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RATING METHODOLOGY

Diversified Technology

This rating methodology replaces "Diversified Technology Rating Methodology", last revised on December 29, 2015. We have updated some outdated links and removed certain issuer-specific information.

Table of Contents:

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Summary

This rating methodology explains our approach to assessing credit risk for companies in the diversified technology industry globally and is intended to provide general guidance that helps companies, investors, and other interested market participants understand how qualitative and quantitative risk characteristics are likely to affect rating outcomes for companies in this industry. This document does not include an exhaustive treatment of all factors that are reflected in our ratings but should enable the reader to understand the qualitative considerations and financial information and ratios that are usually most important for ratings in this sector.[1]

This report includes a detailed scorecard. The scorecard is a reference tool that can be used to approximate credit profiles within the diversified technology sector in most cases. The scorecard provides summarized guidance for the factors that are generally most important in assigning ratings to companies in the diversified technology industry. However, the scorecard is a summary that does not include every rating consideration. The weights shown for each factor in the scorecard represent an approximation of their importance for rating decisions but actual importance may vary substantially. The scorecard-indicated outcome is not expected to match the actual rating of each company

[1] This update may not be effective in certain jurisdictions until certain requirements are met.

The scorecard contains five factors that are important in our assessments for ratings in the diversified technology sector:

1. Scale
2. Business Profile
3. Profitability and Efficiency
4. Leverage and Coverage
5. Financial Policy

Some of these factors also encompass a number of sub-factors. An issuer's scoring on a particular scorecard factor or sub-factor often will not match its overall rating.

This rating methodology is not intended to be an exhaustive discussion of all factors that our analysts consider in assigning ratings in this sector. We note that our analysis for ratings in this sector covers factors that are common across all industries such as ownership, management, liquidity, corporate legal structure, governance and country related risks which are not explained in detail in this document, as well as other factors that can be meaningful on a company-specific basis. Our ratings consider these and other qualitative considerations that do not lend themselves to a transparent presentation in a scorecard format. The scorecard used for this methodology reflects a decision to favor a relatively simple and transparent presentation rather than a more complex scorecard that would map scorecard-indicated outcomes more closely to actual ratings.

Highlights of this report include:

- An overview of the rated universe
- A summary of the rating methodology
- A description of factors that drive rating quality
- Comments on the rating methodology assumptions and limitations, including a discussion of rating considerations that are not included in the scorecard

The Appendices shows the full scorecard (Appendix A), a description of the adjustments made to the financial statements of companies with captive finance operations (Appendix B), and a brief industry overview (Appendix C).

This methodology describes the analytical framework used in determining credit ratings. In some instances, our analysis is also guided by additional publications which describe our approach for analytical considerations that are not specific to any single sector. Examples of such considerations include but are not limited to: the assignment of short-term ratings, the relative ranking of different classes of debt and hybrid securities, how sovereign credit quality affects non-sovereign issuers, and the assessment of credit support from other entities.[2]

[2] The methodologies covering our approach to these cross-sector considerations can be found in the Related Publications section of this report.

About the Rated Universe

We rate companies in the diversified technology industry globally. In this report, we consider rated companies whose primary activity includes the design, manufacturing, and distribution of technology hardware and communication equipment products. The very broad diversified technology sector is highly fragmented and includes many sub-sectors such as personal computers, servers, storage and networking systems, smartphones and tablets and mailing and office equipment. Many rated companies included in this methodology have diversified technology profiles, such that in addition to hardware, they generate revenue from software, services and captive finance operations. Technology companies that focus primarily on semiconductors, distribution, manufacturing, software or services are covered under other rating methodologies[3].

As we explain in Appendix B titled "Captive Finance Companies", some of the rated debt for the companies relates to the captive finance operations of these companies. These captives typically do not file separate financial statements with the level of detailed exposure typical of companies rated using the captive finance company rating methodology.[4] However, their consolidation with the industrial parent complicates analytical comparison with the diversified technology companies that do not have similar subsidiaries. We make quantitative adjustments to financial metrics for companies with captive finance operations as a means to create a common basis for peer comparison, while also considering the incremental credit impact of these captive finance operations on the companies' overall creditworthiness.

3 Our methodologies for rating companies in the semiconductor, distribution and supply chain services, and software industries can be accessed by using the link in the Related Publications section of this report.

4 Our methodology for rating captive finance companies can be accessed by using the link in the Related Publications section of this report.

About This Rating Methodology

This report explains the rating methodology for diversified technology in six sections, which are summarized as follows:

1. Identification and Discussion of the Scorecard Factors

The scorecard in this rating methodology focuses on five rating factors. The five factors are comprised of sub-factors that provide further detail.

