings' global criteria for analyzing forest and paper products companies, applying its global corporate criteria.

5. We view forest and paper products as a "moderately high risk" industry under our criteria, given its "moderately high risk" cyclicality risk and "moderately high risk" degree of competitive risk and growth. In assessing the competitive position of a forest and paper products company, we put particular emphasis on operating efficiency, the attractiveness of product end markets, and size and scope of operations. In assessing the financial risk profile, we put particular emphasis on analyzing the degree to which a company's cash flow/leverage ratios are anticipated to fluctuate throughout an economic cycle.

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METHODOLOGY

Part I-Business Risk Analysis

Industry risk

8. Within the framework of S&P Global Ratings' global corporate criteria for assessing industry risk, we view forest and paper products as a "moderately high risk" industry (category 4). Our industry risk assessment for forest and paper products is derived from our view of the segment's moderately high risk (4) cyclicality, and our assessment that the industry warrants a "moderately high risk" (4) competitive risk and growth assessment.

9. Forest and paper products industry cyclicality relates primarily to general economic conditions and changes in industry capacity. Demand for forest and paper products fluctuates with changes in general macroeconomic conditions that affect new home construction and home renovation, industrial nondurable goods production, consumer nondurable activity, consumer spending, advertising activity, employment levels and consumer confidence. The length and magnitude of industry cycles also varies over time and by product, but generally reflects changes in overall economic conditions.

10. Price and earnings volatility also results from the timing of machine or mill closures and new capacity additions that can lead to periods of imbalanced supply and demand. Profitability has been and will remain affected by changes in the costs and availability of raw materials, energy, and transportation sources, and the forest and paper products industry has limited ability to pass through those costs increases.

11. The nature of competition and industry conditions can differ significantly among various regions and sub-sectors within the industry (i.e., graphic paper, paper-based packaging, tissue papers, pulp, wood products, and timberlands). Some regions, segments, and end-markets are more attractive than others, based on supply/demand dynamics, price volatility, the degree of market fragmentation, and the competitive landscape. In addition, barriers to entry vary by product and geography. These differences are not reflected in the overall industry risk assessment. However, they may be of critical importance in differentiating the competitive position assessment of companies (see "competitive position" section below).

Cyclicality

12. We assess cyclicality for the forest and paper products industry as "moderately high risk" (4). The industry has demonstrated moderately high cyclicality--relative to other industries--in both revenue and profitability, which are two key measures used to derive an industry's cyclicality assessment (see "Methodology: Industry Risk"). Based on our analysis of global Compustat data, forest and paper products companies experienced an average peak-to-trough (PTT) decline in revenues of about 6% during recessionary periods since 1968. In four of the six recessionary periods, revenue declines were greater than the 6% average, with the steepest decline (16% drop in revenues) occurring during the downturn in 1979-1982. In addition, forest and paper products companies experienced an average PTT decline in EBITDA margin of about 20% during recessionary periods since 1952, with PTT EBITDA margin declines materially exceeding the average in three of the six periods. The largest PTT drop in profitability totaled 42% and also occurred in the 1979-1982 recession.

13. With an average drop in revenues of 6% and an average profitability decline of 20%, forest and paper products' cyclicality assessment calibrates to (4) "moderately high risk." We generally consider that the higher the level of cyclicality in an industry, the higher the credit risk of entities operating in that industry. However, the overall effect of cyclicality on an industry's risk profile may be mitigated or exacerbated by an industry's competitive and growth environment.

Competitive risk and growth

14. We view forest and paper products as warranting a "moderately high risk" (4) competitive risk and growth assessment. To assess competitive risk and growth, we evaluate four sub-factors as low, medium, or high risk. These sub-factors are:

- Effectiveness of industry barriers to entry
- Level and trend of industry profit margins
- Risk of secular change and substitution by products, services, and technologies; and
- Risk in growth trends

Effectiveness of the forest and paper products industry's barriers to entry – Medium Risk

15. Barriers to entry vary by product and geography. Factors contributing to our medium risk assessment overall include:

- Paper and packaging products are essentially commodities and producers are subject to intense price competition with barriers to entry from meaningful product differentiation and brand identity generally difficult to achieve. However, new entrants may be discouraged by the substantial capital investments needed to build new mills and from access to raw materials (such as wood or recycled fiber). In addition, economies of scale are important because larger mills are often more efficient than smaller ones.
- The availability and cost of fiber differs by geographic region and any barriers to entry derived from access to low-cost fiber could be mitigated by higher transportation costs to end markets or customers.
- A high degree of vertical integration creates barriers to entry because incumbents with internal access to raw material (e.g. wood, pulp, and energy) make it difficult for challengers to establish themselves profitably.

