

ARCHIVE | Criteria | Corporates | Industrials:

Key Credit Factors For The Health Care Equipment Industry

November 19, 2013

(Editor's Note: This article is no longer current.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 describes S&P Global Ratings' methodology and assumptions for rating health care equipment companies. This article aims to help market participants better understand the key credit factors in this industry. These criteria are related to our criteria article "Principles Of Credit Ratings," published on Feb. 16, 2011, as well as our corporate criteria (see "Corporate Methodology," published Nov. 19, 2013).

SCOPE OF THE CRITERIA

2. These criteria apply to ratings on issuers in the global health care equipment industry: companies that develop, manufacture, and market medical, surgical and dental devices and instruments, including consumable items, implantable devices, conventional supplies (e.g., gowns, gloves, bandages, syringes) and capital equipment used by health care providers; contract manufacturers of health care equipment; life science companies that develop, manufacture, and market laboratory equipment, instruments, reagents, and diagnostic tests. These criteria do not apply to companies that are primarily distributors of health care equipment and supplies manufactured by others (see "Key Credit Factors For The Business And Consumer Services Industry," published Nov. 19, 2013).

SUMMARY OF CRITERIA UPDATE

3. This article describes our criteria for analyzing health care equipment companies, applying our new corporate criteria. We view health care equipment as a "low risk" industry under our criteria, given its "low" cyclical and "low" degree of competitive risk and growth environment.
4. In assessing the competitive position of a health care equipment company we put particular emphasis on: its product and geographic diversity; dynamics of the subsector in which it competes (size, growth prospects, economic cyclical, breadth); and its market share and scale. Operating efficiency is typically of lesser importance.
5. We usually use the ratio of debt to EBITDA as the primary core ratio of cash flow leverage for health care equipment companies. We also use the funds from operations (FFO) to debt cash flow ratio, and as a supplementary ratio the EBITDA interest coverage measure.

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METHODOLOGY

Part I--Business Risk Analysis

Industry risk

8. Within the framework of S&P Global Ratings' corporate criteria for assessing industry risk, we view health care equipment as a low risk industry (category 2). We derive this industry risk assessment from our view of the industry's low (category 2) cyclicality, and our assessment that the industry warrants a low risk (category 2) assessment for competitive risk and growth.

Cyclicality assessment

9. We assess cyclicality for health care equipment companies as low risk (category 2). Historical data supports this view, showing very low cyclicality of revenues and low cyclicality of profitability, which are the two key measures used to derive an industry's cyclicality assessment. Based on our analysis of global Compustat data, health care equipment companies experienced an average peak-to-trough (PTT) decline in revenues of only 0.8% during recessionary periods since World War II, and a PTT decline of 1.5% during the severe 2007-2009 recession. The EBITDA margin of health care equipment companies experienced an average PTT decline of 3.3% during the more comprehensive post-World War II period, and a modest decline of 1.8% in the 2007-2009 recession.
10. Demand for health care equipment is somewhat shielded from general macroeconomic cycles because disease occurrence and prevalence (in developed countries) do not vary with the economy. Government-paid or provided health care provides a large safety net, though benefits are often pared when government budgets are strained. Changes in government spending on health care tend to lag changes in GDP. For example, current austerity measures in some European countries continue to restrain sales of medical devices. In the U.S., there is modest sensitivity to the employment rate, in part, because lack of a job may mean lack of health insurance. Routine check-ups and elective procedures may be deferred for economic reasons.
11. Volatility in revenues and profitability of health care equipment companies can be more affected by changes in reimbursement rates paid by government or commercial insurers to health care providers (or procedures covered) than broad macroeconomic conditions. In the U.S., medical devices are generally exposed to indirect reimbursement risk, because hospitals are reimbursed per procedure from insurers, not by the cost of the individual devices.
12. Within the broad health care equipment industry there are small differences in cyclicality, which affect our analysis of companies' credit quality (discussed below in Competitive Position). Products used in aesthetic procedures, often not covered by third-party payors, exhibit more cyclicality. Sales of capital equipment tend to be more cyclical than sales of single-use consumables. Demand for life sciences products overall is modestly cyclical, with generally stable sales to the pharmaceutical industry (for research and development [R&D]), the food industry, and for environmental protection, balanced by more cyclical sales to academic institutions for government-funded research.