EXHIBIT 1

Diversified Technology Rating Methodology

Broad Rating Factor	Factor Weighting	Rating Sub-Factor	Sub-Factor Weighting
Scale	20%	Revenue	10%
		EBIT	10%
Business Profile	15%	Business Profile	15%
Profitability & Efficiency	20%	EBITDA Margin	10%
		Operating Income ROA (Net of Cash[5])	10%
Leverage and Coverage	30%	Debt / EBITDA	10%
		EBIT / Interest Expense	10%
		FCF / Debt	10%
Financial Policy	15%	Financial Policy	15%
Total	100%	Total	100%

2. Measurement or Estimation of Factors in the Scorecard

We explain our general approach for scoring each scorecard factor and show the weights used in the scorecard. We also provide a rationale for why each of these scorecard components is meaningful as a credit indicator. The information used in assessing the sub-factors is generally found in or calculated from information in company financial statements, derived from other observations or estimated by our analysts.

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends in a company's performance as well as for peer comparisons. We utilize historical data (in most cases, the last twelve months of reported results) in the scorecard. All of the quantitative credit metrics incorporate Moody's standard adjustments to the income statement, cash flow statement and balance sheet amounts for restructuring, impairment, off-balance sheet accounts, receivable securitization programs, under-funded pension obligations, and recurring operating leases.[6]

In many cases, we use historic financial data from a recent 12-month period. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it

5 Cash is defined as cash plus liquid short-term and long-term investments, which are typically marketable securities. Some companies report liquid investments under different names and Moody's makes adjustments at its discretion when computing this ratio.

6 More information about our financial statement adjustments in the analysis of non-financial corporations can be accessed using the link in the Related Publications section of this report.

analytically useful to examine both historic and expected future performance for periods of several years or more.

3. Mapping Scorecard Factors to the Rating Categories

After estimating or calculating each sub-factor, the outcomes for each of the sub-factors are mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa, or Ca).

4. Assumptions, Limitations and Rating Considerations Not Included in the Scorecard

This section discusses limitations in the use of the scorecard to map against actual ratings, some of the additional factors that are not included in the scorecard but can be important in determining ratings, and limitations and assumptions that pertain to the overall rating methodology.

5. Determining the Overall Scorecard-Indicated Outcome[7]

To determine the overall scorecard-indicated outcome, we convert each of the sub-factor scores into a numeric value based upon the scale below.

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
1	3	6	9	12	15	18	20

The numerical score for each sub-factor is multiplied by the weight for that sub-factor with the results then summed to produce a composite weighted-factor score. The composite weighted factor score is then mapped back to an alphanumeric rating based on the ranges in the table below.

Scorecard-Indicated Outcome

Scorecard-Indicated Outcome	Aggregate Weighted Total Factor Score
Aaa	x < 1.5
Aa1	1.5 ≤ x < 2.5
Aa2	2.5 ≤ x < 3.5
Aa3	3.5 ≤ x < 4.5
A1	4.5 ≤ x < 5.5
A2	5.5 ≤ x < 6.5
A3	6.5 ≤ x < 7.5
Baa1	7.5 ≤ x < 8.5
Baa2	8.5 ≤ x < 9.5
Baa3	9.5 ≤ x < 10.5
Ba1	10.5 ≤ x < 11.5
Ba2	11.5 ≤ x < 12.5
Ba3	12.5 ≤ x < 13.5
B1	13.5 ≤ x < 14.5
B2	14.5 ≤ x < 15.5

7 In general, the scorecard-indicated outcome is oriented to the Corporate Family Rating (CFR) for speculative-grade issuers and the senior unsecured rating for investment-grade issuers. For issuers that benefit from ratings uplift due to parental support, government ownership or other institutional support, the scorecard-indicated outcome is oriented to the baseline credit assessment. For an explanation of baseline credit assessment, please refer to our rating methodology on government-related issuers. Individual debt instrument ratings also factor in decisions on notching for seniority level and collateral. The documents that provide broad guidance for these notching decisions are our rating methodologies on loss given default for speculative grade non-financial companies and for aligning corporate instrument ratings based on differences in security and priority of claim. The link to these and other sector and cross-sector credit rating methodologies can be found in the Related Publications section of this report.