Level and trend of forest and paper products industry's profit margins – High Risk

16. The following industry characteristics contribute to our "high risk" assessment:

- The industry has faced and is expected to continue to face a general pressure on profitability.
- Highly competitive industry, with competition based primarily on price (except for certain niche products).
- High volatility among key input costs such as energy, pulp, and transportation costs, with limited possibilities to pass these on to customers in terms of higher prices.

- The industry has a history of boom-and-bust behavior, where supply shortages traditionally trigger capacity expansion and subsequently overcapacity and pricing pressure.
- High substitution risks for graphic paper products leading to structurally declining demand and downward pressure on prices and operating margins.

Risk of secular change and substitution by products, services and technologies– Medium Risk

17. Overall, we assess this factor to be "medium risk", but this risk differs among forest and paper products subsectors with these differences captured in a company's competitive position assessment. The following factors underpin our medium risk assessment:

- Publishing paper products face high substitution risks and long-term demand declines because of shift away from printed to electronic sources.
- Paper-based packaging products face moderate substitution risk from outside the industry. The competitiveness of paper-based packaging compared with other packaging materials depends on the price of wood-based fiber, oil, and chemicals and sustainable changes in these prices can alter the competitive position of these products and increase substitution risks in the long term.
- Tissue paper and hygiene products face no discernible substitution risk from outside the industry and will likely continue to grow with population growth and household consumption levels.

Risk in forest and paper products industry growth trends – High Risk

18. Factors contributing to our high risk assessment include:

- The forest and paper products industry is a mature industry in the North American and Western European markets where organic sales rise by less than 1% or is declining over the medium term.
- Certain segments still rise with GDP, e.g. paper-based packaging in emerging markets, while publishing paper and newsprint is in structural decline in mature markets.

Country risk

19. Country risk plays a critical role in determining all ratings on companies in a given country. Country-related risk factors can have a substantial effect on company creditworthiness, both directly and indirectly. In assessing country risk for a forest and paper products company, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology"). A key factor in our business risk analysis for corporate issuers is the country risk assessment, which includes the broad range of economic, institutional, financial market, and legal risks that arise from doing business in a specific country.

20. We generally determine exposure to country risk using revenues, because this information is consistently available. However this may not capture country risks beyond those affecting demand potential. Therefore if country exposure by EBITDA or assets is available and indicative of a materially different country exposure profile, we may use EBITDA or assets instead. This could be the case, for instance if a company's production footprint is in countries with a higher risk

profile than where it derives its revenue from, and if those assets are not easily movable.

Competitive position (including profitability)

21. Under our general corporate criteria, a company's competitive position is assessed as (1) excellent, (2) strong, (3) satisfactory, (4) fair, (5) weak, or (6) vulnerable. In assessing the competitive position for forest and paper products issuers we review an individual company's:

- Competitive advantage;
- Scale, scope, and diversity;
- Operating efficiency; and
- Profitability.

22. The first three components are independently assessed as either (1) strong, (2) strong/adequate, (3) adequate, (4) adequate/weak, or (5) weak. Profitability is assessed through the combination of two components, the level of profitability and the volatility of profitability.

23. After evaluating separately competitive advantage; scale, scope, and diversity; and operating efficiency, we determine the preliminary competitive position assessment by ascribing a specific weight to each component. The applicable weightings will depend on the company's Competitive Position Group Profile (CPGP).