13. We generally consider that the higher the level of profitability 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 assessment

14. We view health care equipment as warranting a low (category 2) competitive risk and growth assessment. To evaluate competitive risk and growth, we assess four subfactors as low, medium, or high risk. These subfactors 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 health care equipment industry's barriers to entry--Low Risk

15. For health care equipment we characterize as high-tech (such as pacemakers and diagnostic imaging machines), barriers to entry are relatively high. Substantial costs, time, R&D capabilities, and expertise are required to develop and commercialize new high tech medical devices. Patents provide meaningful barriers to entry.
16. Product development resources and patents play a lesser role for low-tech products (such as standard catheters and diabetic test strips), for which there are typically more competitors.
17. Regulatory approval of health care equipment is required in nearly all countries, although rigor varies by country. A product's efficacy and safety must be demonstrated. Extensive relationships with doctors are required to develop and market some products, and physician training may be necessary, contributing to entry barriers and customer loyalty.
18. Governments mandate high quality standards for manufacturing health care equipment, which limits competition. Manufacturing standards and necessary certifications provide barriers to entry for contract manufacturers when contracts are awarded, and deter customers from switching contractors when production is underway.

Level and trend of health care equipment industry profit margins--Medium Risk

19. The health care equipment industry overall has had relatively high and stable profit margins, but we believe several trends will continue to pressure margins, most notably indirect reimbursement risk in the United States. Government and private third-party payors are striving to reduce payments to health care providers and consumers, which in turn drives down prices providers pay for health care equipment. In single-payor countries, government-run tender processes dampen margins of health care equipment companies and can impede market access for novel or costly products. We expect Medicare's competitive bidding process in the U.S., which is still fairly limited but increasing, to cut prices and constrict profit margins. This is a greater risk for low-tech products. Cost-conscious administrators at hospitals and integrated delivery networks increasingly make purchase decisions previously made by doctors, which pressures prices and could hinder adoption of new products. In response, we expect health care equipment producers

to offset price cuts with cost reductions in order to preserve healthy profit margins.

20. Historically, there was not material push-back from hospitals to secure price reductions on medical devices, and surgeons had been given significant latitude on the use of their preferred products. However, over the past few years, increased focus on reducing health care costs in the U.S. and abroad has resulted in relatively flat or negative pricing trends. In addition, rising health care costs and simultaneous limitations on government spending owing to austerity measures are adversely affecting the European health care industry. Lower expected government health care spending in Europe over the next few years will limit pricing through tougher negotiation from hospitals and more stringent reimbursement policies.
21. Despite these general trends, we believe high tech products that demonstrate superior clinical usefulness can command premium prices and enjoy very high margins. We also expect life science companies will continue to generate a substantial portion of their sales from high-margin consumables.
22. Health care equipment companies are more commonly affected by risks associated with patent litigation and product liability than companies in most other industries. Profits may be hurt by the loss of patent protection, costs of patent litigation, and penalties for patent infringement. Product liability claims give rise to litigation costs and potentially to settlement payments and damage to a company's reputation with customers, which can result in lost sales and market share.

Risk of secular change and substitution of health care equipment by products, services and technologies --Low Risk

23. Specific products are typically replaced or superseded by others, often at an evolutionary pace, either by the same producer or another health care equipment company. Lifecycles of cardiovascular products tend to be shorter than for orthopedic devices.
24. There is minimal risk of substitution from other industries. However, medical devices can face competition from other health care solutions. For example, pharmaceuticals may be used to treat certain diseases, rather than implanting more expensive medical devices.