Scorecard-Indicated Outcome

Scorecard-Indicated Outcome	Aggregate Weighted Total Factor Score
B3	15.5 ≤ x < 16.5
Caa1	16.5 ≤ x < 17.5
Caa2	17.5 ≤ x < 18.5
Caa3	18.5 ≤ x < 19.5
Ca	x ≥ 19.5

For example, an issuer with a composite weighted factor score of 11.7 would have a Ba2 scorecard-indicated outcome.

6. Appendices

The Appendices provide the full scorecard and also provide additional commentary and insights on our view of credit risks in this industry.

Discussion of the Scorecard Factors

The scorecard for diversified technology focuses on five broad factors:

» Scale

» Business Profile

» Profitability and Efficiency

» Leverage and Coverage

» Financial Policy

Factor 1: Scale (20% Weight)

Why it Matters

Larger scale can be an indicator of a company's ability to influence business trends and pricing within the industry and to support a stable or growing market position. Scale also can be an indicator of greater resilience to changes in product demand, geographic diversity, cost absorption, R&D capabilities and bargaining strength with customers and suppliers.

How We Assess it For the Scorecard

Revenue:

Measured using total reported revenue

Earnings Before Interest and Taxes (EBIT):

Measured using total reported EBIT

Factor 1

Scale (20%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Revenue (USD Billions)	10%	≥$60	$30 - $60	$15 - $30	$5 - $15	$2 - $5	$1 - $2	$0.25 - $1	<$0.25
EBIT (USD Billions)	10%	≥$6	$2 - $6	$1 - $2	$0.5 - $1	$0.25 - $0.5	$0.01 - $0.25	$0 - $0.01	<$0

Factor 2: Business Profile (15% Weight)

Why it Matters

The Business Profile factor provides an indication of a company's strength on several measures of diversification and our assessment of market share. Business profile provides an indication of the likely stability and sustainability of the company's cash flows. To score highly on the factor overall, a company must score highly on both diversification and stability of market share. A strong position in one of these areas with weakness in the other is likely a limit to the long-term stability of cash flows.

End-market diversification is viewed positively because it mitigates the risk that a change in any individual industry or vertical market will significantly impair profitability and cash flow. Market share is an important component of business profile as it can indicate the level of competitive success, the depth of customer relationships and likely prospects for future performance.

How We Assess it For the Scorecard

The overall Business Profile factor is weighted at 15% in determining the overall scoring outcome from the scorecard. The weights and criteria are as follows:

Factor 2

Business Profile (15%)

Sub-Factor	Factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Business Profile	15%	Expected volatility in results is almost non-existent. Supported by a commanding market position, entrenched cost effectiveness, technology advantages, and a well-balanced global reach	Very low expected volatility in results. Supported by a deeply entrenched and leading market position that is highly defensible through cost effectiveness and technology leadership with global exposure	Low expected volatility in results. Supported by a strong market position, sustainable competitive advantages and solid diversity characteristics	Moderate expected volatility in results. Supported by a solid market position with modest product differentiation . Good diversity characteristics provide a buffer against sudden shifts in demand	Products are largely undifferentiated and the marketplace highly price competitive, exposing the company to periods of heightened volatility. Such exposure is tempered by an established market position and a favorable cost structure and fair diversity characteristics	Products are undifferentiated, competition is intense and customers price sensitive, making results highly volatile. Company does not have advantageous cost profile or other competitive advantage to mitigate	Results are expected to be extremely volatile. Company has modest market presence, few competitive advantages or may have above average costs	Near-term results are difficult to predict with any degree of confidence. No material competitive advantage

Factor 3: Profitability and Efficiency (20% weight)

Why it Matters

In an industry where cost efficiency is crucial for cash generation, management must continuously demonstrate a track record of cost savings, without eroding growth prospects, product quality or levels of R&D. This rating factor assesses the level of control that a company has over its profit margins and management's effectiveness in using the levers available to it to preserve competitive profit margins in a way that creates strong and sustainable relationships with customers and consumers.

Operating Income return on average assets (net of cash and liquid short-term and long-term investments) measures a company's ability to generate an acceptable level of profits from its assets base. ROA therefore gives us valuable insight into management's execution ability, by measuring its capacity to continue investing in the right assets to derive value from the business.

How We Assess it For The Scorecard

EBITDA margin:

The profitability indicator used in the scorecard is the earnings before interest, taxes, depreciation and amortization margin (EBITDA margin).

Operating Income ROA (Net of Cash + liquid short-term and long-term investments):

The scoring uses trailing four quarters of operating income divided by average assets (net of cash and liquid short-term and long-term investments) over the period. Average assets is calculated by taking the average of total assets less the average of cash, cash equivalents and liquid short-term and long-term investments over the past 2 years.