24. The CPGP assigned to the majority of forest and paper products issuers that we rate is "Commodity focus/cost driven," whereby we weight the first three components of competitive position as follows: competitive advantage (15%); scale, scope, and diversity (35%); and operating efficiency (50%). Competition for most forest and paper products is intense, based on price with meaningful product differentiation and brand identity generally difficult to achieve. The ability to keep prices at competitive levels depends in large part on a company's ability to control costs, operate efficiently, and achieve scale and scope.

25. While brand identity and meaningful product differentiation are generally difficult to achieve, in some cases--such as the tissue papers segment--issuers may be able to build up significant barriers to entry (depending on products and markets) through branding. In these instances, we may assign the "Services and product focus" CPGP. The component weighting for companies assigned the "Services and product focus" CPGP is as follows: competitive advantage (45%); scale, scope and diversity (30%); and operating efficiency (25%).

Competitive advantage

26. In assessing competitive advantage for a forest and paper products company we consider:

- Its business strategy and market position based on market share within attractive product end markets;
- The proportion of revenue or earnings derived from value-added products;
- The existence or lack of barriers to entry within its key segments; and
- Its commitment and ability to sustain re-investment in production assets.

27. When evaluating business strategy and market position we view market share and the relative attractiveness of the end-markets as important factors. Companies with a high market share focused on relatively attractive product markets may achieve better and more stable cash flow

and profitability measures throughout an economic cycle. The assessment of a forest and paper products company's market share is measured by sales or production capacity in the key markets and regions in which it competes. We assess the attractiveness of a company's product mix based upon product-line maturity; growth potential; substitution risks; and the existence, if any, of higher-value rather than commodity-grade products. Relatively more attractive product markets typically exhibit demand growth potential and limited technological displacement and substitution risks. Relatively less attractive product markets are subject to long-term declines, such as for demand for paper in mature markets because of competing technologies or materials.

28. The ability of a forest and paper products company to achieve higher-value products through quality, service, and brand recognition is relatively modest compared with other industry sectors, but in certain instances--such as tissue papers or specialty pulp--may be an important consideration.

29. Barriers to entry result from high capital intensity and high transportation costs relative to value of most forest and paper products. In addition, close proximity to key raw materials, such as wood fiber, or vertical integration can provide a strong barrier to entry.

30. A forest and paper products company with a "strong" or "strong/adequate" competitive advantage assessment is characterized by a combination of:

- A strategy that is well-aligned with industry trends and is expected to result in a sustained leading market share position within relatively attractive product markets;
- A higher-than-average proportion of value-added products and resulting ability to influence pricing;
- Capital investments and proximity and access to low-cost raw materials, energy sources, and customers that result in strong barriers to entry; and
- A demonstrated commitment to reinvesting in its production assets throughout the cycle.

31. A forest and paper products company with a "weak" or "adequate/weak" assessment of its competitive advantage typically is characterized by a combination of:

- A low market share position or a revenue base and/or market share position within key product markets is at risk of a sustained decline;
- A high degree of exposure to product markets facing technological displacement or substitution risks;
- Typically being a price follower;
- Low barriers to entry in its key product segments; and
- An inability to sustain the required investment levels in its production assets throughout the cycle.

Scale, scope, and diversity

32. In evaluating scale, scope, and diversity for a forest and paper products company we include an assessment of:

- The size of its revenue base and unit sales volumes;
- The extent to which a company's cash flows are derived from products or geographic regions that are independent or that have low price correlation;

- The number of producing assets for a company; and
- Customer or supplier concentration may be considered in certain instances.

33. A forest and paper products company's size typically brings competitive advantages from greater breadth and scope of operations and economies of scale, contributing to better profitability.

34. A forest and paper products company with a portfolio of product offerings sold across different geographic regions typically benefits from less volatility in its operating and financial performance due to changes in regional economic prospects and demand or pricing for a particular product. Globally diverse forest and paper products companies with exposure to growing forest and paper products markets in emerging economies are typically better able to mitigate demand risks within mature or declining product markets, such as in North America and Western Europe.

35. Diversity of manufacturing operations is important to the extent that a company with a greater number of producing assets in multiple locations is typically better able to mitigate risks to its operating performance associated with unforeseen or required maintenance shutdowns of its plants or mills.