Risk in health care equipment industry growth trends--Low Risk

25. The health care equipment industry is well established and we expect its sales to grow at or above the rate of GDP growth, over the medium term. Growth is spurred by innovation, new diagnostic techniques, and new treatments for diseases or conditions that were previously undetected or treated less effectively. Similar trends in the pharmaceutical industry, a key end market for life science products, supports growth for life science companies. A gradual trend to outsource manufacturing enhances growth prospects for contract manufacturers.
26. Health care equipment growth also benefits from favorable demographic and economic trends. In developed economies, long-term demand is fueled by the growing number of older people and increased prevalence and diagnosis of diabetes and hypertension. A growing middle class aids growth in developing economies, which account for an increasingly significant portion of global health care equipment sales. Equipment companies may need to develop "value" products to expand in these markets, given lower price points. Positive global trends are somewhat offset by utilization controls imposed by government and other third-party payors in developed markets, which can hinder growth of newer or expensive devices.

Country risk

27. Country risk plays a critical role in determining all ratings on companies in a given country. Country-related risk factors can substantially affect company creditworthiness, both directly and indirectly. Although our sovereign credit ratings suggest the general risk local entities face, the sovereign ratings may not fully capture the risk applicable to private industry. We look beyond the sovereign rating to evaluate the specific economic, demographic, and other country risks that may affect the entity's creditworthiness. In assessing country risk for a health care equipment company, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology"). We primarily measure a company's exposure to country risk based on the percent of its revenues generated in each significant country or region, unless the percent of EBITDA is available, in which case, we use the percent of EBITDA.

Competitive position (including profitability)

28. Under our 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 of health care equipment companies we review an individual company's
- Competitive advantage;
 - Scale, scope and diversity;
 - Operating efficiency; and
 - Profitability.
29. 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 level of profitability and the volatility of profitability. After assessing 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).
30. The CPGP generally assigned to makers of high-tech health care equipment is "Product Focus/Scale Driven" reflecting the importance of product and geographic diversity, as well as the market positions of participants. A company's cost structure, working capital management, and other aspects of operating efficiency are typically secondary considerations for these companies, and this CPGP gives a relatively low weight to operating efficiency. While product quality and customer relationships are important to health care equipment companies, they typically compete with a moderate number of major industry participants for sales to hospitals and other health care facilities. Purchases are largely driven by physician preferences. Thus, branding and competitive advantage are afforded less weight relative to companies assessed under the "Services and Product Focus" CPGP. However, in some cases, we may use this CPGP for manufacturers of products that are purchased directly by consumers for which a brand name and product differentiation are important (for example, a contact lens manufacturer).
31. The CPGP generally assigned to makers of low tech health care equipment is "Commodity Focus/Scale Driven" because product differentiation is minimal and competition is often based on price. These commodity-like products are actually or potentially produced by many firms because entry barriers are relatively low. Therefore, we give more weight to operating efficiency. We also use this CPGP for contract manufacturers, for which scale, scope, diversity, and operating efficiency are more important than competitive advantage.

32. Companies in the health care equipment industry span a range of technology sophistication, from patent-protected, high-technology-intensive products, to more generic, commodity-like products. High-tech products are complex to design and produce, and are often protected by patents. Producers generally employ cutting-edge science to address highly specific therapeutic and diagnostic applications. This subsector benefits from high barriers to entry (both technological and regulatory) and has better pricing flexibility than conventional supplies. Items in this category include technologically advanced products that often command premium prices and attractive margins if they demonstrate clinical utility, and benefit from limited competition. Implantable cardiovascular and orthopedic devices, and some surgical instruments, fall into this category. Products of conventional supply companies--a very small portion of our rated universe--have little technological differentiation. Items such as kits, trays, gloves, gowns, and syringes typically are commodities that are highly price-sensitive, comparatively easy to manufacture, and often sold in large volumes. This business generally features low barriers to entry, intense competition, and lower margins.
33. A company's preliminary competitive position assessment is derived from three components, and weighted according to the CPGP as shown below.