Factor 3
Profitability (20%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
EBITDA Margin	10%	≥27%	24% - 27%	21% - 24%	18% - 21%	15% - 18%	12% - 15%	5% - 12%	<5%
Operating Income ROA (Net of Cash & Mkt Sec)	10%	≥20%	15% - 20%	12.5% - 15%	10% -12.5%	5% - 10%	2.5% - 5%	0% - 2.5%	<0%

Factor 4: Leverage and Coverage (30% Weight)

Why it Matters

Cash flow leverage is particularly important when determining standalone financial strength. Low leverage can be a competitive advantage, giving a better-capitalized firm greater strategic as well as financial flexibility during cyclical downturns.

The coverage ratio is used to assess a company's financial position by measuring its ability to pay interest and other fixed charges such as rental expenses, and is a key element in assessing default probability.

The factor is comprised of three sub-factors:

Leverage

Debt to EBITDA is an indicator of debt serviceability and leverage and is commonly used in this sector as a proxy for comparative financial strength.

Interest Coverage

Earnings before interest, and taxes (EBIT) / Interest Expense is used as an indicator of a company's ability to pay interest and other fixed charges from its operating performance.

Cash Flow

Free Cash Flow / Debt is an indicator of a company's ability to repay principal on its outstanding debt. It is a measure or estimate for cash flow generation after working capital movements and after dividends in relation to outstanding debt.

How We Assess It For The Scorecard

A. **Debt / EBITDA:**

This ratio is calculated as total debt divided by EBITDA.

B. **EBIT / Interest Expense:**

This ratio is calculated as consolidated EBIT divided by consolidated interest expense.

C. **FCF / Debt:**

This ratio is calculated as cash flow from operations less capital expenditures and dividends divided by total debt.

Factor 4
Leverage and Coverage (30%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Debt / EBITDA	10%	<0.5x	0.5x - 1x	1x - 1.5x	1.5x - 2.5x	2.5x - 4x	4x - 6x	6x - 8x	≥8x
EBIT / Interest Expense	10%	≥16x	12x - 16x	8x - 12x	4x - 8x	2x - 4x	1x - 2x	0x - 1x	<0x
FCF / Debt	10%	≥35%	30% - 35%	25% - 30%	20% - 25%	10% - 20%	5% - 10%	0% - 5%	<0x

Factor 5: Financial Policy (15% Weight)

Why it Matters

Management and board tolerance for financial risk is a rating determinant as it directly affects debt levels, credit quality, and the risk of adverse changes in financing and capital structure.

Our assessment of financial policies includes the perceived tolerance of a company's governing board and management for financial risk and the future direction for the company's capital structure. Considerations include a company's public commitments in this area, its track record for adhering to commitments, and our views on the ability for the company to achieve its targets.

Financial risk tolerance serves as a guidepost to investment and capital allocation. An expectation that management will be committed to sustaining an improved credit profile is often necessary to support an upgrade. For example, we may not upgrade a company that has built flexibility within its rating category if we believe the company will use that flexibility to fund a strategic acquisition, distribute cash to shareholders, or to execute a spin-off or other leveraging transaction. Conversely, a company's credit rating may be better able to withstand a moderate leveraging event if management places a high priority on returning credit metrics to pre-transaction levels and has consistently demonstrated the commitment to do so through prior actions.

How We Assess it For The Scorecard

Financial Policy

We assess the issuer's desired capital structure or targeted credit profile, history of prior actions and adherence to its commitments. Attention is paid to management's operating performance and use of cash flow through different phases of economic cycles. Also of interest is the way in which management responds to key events, such as changes in the credit markets and liquidity environment, legal actions, competitive challenges, and regulatory pressures.

Management's appetite for M&A activity is assessed with a focus on the type of transactions (i.e. core competency or new business) and funding decisions. Frequency and materiality of acquisitions and previous financing choices are evaluated. A history of debt-financed or credit-transforming acquisitions will generally result in a lower score for this factor.

We also consider a company and its owners' past record of balancing shareholder returns and debt holders' interests. A track record of favoring shareholder returns at the expense of debt holders is likely to be viewed negatively in scoring this factor.