36. Forest and paper products that have a concentrated customer or supplier base could be susceptible to operational or financial challenges if a key customer or supplier faces its own business or financial challenges. When customer concentration exists, our analysis incorporates an assessment of the financial health of key customers and suppliers. Levels of interdependence between forest and paper products suppliers and customers vary, which could somewhat offset risks associated with a dependence on a few customers. Sole-supplier arrangements with customers are favorable (i.e., long-term wood fiber supply agreements), and product development and proprietary technologies often result in longstanding relationships with customers.

37. A "strong" or "strong/adequate" assessment of scale, scope, and diversity typically is characterized by a combination of:

- Large size relative to peers;
- A broad range of products serving different end-use markets, typically with numerous product offerings subject to different economic cycles and product end-markets across several geographic areas;
- Multiple producing assets;
- No significant unmitigated customer concentration; and
- Raw material supplies that are readily available from multiple sources or secured through long-term arrangements with well-capitalized suppliers.

38. A "weak" or "adequate/weak" assessment of scale, scope, and diversity typically is characterized by a combination of:

- Small size relative to peers;
- A narrow range of product offerings serving a single end-use market;
- Loss of a key customer could result in a significant decline in forecast sales or EBITDA;
- An overreliance on one supplier, that is not easily replaced, for raw materials;
- Locations limited to a small geographic region; and
- A single production facility or a limited number of operating assets.

Operating efficiency

39. Operating efficiency is an important aspect of a forest and paper products company's competitive position, because most forest and paper products are commodities and the price of a commodity is determined in the long run by cost levels of the most efficient producers. A high degree of operating efficiency achieved by minimizing manufacturing and other operational costs typically result in better relative profitability and cash flow over the course of the business cycle.

40. To assess operating efficiency we evaluate:

- Age, size, and location of production assets;
- Degree of access to raw materials and energy supplies at a competitive cost;
- Degree of vertical integration; and
- Flexibility of labor costs;

41. Age, size, and location of production assets: newer and larger machines can be more efficient, with lower energy costs and lower staff levels per production units. Locations closer to customers have lower logistical costs, but this needs to be balanced with labor cost flexibility and energy and fiber supply costs.

42. Degree of access to raw materials and energy supplies at a competitive cost: Because fiber costs are a meaningful component of total operating costs for most paper, paper-based packaging, tissue papers, and wood products manufacturers, access to low-cost fiber is a competitive strength. Energy-cost advantages come from favorable market or contract conditions in specific countries or regions, by integrated pulp and paper or tissue production that is generally more energy and cost efficient than stand-alone production, or direct ownership of energy generation. The ability to hedge costs can also be a competitive advantage.

43. Degree of vertical integration: vertical integration, while capital-intensive, provides the benefit of sourcing a company's own raw materials (wood fiber, recycled fiber, and pulp) or energy at a production cost, rather than paying a supplier the cost of production, logistics, and the applicable margin. A high degree of forward integration into converted and finished products, such as a containerboard manufacturer also producing boxes, is usually positive because box prices are higher and more stable than containerboard prices, and the manufacturer is less exposed to volatile open-market sales.

44. Flexibility of labor costs: Labor legislation and agreements can directly affect operational set-ups and cost flexibility. This can include relations with unions, because a good relationship between a company and its workforce can minimize the risk of costly strikes.

45. A "strong" or "strong/adequate" assessment of operating efficiency is characterized by a combination of:

- Low-cost production assets, measured relative to peers;
- Demonstrated ability to achieve cost-reductions and manage fixed and variable costs in cyclical downturns;
- Vertically integrated operations as determined by a high degree of self-sufficiency the company has regarding its key input costs;
- A relatively flexible labor cost structure compared to peers; and
- Greater-than-industry average EBITDA margins, measured relative to peers in similar product markets.

46. A "weak" or "adequate/weak" assessment of operating efficiency is characterized by a combination of:

- High-cost production assets, measured relative to peers;
- Limited ability to pass along increases in raw materials and energy input costs;
- A substantial portion of raw materials and energy needs are met via third-party providers;
- A labor cost structure that is less flexible than its peers; and
- Lower-than-industry average EBITDA margins, measured relative to peers in similar product markets.