Table 1

Competitive Position Components

	Product Focus/Scale Driven	Services and Product Focus	Commodity Focus/Scale Driven
Competitive advantage	35%	45%	10%
Scale, scope and diversity	50%	30%	55%
Operating efficiency	15%	25%	35%
Total	100%	100%	100%

Competitive advantage

34. When we analyze the competitive advantage of a company in the health care equipment industry, we generally focus on the size and nature of the market in which it competes, the bases of competition, and the ways it distinguishes itself from competitors.
35. A health care equipment company with a strong or strong/adequate competitive advantage assessment typically has some of the following characteristics:
- It participates in a sizable global market (subsector) that has an established position;
 - The market (subsector) is growing at an above-average rate;
 - Its products have a relatively high medical necessity, and are therefore recession-resistant;
 - Its products are positively differentiated with proven benefits (e.g., higher treatment rates, fewer adverse events, faster or less invasive treatment), have more sophisticated and superior technology than competing products, and have favorable brand recognition;
 - Complex technology and patents deter competition; nearly all sales are in countries with strong patent protection laws (more relevant for high-tech products);
 - The company has a steady stream of new or enhanced products and a robust new product pipeline; new products typically command higher prices than aging products, in addition to sustaining or improving a company's competitive position;
 - Products engender a high degree of customer loyalty (for example, consumers are reluctant to

switch contact lens brands and physicians are reluctant to switch orthopedic implants and the related surgical tools with which they have had good experience);

- Consumables, especially those used with proprietary products, account for a significant percent of sales;
- Its R&D spending (absolute and as a percent of revenue) is at least comparable to peers'; the company's R&D strategy is consistent with its capabilities and market conditions, and it is willing and able to buy desired technology;
- The company uses direct distribution channels in local and key foreign markets, and its sales force has a strong relationship with customers; and
- Special manufacturing expertise gives a competitive advantage to a contract manufacturer.

36. A health care equipment company with a weak or adequate/weak assessment of its competitive advantage has some of the following characteristics:

- It operates in a mature market (subsector) with stagnant or declining prospects; faltering consumer demand;
- It is more sensitive to economic conditions than the overall industry; products are used in discretionary procedures, have relatively low medical necessity of use; or the company produces costly capital equipment;
- It participates in a fragmented market (subsector) with many competitors;
- It participates in a young and unproven market;
- It participates in a small market;
- It operates in commodity-like markets; products are low-tech and not differentiated, and volume and market share are potentially volatile;
- Its products are vulnerable to substitution (from within or outside the industry);
- Its products are subject to rapid obsolescence and the company is likely to fall behind technologically;
- Purchase decisions for its products are made by hospital administrators;
- Its R&D spending is low relative to peers' (absolute and as a percent of revenue); its R&D efforts are overly ambitious, spread too thin, or inadequate;
- Sparse product pipeline creates a lack of future growth drivers;
- Reputation and sales have been hurt by a history of material or repeated product recalls, regulatory sanctions for marketing practices, or manufacturing problems;
- The company sells a significant percent of its products through distributors in its home market; and
- The company lacks clout with distributors, physicians, and hospitals.

37. Contract manufacturers generally have a weak or adequate/weak competitive advantage because this market is extremely fragmented, highly competitive, and price-sensitive. These market dynamics give much more bargaining power to health care equipment companies that outsource manufacturing relative to the contract manufacturers.