Factor 5
Financial Policy (15%)

Sub-Factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Financial Policy	15%	Expected to have extremely conservative financial policies; very stable metrics; public commitment to very strong credit profile over the long term	Expected to have very stable and conservative financial policies; stable metrics; minimal event risk that would cause a rating transition; public commitment to strong credit profile over the long term	Expected to have predictable financial policies that preserve creditor interests. Although modest event risk exists, the effect on leverage is likely to be small and temporary; strong commitment to a solid credit profile	Expected to have financial policies that balance the interest of creditors and shareholders; some risk that debt funded acquisitions or shareholder distributions could lead to a weaker credit profile	Expected to have financial policies that tend to favor shareholders over creditors; above average financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes	Expected to have financial policies that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes	Expected to have financial policies that create elevated risk of debt restructuring in varied economic environments	Expected to have financial policies that create elevated risk of debt restructuring even in healthy economic environments

Assumptions, Limitations and Rating Considerations That Are Not Covered in the Scorecard

The scorecard in this rating methodology represents a decision to favor simplicity that enhances transparency and to avoid greater complexity that would enable the scorecard to map more closely to actual ratings. Accordingly, the five rating factors in the scorecard do not constitute an exhaustive treatment of all of the considerations that are important for ratings of companies in this diversified technology sector. In addition, our ratings incorporate expectations for future performance, while the financial information that is used for mapping in the scorecard is mainly historical. In some cases, our expectations for future performance may be informed by confidential information that we cannot disclose. In other cases, we estimate future results based upon past performance, industry trends, competitor actions or other factors. In either case, predicting the future is subject to the risk of substantial inaccuracy.

Assumptions that may cause our forward-looking expectations to be incorrect include unanticipated changes in any of the following factors: the macroeconomic environment and general financial market conditions, industry competition, disruptive technology, regulatory and legal actions.

Key rating assumptions that apply in this sector include our view that sovereign credit risk is strongly correlated with that of other domestic issuers, that legal priority of claim affects average recovery on different classes of debt sufficiently to generally warrant differences in ratings for different debt classes of the same issuer, and the assumption that access to liquidity is a strong driver of credit risk.

In choosing metrics for this rating methodology scorecard, we did not explicitly include certain important factors that are common to all companies in any industry such as the quality and experience of management, assessments of corporate governance and the quality of financial reporting and information disclosure. Ranking these factors by rating category in a scorecard would in some cases suggest too much precision in the relative ranking of particular issuers against all other issuers that are rated in various industry sectors.

Ratings may include additional factors that are difficult to quantify or that have a meaningful effect in differentiating credit quality only in some cases, but not all. Such factors include financial controls, exposure to uncertain licensing regimes and possible government interference in some countries. Regulatory, litigation, liquidity, technology and reputational risk as well as changes to consumer and business spending patterns, competitor strategies and macroeconomic trends also affect ratings. While these are important considerations, it is not possible to precisely express these in the rating methodology scorecard without making the scorecard excessively complex and significantly less transparent. Ratings may also reflect circumstances in which the weighting of a particular factor will be substantially different from the weighting suggested by the scorecard.

This variation in weighting rating considerations can also apply to factors that we choose not to represent in the scorecard. For example, liquidity is a consideration frequently critical to ratings and which may not, in other circumstances, have a substantial impact in discriminating between two issuers with a similar credit profile. As an example of the limitations, ratings can be heavily affected by extremely weak liquidity that magnifies default risk. However, two identical companies might be rated the same if their only differentiating feature is that one has a good liquidity position while the other has an extremely good liquidity position, unless these are very low rated companies for which liquidity can play an outsized role in avoiding default.

Other Rating Considerations

Ratings encompass a number of additional considerations. These include but are not limited to: our assessment of the quality of management, corporate governance, financial controls, liquidity management, event risk and seasonality.

Management Strategy

The quality of management is an important factor supporting a company's credit strength. Assessing the execution of business plans over time can be helpful in assessing management's business strategies, policies, and philosophies and evaluates management performance relative to performance of competitors and our projections. A record of consistency provides us with insight into management's likely future performance in stressed situations and can be an indicator of management's tendency to depart significantly from its stated plans and guidelines.

Corporate Governance

Among the areas of focus in corporate governance are audit committee financial expertise, the incentives created by executive compensation packages, related party transactions, interactions with outside auditors, and ownership structure.

Financial Controls

We rely on the accuracy of audited financial statements to assign and monitor ratings in this sector. The quality of financial statements may be influenced by internal controls, including centralized operations and the proper tone at the top and consistency in accounting policies and procedures. Auditors' comments in financial reports and unusual financial statement restatements or delays in regulatory filings may indicate weaknesses in internal controls.