Profitability

47. The profitability assessment can confirm or modify the preliminary competitive position assessment. The profitability assessment consists of two components 1) the level of profitability and 2) the volatility of profitability. The two components are combined into the final profitability assessment using a matrix (see global corporate criteria).

Level of profitability

48. The level of profitability is determined on a three point scale: "above average", "average," and "below average".

49. We use EBITDA margin as the primary indicator of a forest and paper products company's level of profitability, based on the thresholds identified in Table 1.

Table 1

EBITDA Margin: Primary Measure (%)

	Below average	Average	Above average
EBITDA margin	<11	11 to 19	>19

50. We use return on capital (ROC) as a supplementary indicator to refine our assessment when EBITDA margin is close to the thresholds for "below average" or "above average" based on the thresholds identified in Table 2.

Table 2

Return On Capital: Secondary Measure (%)

	Below average	Average	Above average
Return on capital	<5	5 to 12	>12

51. For instance, if a company's EBITDA margin is at the high end of the defined range for "average" but its return on capital is comfortably in the "above average" range, we may assess its level of profitability "above average". In accordance with our corporate methodology, for this assessment we typically determine the five-year average EBITDA margin and ROC using the past two years of historical data, and our forecast for the current year and for the subsequent two years; we may put more emphasis on forecast years if historical data is not believed to be representative, or to take into account deteriorating or improving profiles where prospective ratios meaningfully differ

from average ratios.

Volatility of profitability

52. The volatility of profitability is determined on a six-point scale, from '1' (least volatile) to '6' (most volatile).

53. In accordance with our corporate methodology, we generally determine the volatility of profitability assessment using the standard error of regression (SER), subject to having at least seven years of historical annual data. We generally use nominal EBITDA as the metric to determine the SER for forest and paper products companies, although we may also use EBITDA margin or ROC. In accordance with the global corporate criteria, we may--subject to certain conditions being met--adjust the SER assessment by up to two categories better (less volatile) or worse (more volatile). If we do not have sufficient historical information to determine the SER, we follow the general corporate criteria guidelines to determine the volatility of profitability assessment.

54. Across the forest and paper products subsectors, volatility of profitability is generally highest for wood products-focused companies and lowest for timberland operators and paper-based packaging companies.

Part II-Financial Risk Analysis

Accounting and analytical adjustments

55. Our analysis of a company's financial statements begins with a review of the accounting to determine whether the statements accurately measure a company's performance and position relative to its peers and the larger universe of corporate entities. To allow for globally consistent and comparable financial analyses, our rating analysis may include quantitative adjustments to a company's reported results. These adjustments also enable better alignment of a company's reported figures with our view of underlying economic conditions. Moreover, they allow a more accurate portrayal of a company's ongoing business. Adjustments that pertain broadly to all corporate sectors, including these sectors, are discussed in "Corporate Methodology: Ratios And Adjustments".

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Cash flow/leverage analysis

59. In assessing the cash flow adequacy of a forest and paper products issuer, our analysis uses the same methodology as with other corporate issuers (see global corporate criteria). Cash flow/leverage is assessed on a six point scale--ranging from (1) minimal to (6) highly leveraged--by aggregating the assessments of a range of credit ratios, predominantly cash flow based, which complement each other by focusing attention on the different levels of a company's cash flow in relation to its obligations.

60. We expect pulp, paper, and wood products producers to experience a high degree of cash flow volatility over an economic cycle. For those companies, we typically adjust cash flow/leverage

assessments by up to two categories worse at estimated cyclical peaks to account for expected volatility.

Core ratios

61. For each company, we determine in accordance with S&P Global Ratings' ratios and adjustment criteria, two core debt payback ratios: FFO to debt and debt to EBITDA.