Scale, scope, and diversity

38. Our assessment of a health care equipment company's scale and scope focuses on its market position relative to competitors'. We analyze diversity by number of product categories and lines, medical specialty and end use, and geography. Product diversity reduces exposure to recalls and permanent product withdrawals, new competition, patent challenges, recognition of adverse side-effects or events, and manufacturing problems. Diversity of end uses reduces exposure to changing therapeutic techniques. Geographic diversity can reduce profit declines that may result from unfavorable economic, reimbursement, regulatory or other developments in a specific country or region. We believe diversity is generally more important than scale and scope.
39. In determining a medical device company's market share and scale, we assess:
 - The company's market share and performance relative to the market;
 - Market share stability, i.e., the reliability of sales and customer loyalty;
 - The number and strength of competitors, and their respective market shares; and
 - The scale or size of the company (generally defined by revenues).
40. Our analysis of market share and scale considers a company's absolute market share, and the respective market shares of its competitors. Markets may not be clearly defined: medical devices can sometimes compete head-on with pharmaceuticals for treatment of a particular medical condition.
41. We typically view more favorably companies that are gaining market share. Many factors can drive market share improvement. A first-mover advantage can establish a leading market position and customer loyalty. Certain products sold directly to consumers can have historically low switching patterns (e.g., contact lenses). Low switching patterns can also be a by-product of device complexity and physician training, as with many orthopedic implants and ancillary surgical tools. We view less favorably companies with lower-technology, commodity-like products or those operating in more fragmented and competitive markets, which are at greater risk for losing market share. For these markets, price can have a greater influence on sales. In many countries with single-payor government systems, tenders are often put out for product purchases, and price is a key factor in contract awards.
42. The market positions of companies with larger revenue bases are viewed favorably. Greater scale provides resources to develop new products (and maintain a robust product pipeline), and to conduct clinical trials to establish product efficacy and superiority. Scale also means greater resources to discover and acquire cutting-edge technologies. Given the high fixed costs for medical device manufacturers, economies of scale can lead to higher margins and act as an offset to pricing pressures. In addition, a small revenue base can limit a company's ability to invest in R&D, sales force, information technology (IT), and other avenues to expand the business, so is viewed unfavorably.
43. A health care equipment company that warrants a strong or strong/adequate assessment of scale, scope and diversity has some of the following characteristics:
 - Its products have varied end uses in multiple medical specialties; multiple physician call points; life sciences products are sold to diverse end markets (e.g., pharmaceuticals, education, health care, energy, chemicals, food, etc.);
 - A broad range of specific products within each category or line;
 - Its sales are balanced between the large U.S. and other markets; it participates in favorable

emerging markets, with no concentration in one country;

- Within its subsector(s), it has a leading market share with few formidable competitors;
- It has a growing or stable market share; and
- It is large relative to competitors, better able to develop new products, with economies of scale in manufacturing and marketing.

44. A health care equipment company warranting a weak or adequate/weak assessment of scale, scope, and diversity has some of the following characteristics:

- It offers a single product or narrow product line; this is especially relevant for contract manufacturers;
- It has a narrow end user or customer base, or a single medical specialty;
- It's a life science company reliant on sales to governments or entities dependent on government funding;
- It competes against larger more dominant players with greater resources;
- All sales are in one country, or concentrated in a small region;
- Its market share is declining; and
- It has a small revenue base and limited resources for R&D, sales force, IT, etc.

45. We incorporate the factors discussed above in our view of scale, scope, and diversity of contract manufacturers. In addition, these companies are especially exposed to risks of customer and product concentration. A customer could cancel production of a product, and select a different contract manufacturer for the next-generation product or choose to manufacture it in-house. There is also a low-probability risk that the customer would shift production of a current product or sever its relationship with a specific contract manufacturer, perhaps in the wake of quality problems or as a result of the customer's financial distress. We evaluate this exposure as follows.

46. A contract manufacturer with strong or strong/adequate customer and product diversity has the following characteristics:

- Its top customer or product accounts for less than 10% of revenue;
- Its top ten customers or products account for less than 50% of revenue; and
- Nearly all of the 25 largest health care equipment companies are clients.

47. A contract manufacturer with weak or adequate/weak customer and product diversity has the following characteristics:

- One customer or product accounts for 30% or more of revenue; or
- Its top five customers or products account for 80% or more of revenue.