Excess Cash Holdings

Some companies in this sector maintain cash balances (meaning liquid short-term investments as well as cash) that are far in excess of their operating needs. In many cases, the primary motivation for holding large cash balances is to minimize tax payments. Given shareholder pressures to return excess cash holdings, elimination of the tax motivation would result in a large portion of offshore cash being used for dividends and share repurchases. However, there would be significant variation in company behavior based on differences in financial philosophy, investment opportunities, and shareholder pressures. Some companies maintain excess cash holdings for long periods of time in excess of their liquidity needs solely due to conservative financial policies, which provides a stronger indication for an enduring approach that will benefit creditors. Even when the eventual use for excess cash is likely to be for purposes that do not benefit debt holders, large holdings provide some beneficial cushion against credit deterioration. Such downside protection is typically more important for low rated companies than for highly rated companies due to differences in credit stability and distance from default.

While the scorecard in this methodology uses Debt/EBITDA and FCF/Debt ratios with gross debt rather than net debt, we do consider excess cash holdings in our rating analysis. Generally, this is done on a qualitative basis. The degree to which excess cash supports a stronger credit profile depends on our view of how this is most likely to be used. For example, expected investment in cash generating assets or debt reduction would be favorable for credit quality relative to dividends and share repurchases. While we consider excess cash in our credit assessment for ratings, we do not typically adjust the balance sheet debt for any specific amount because this implies greater precision than we think is appropriate for the uncertain future uses of cash.

However, when cash holdings are unusually large relative to debt, we may refer to debt net of cash, or net of a portion of cash, in our credit analysis and research in order to provide additional insight into our qualitative assessment of the credit benefit.

Liquidity Management

Liquidity is an important rating consideration for all diversified technology companies. Liquidity can be particularly important for non-investment grade diversified technology companies where issuers typically have less operating and financial flexibility. We form an opinion on likely near-term liquidity requirements from the perspective of both sources and uses of cash.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness. Typical special events include mergers and acquisitions, asset sales, spin-offs, capital restructuring programs, litigation and shareholder distributions.

Appendix A: Diversified Technology Rating Methodology Factor Scorecard

	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Factor 1: Scale (20%)									
Revenue (USD Billion)	10%	≥$60	$30 - $60	$15 - $30	$5 - $15	$2 - $5	$1 - $2	$0.25 - $1	<$0.25
EBIT (USD Billion)	10%	≥$6	$2 - $6	$1 - $2	$0.5 - $1	$0.25 - $0.5	$0.01 - $0.25	$0 - $0.01	<$0
Factor 2: Business Profile (15%)									
Business Profile	15%	Expected volatility in results is almost non-existent. Supported by a commanding market position, entrenched cost effectiveness, technology advantages, and a well-balanced global reach	Very low expected volatility in results. Supported by a deeply entrenched and leading market position that is highly defensible through cost effectiveness and technology leadership with global exposure	Low expected volatility in results. Supported by a strong market position, sustainable competitive advantages and solid diversity characteristics	Moderate expected volatility in results. Supported by a solid market position with modest product differentiation. Good diversity characteristics provide a buffer against sudden shifts in demand	Products are largely undifferentiated and the marketplace highly price competitive, exposing the company to periods of heightened volatility. Such exposure is tempered by an established market position and a favorable cost structure and fair diversity characteristics	Products are undifferentiated, competition is intense and customers price sensitive, making results highly volatile. Company does not have advantageous cost profile or other competitive advantage to mitigate	Results are expected to be extremely volatile. Company has modest market presence, few competitive advantages or may have above average costs	Near-term results are difficult to predict with any degree of confidence. No material competitive advantage
Factor 3: Profitability (20%)									
EBITDA Margin	10%	≥27%	24% - 27%	21% - 24%	18% - 21%	15% - 18%	12% - 15%	5% - 12%	<5%
Operating Income ROA (Net of Cash & Mkt Sec)	10%	≥20%	15% - 20%	12.5% - 15%	10% -12.5%	5% - 10%	2.5% - 5%	0% - 2.5%	<0%
Factor 4: Leverage and Coverage (30%)									
Debt / EBITDA	10%	<0.5x	0.5x - 1x	1x - 1.5x	1.5x - 2.5x	2.5x - 4x	4x - 6x	6x - 8x	≥8x
EBIT / Interest Expense	10%	≥16x	12x - 16x	8x - 12x	4x - 8x	2x - 4x	1x - 2x	0x - 1x	<0x
FCF / Debt	10%	≥35%	30% - 35%	25% - 30%	20% - 25%	10% - 20%	5% - 10%	0% - 5%	<0x
Factor 5: Financial Policy (15%)									
Financial Policy	15%	Expected to have extremely conservative financial policies; very stable metrics; public commitment to very strong credit profile over the long term	Expected to have very stable and conservative financial policies; stable metrics; minimal event risk that would cause a rating transition; public commitment to strong credit profile over the long term	Expected to have predictable financial policies that preserve creditor interests. Although modest event risk exists, the effect on leverage is likely to be small and temporary; strong commitment to a solid credit profile	Expected to have financial policies that balance the interest of creditors and shareholders; some risk that debt funded acquisitions or shareholder distributions could lead to a weaker credit profile	Expected to have financial policies that tend to favor shareholders over creditors; above average financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes	Expected to have financial policies that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes	Expected to have financial policies that create elevated risk of debt restructuring in varied economic environments	Expected to have financial policies that create elevated risk of debt restructuring even in healthy economic environments