Supplemental ratios

62. In addition to our analysis of a company's core ratios, we also consider supplemental ratios in order to develop a fuller understanding of a company's credit risk profile and refine our cash flow analysis in accordance with the global corporate criteria. For forest and paper products companies:

- We typically use free operating cash flow (FOCF) to debt or cash flow from operations (CFO) to debt as a supplemental ratio when the cash flow and leverage assessment indicated by the core ratios is intermediate or stronger. When divergences between FOCF to debt and CFO to debt occur, we may rely on CFO to debt if we believe there is discretion about the timing or size of company's forecast capital expenditures or working capital growth.
- We typically use debt service coverage ratios (EBITDA to interest or FFO plus interest to cash interest) when the preliminary cash flow and leverage assessment indicated by the core ratios is significant or weaker.

63. In the case of timber REITs, we use debt-to-debt-plus-equity as the preferred supplemental ratio. The benchmarks for debt-to-debt-plus-equity (adjusted for the market value of timberlands where applicable) are shown in the table below.

Table 3

Supplemental Ratios--Timber REITs

	Debt/Debt + Equity (%)*
1. Minimal	Less than 25
2. Modest	25-35
3. Intermediate	35-45
4. Significant	45-50
5. Aggressive	50-60
6. Highly leveraged	Greater than 60

*Adjusted for the market value of timberland where applicable

Part III-Rating Modifiers

Diversification/portfolio effect

64. In assessing the diversification/portfolio effect on a forest and paper products company, our analysis uses the same methodology as with other corporate issuers (see global corporate

criteria), i.e., reserving potential diversification benefit to companies whose portfolio spans different industries as defined by our industry classification.

Capital structure

65. In assessing a forest and paper products company's capital structure, our analysis uses the same general methodology as with other corporate issuers (see global corporate criteria).

Financial policy

66. In assessing financial policy on a forest and paper products company, our analysis uses the same methodology as with other corporate issuers (see global corporate criteria).

Liquidity

67. In assessing the liquidity of a forest and paper products company, our analysis uses the same general methodology as with other corporate issuers (see global corporate criteria and "Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers," published Dec. 16, 2014).

Management and governance

68. In assessing management and governance on a forest and paper products company, our analysis uses the same methodology as with other corporate issuers (see global corporate criteria and "Methodology: Management And Governance Credit Factors For Corporate Entities").

Comparable ratings analysis

69. In assessing the comparable ratings analysis on a forest and paper products company, our analysis uses the same methodology as with other corporate issuers (see global corporate criteria).

REVISIONS AND UPDATES

This article was originally published on Feb. 12, 2014. These criteria became effective on Feb. 12, 2014.

Changes introduced after original publication:

- Following our periodic review completed on Feb. 17, 2016, we updated the contact information and criteria references and deleted paragraphs 2, 6, and 7, which were related to the initial publication of our criteria and no longer relevant.
- Following our periodic review completed on Feb. 16, 2017, we updated the contact information.
- Following our periodic review completed on Feb. 16, 2018, we updated the contact information and a criteria reference. We also changed "Appendix: Revision History" to the "Revisions And Updates" section.
- On April 1, 2019, we republished this criteria article to make nonmaterial changes. Specifically, we deleted paragraphs 56-58 because they were superseded by "Corporate Methodology:

Ratios And Adjustments," published on April 1, 2019 (Ratios and Adjustments). The sector-specific accounting and analytical adjustments previously included in those paragraphs are now included in the Guidance supporting the Ratios and Adjustments criteria. In addition, we updated criteria references and the contacts list.

- On April 10, 2019, we republished this criteria article to make nonmaterial changes to update the contact information.
- On April 9, 2020, we republished this criteria article to make nonmaterial changes to update the title of a criteria reference.

RELATED PUBLICATIONS

Superseded Criteria

- Key Credit Factors: Criteria For Rating Companies In The Global Forest Products Industry, Jan. 14, 2013

Related Criteria

- Corporate Methodology: Ratios And Adjustments, April 1, 2019
- Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Corporate Methodology, Nov. 19, 2013
- Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Methodology: Industry Risk, Nov. 19, 2013
- Methodology: Management And Governance Credit Factors For Corporate Entities, Nov. 13, 2012
- Principles Of Credit Ratings, Feb. 16, 2011

Related Research

- Guidance: Corporate Methodology: Ratios And Adjustments, April 1, 2019

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