Operating efficiency

48. A health care equipment company with strong or strong/adequate operating efficiency has the following characteristics:

- Its superior cost position or ability to pass through cost increases contributes to profit margins or returns on capital that are better than peers' in the same subsector (comparing high-tech to

high-tech, low-tech to low-tech, contract manufacturers to contract manufacturers, life science to life science); improving profitability;

- Its margins are fairly stable even when revenues fall or growth slows;
- It is skilled in navigating patent and regulatory approval processes;
- It has multiple manufacturing and distribution facilities; and
- It has good working capital management, measured, in part, by inventory turnover and receivables days' sales outstanding (DSOs) better than industry (subsector and national) norms.

49. A health care equipment company with adequate operating efficiency has the following characteristics:

- Its profit margins or returns on capital are comparable to peers' in the same subsector (compare high-tech to high-tech, low-tech to low-tech, contract manufacturers to contract manufacturers, life science to life science); fairly stable profitability;
- Only moderate margin slippage when revenues fall or growth slows; and
- Sound working capital management, such that inventory turnover and receivables DSOs are similar to norms.

50. A health care equipment company with weak or adequate/weak operating efficiency has some of the following characteristics:

- Its high cost structure or inability to pass through cost increases contributes to profit margins or returns on capital that are below peers' in same subsector (compare high-tech to high-tech, low-tech to low-tech, contract manufacturers to contract manufacturers, life science to life science); declining profitability;
- A pronounced decline in profitability when revenues fall or growth slows;
- Reliance on one or a few manufacturing facilities (including those of suppliers), or dependent on problematic supplier(s);
- Limited experience or a poor track record in the patenting or regulatory approval processes;
- History of material or repeated quality problems; regulatory sanctions for marketing practices or manufacturing problems; product recalls; inability to quickly remedy problems;
- Excess physical capacity or constrained capacity (especially relevant for contract manufacturers); excess staffing (R&D, sales and marketing, etc.); and
- Poor working capital management; inventory turnover or receivables DSOs worse than norms.

Profitability

51. The profitability assessment can confirm or modify the preliminary competitive position assessment. The profitability assessment consists of the level and the volatility of profitability. The two components are combined into the final profitability assessment using a matrix (see our corporate criteria). To assess volatility, we require several years of historical data. In cases in which we do not have such historical data, we may perform the volatility assessment based on peer analysis. The EBITDA margin is the primary metric that we use to evaluate profitability for health care equipment companies.

Level of profitability

52. The level of profitability is determined on a three-point scale: above average, average, and below average. We use the EBITDA margin (adjusted for nonrecurring items) to indicate the level of profitability because it is indifferent to the mix of debt and equity in the capital structure and it is not distorted by acquisitions that are common in the industry and leveraged buyouts. Consistent with the corporate criteria, we generally use two years of historical and three years of projected data. We use the guidelines shown below to classify the level of profitability for a health care equipment company.

Table 2

Level Of Profitability

EBITDA Margin	
Above average	Greater than 35%
Average	22% to 35%
Below average	Less than 22%

53. Those measures are derived from the full range of rated health care equipment companies. There are meaningful differences among subsectors (producers of high-tech products have higher margins than producers of prosaic products; life science companies generally have lower margins than makers of other health care equipment; and contract manufacturers have relatively low margins). Therefore, a typical maker of low-tech products or a contract manufacturer is likely to merit a below average assessment for the level of profitability.

Volatility of Profitability

54. Volatility of profitability is determined using the standard error of the regression (SER) in accordance with our corporate criteria. The EBITDA margin is the metric we use to determine the SER for health care equipment companies because this measure tends to be less affected by merger and acquisition activity than absolute EBITDA or return on capital. We only determine the SER when companies have at least seven years of historical annual data to ensure the results are more meaningful.

Part II-Financial Risk Analysis

Accounting And Analytical Adjustments

55. In assessing the accounting characteristics of health care equipment companies, the analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology"). Our analysis of a company's financial statements begins with a review of its 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 this sector, are discussed in "Corporate Methodology: Ratios And Adjustments," published April 1, 2019.

56. The most significant adjustments we employ for health care equipment companies are for pensions and other postretirement benefits, operating leases, and the sale of receivables. We also net "accessible cash" against debt. Some companies in this industry carry sizable balances of cash or other liquid investments.