Appendix B: Captive Finance Companies

Finance operations are fundamentally different from non-finance operations in many respects, including margin structure, interest coverage, capital adequacy, returns on assets, and cash flow generation. We account for these elements in our analysis of companies with material finance operations by adjusting their key financial metrics. Without these adjustments, data and ratios become skewed, rendering peer comparisons with companies that do not have finance operations misleading. While there is some level of public financial disclosure, and we rely on much of this information to adjust our key metrics (see below), we may also use insights derived from information obtained from other sources, such as discussions with management, our observations of other companies in the sector, and broad industry trends.

For each company with captive finance operations, we evaluate the finance business by looking at profitability, returns, leverage, liquidity, asset quality and operational scale as key risk elements. In addition to these quantitative elements, we also assess the strategic importance of the company's finance business to the parent's overall strategy. Then we incorporate both quantitative and qualitative elements, in order to inform our qualitative assessment that determines whether the finance business has an impact on the company's rating.

Credit Impact

Finance operations enable technology companies to provide financing options to customers and have been associated with companies in this sector that have had solid returns and consistent profitability. However, these operations also pose challenges for managing asset quality and liquidity. Finance operations are confidence sensitive due to their heavy reliance upon short-term financing. These operations reflect the usefulness of finance businesses in establishing and maintaining stronger customer relationships, particularly in the broader technology sector where financing can be an important part of an overall information technology solution for a customer.

Summary of Adjustments Analysts are Likely to Make for Diversified Technology Entities with Captive Finance Operations

We make adjustments for diversified technology companies with captive finance operations as follows:

1. We adjust the balance sheet to eliminate our estimate of finance-related assets, debt and equity. We generally assume a seven times debt-to-equity ratio for net finance assets. Because companies publicly disclose the level of finance assets, we can thus derive an estimated mix of debt and equity related to the finance business.

2. We adjust the income statement to eliminate income that we estimate is attributable to finance operations.

3. Using reported or estimated changes in finance receivables and in equipment on operating leases, as well as for estimated net income of captive finance operations, we adjust cash flow from operations by moving these changes to the investing section.

The specific adjustments discussed below are generally applied unless we have financial or other information regarding a particular company's finance operations that would cause us to believe that a different approach is more appropriate. Although there is variation in the composition of finance assets, liabilities and profitability across the sector, we believe the typical adjustments discussed below provide a framework for comparing results across the sector.

Adjustments to Debt and Leverage

The capital structure of companies with captive finance operations, consistent with pure play finance companies, typically employs a higher mix of debt financing (relative to that used by non-finance operations) to support and fund finance assets. To adjust for finance operations -- as a means to normalize debt and equity levels -- we typically assume a seven times debt-to-equity level for finance assets.

In contrast to a manufacturer, debt supporting finance assets is repaid is by a reduction of the finance assets/receivables. Hence, to better evaluate and compare the non-finance business of these diversified technology companies to peer companies without financing operations, we remove the finance receivables from the balance sheet assets, as well as debt and equity that are allocated to the finance business.

Adjustments to the Income Statement

We adjust the income statement for income that we estimate is attributable to finance operations. We typically assume that the captive finance companies earn a four percent pretax return on average assets and multiply the average of beginning of period and end of period finance assets by four percent to derive an estimate for finance company pretax income. We reduce each company's quarterly and annual earnings by the respective amount of quarterly and annual finance pretax income by adjusting cost of goods sold.

Adjustments to Cash Flow

We adjust the statement of cash flows for changes in finance receivables and equipment on operating leases as well as for estimated net income of captive finance operations. We generally do not make any other adjustments for items such as deferred taxes attributed to finance operations.