Cash flow/leverage analysis

57. In assessing the cash flow adequacy of a health care equipment company, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology"). Cash flow/leverage analysis is assessed on a six point scale ranging from (1) minimal to (6) highly leveraged. These assessments are determined 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 waterfall in relation to its obligations.

Core ratios

58. For each company, we determine (in accordance with our Ratios and Adjustment criteria) two core credit ratios: FFO to debt and debt to EBITDA. We usually use debt to EBITDA as the primary leverage measure for health care equipment companies.

Supplemental ratios

59. 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 fine tune our cash flow analysis. Among the five supplemental cash flow and leverage ratios, we place somewhat more emphasis on EBITDA interest coverage if the preliminary cash flow and leverage assessment indicated by the core ratios is "significant" or weaker. FFO plus interest to cash interest coverage and EBITDA interest coverage are especially important when the company has payment-in-kind (PIK) debt, PIK preferred stock, or low-coupon convertible debt. These coverage ratios recognize the lack of or low mandatory cash expense on an ongoing basis.
60. We use the supplemental debt pay-back ratios (cash flow from operations to debt, free operating cash flow to debt, and discretionary cash flow to debt) infrequently. These measures usually do not provide additional insight, in part, because health care equipment companies generally have moderate fixed and working capital requirements relative to all other industries.

Benchmark volatility table

61. For health care equipment companies with a Corporate Industry and Country Risk Assessment (CICRA) of '2' or worse, we use the "standard volatility" table for cash flow and leverage benchmarks because we expect them to exhibit normal, rather than low, volatility.
62. Cash flow and leverage measures of health care equipment companies are relatively stable during periods of stress, and therefore we do not make an additional adjustment for high or very high volatility.

Part III--Rating Modifiers

Diversification/portfolio effect

63. In assessing the diversification/portfolio effect on a health care equipment company, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

Capital structure

64. In assessing a health care equipment company's capital structure, we use the same methodology as with other corporate issuers (see "Corporate Methodology").

Liquidity

65. In assessing the liquidity of a health care equipment company, our analysis uses the same general methodology as with other corporate issuers (see "Corporate Methodology").

Financial policy

66. In assessing financial policy of a health care equipment company, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

Management and governance

67. In assessing management and governance of a health care equipment company, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

Comparable ratings analysis

68. In assessing the comparable ratings analysis of a health care equipment company, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

REVISIONS AND UPDATES

This article was originally published on Nov. 19, 2013. These criteria became effective on Nov. 19, 2013.

Changes introduced after original publication:

- Following our periodic review completed on April 15, 2016, we updated the contact information, updated criteria references, and deleted paragraphs 6 and 7, which were related to the initial publication of our criteria and no longer relevant.
- Following our periodic review completed on April 11, 2018, we updated the contact list.
- On May 17, 2019, we republished this criteria article to make nonmaterial changes to update criteria references.
- On Dec. 4, 2019, we republished this criteria article to make nonmaterial changes. We updated

paragraph 65 because it was superseded by "Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers" (liquidity criteria), published Dec. 16, 2014. The sector-specific liquidity adjustment previously included in this paragraph is now included in the guidance supporting the liquidity criteria. We also updated criteria references.

- On Dec. 5, 2019, we republished this criteria article to make nonmaterial changes. We changed all references to "surplus cash" in these criteria to "accessible cash" in order to align the language with our revised Ratios And Adjustments criteria, published April 1, 2019.

RELATED PUBLICATIONS

Superseded Criteria

- Key Credit Factors: Criteria For Rating The Global Health Care Equipment And Supply Industry, Nov. 13, 2012

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 And Insurers, Nov. 13, 2012
- Principles Of Credit Ratings, Feb. 16, 2011

Related Guidance

- Guidance: Liquidity Descriptors For Global Corporate Issuers, Dec. 4, 2019
- Guidance: Corporate Methodology: Ratios And Adjustments, April 1, 2019

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