Our approach considers that finance assets are an investment to generate profit, and not working capital that should be minimized for efficiency (as with a traditional manufacturer). We therefore move changes in finance receivables and equipment on operating leases from the operating section in the cash flow statement to the investing section. With this adjustment, increases in finance receivables (often a reflection of higher sales, which is generally favorable for credit quality, subject to asset quality) will not negatively distort core cash flow from operations. Decreases in finance receivables (often not favorable for credit quality in this sector as it may reflect weaker product competitiveness) will not positively distort core cash flow from operations. We also move the net income that we estimate is attributable to finance operations into the investing section because the net income helps to support growth in finance operations.

Appendix C: Industry Overview

Core Challenges

Key challenges to the diversified technology sector include:

1. The need to maintain product and service relevance, brand strength, and market position in an environment of intense competition, wherein companies are inherently vulnerable to changing technology and product/process obsolescence. This challenge is typically addressed through continuous investment in research and new product development, supplemented by acquisitions.
2. The need to maintain financial discipline with respect to liquidity and financial leverage as a means to contend with business challenges and opportunities.
3. The need to maintain an efficient and flexible cost structure to adapt to changing value propositions, customer preferences, channels to market, and new competitive entrants.

Industry Characteristics

The highly competitive diversified technology sector includes companies that produce a wide range of products ranging from computers, servers, storage devices, communication equipment, hard disk drives, software, printers and copiers, consumer electronics, and services. Some companies also undertake consulting activities and finance operations. The sector includes large diversified competitors, as well as smaller, specialized companies. Many companies have diversified technology profiles, such that in addition to hardware, they generate revenue from software, services and captive finance operations.

Overall, the industry is characterized by uncertainties related to technology development; the pace of customer adoption of new products or services; periodic, intense pricing pressure; as well as ebbs and flows of the general economy. Companies with stronger credit ratings tend to have diverse revenue streams and/or a high level of recurring revenue derived from services or supplies that follow an initial hardware sale.

Competition is also a defining feature for the industry. Throughout the various sub-sectors, competition generally evolves around technology, performance, price, quality, reliability, brand, distribution, customer service and support. Since product life cycles can be short, companies must invest continually in product enhancements as well as new products and services to remain competitive. Firms with strong balance sheets are able to continue investing during the inevitable down cycles. Accordingly, these firms are better positioned to address the sector's competitive demands and to gain market share through industry cycles.

Sources of Risk

Despite varied business models, some general trends and conditions apply to the sector overall:

1. **Migration toward open standards** and away from proprietary architectures (which tend to be more expensive and limit the customer's operating flexibility).
2. **Growth of cloud-based IT solutions**, which customers are increasingly adopting, or at least evaluating, in an effort to make their data centers and IT operations more robust, efficient, and flexible relative to business needs. This can place revenue and/or cost pressure on companies that are more exposed to traditional on premise hardware and software offerings.

3. **Commoditization of hardware.** While this trend suggests a possible degradation of hardware margins, companies can combat this through (a) scale and efficiencies; (b) a razor and razor blade model where the sale of hardware serves as the entrée to generate more lucrative service and supplies revenue, and (c) through constant innovation to bring greater functionality to a product. Success here feeds back into the importance of winning the installed base.
4. **Rising demand for integrated solutions**. While best of breed was once considered critical, technology customers typically seek integrated hardware, software, and service solutions to their business problems (as opposed to purchasing discrete components from multiple vendors and having to integrate, manage, and maintain the components). We believe this trend will give rise to continued acquisition activity to fill out product and service offerings.
5. **Importance of incumbency**, particularly among more complex information technology systems as well as mission critical software.
6. **The need to capture very profitable post-sale revenue streams** by building and maintaining an installed product base.
7. **Rising demand for cost efficiency.** Customers are focused on realizing a return on technology hardware investments, in the form of increased productivity and operating flexibility. In response, technology hardware firms are increasingly focused on the need to manage/reduce operating costs through a combination of more efficient design and the outsourcing of manufacturing, administrative, service, and sometimes sales functions.
8. **Continued emphasis on effective investment in research and development** as a means to bring to market new products with higher, differentiated functionality at compelling price points. To the extent that a company is not a primary innovator, it must differentiate in other ways -- for example through supply chain management and cost efficiency.

Moody's Related Publications

Credit ratings are primarily determined by sector credit rating methodologies. Certain broad methodological considerations (described in one or more cross-sector rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. An index of sector and cross-sector credit rating methodologies can be found here.

For data summarizing the historical robustness and predictive power of credit ratings, please click here.

For further information, please refer to Rating Symbols and Definitions, which is available here.

Moody's Basic Definitions for Credit Statistics (User's Guide) can be found here.

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