Criteria | Corporates | Industrials:

Key Credit Factors: Business And Financial Risks In The Global Telecommunication, Cable, And Satellite Broadcast Industry

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(Editors Note: This criteria article was originally published on Jan. 27, 2009, and last published on June 16, 2009. We are republishing this article following our periodic review completed on Dec. 17, 2010. Tables 1, 2, and 3 are no longer current. They have been superseded by table 1 in “Criteria Methodology: Business Risk/Financial Risk Matrix Expanded,” published May 27, 2009.)

Standard & Poor’s Ratings Services’ divides its analytic framework for industrial companies in all sectors—including global telecommunication, cable, and satellite broadcast—into two major segments: The first is fundamental business risk analysis. This forms the basis, and provides the industry and business contexts, for the second segment of the analysis: an in-depth financial risk analysis of the company.

We group together our ratings analysis covering telecommunications, cable, and satellite broadcast companies because these industries share many common analytical underpinnings and characteristics, including:

• Revenue derived primarily from customer subscriber fees;
• A role in providing the electronic transmission infrastructure that is a major source of global economic growth and business and cultural interconnectivity (globalization);
• Rapidly evolving business profiles resulting from the ongoing innovation in digital electronic communication and computing technology—often providing opportunities for rapid growth in new services;
• Growth opportunities that substantial technological, business, and financial risk often accompany;
• New technologies and alliances that are leading these industries to compete with each other in providing bundled telecommunication, entertainment, and Internet services;
• Extensive initial capital investment in electronic communication infrastructure with extended earnback periods; and
• Substantial government and regulatory oversight affecting the competitive landscape and creating material regulatory risk.

Relationship Between Business And Financial Risks

To provide context for the specific factors we analyze within our framework, it is important to understand how we view the relationship between business and financial risks, as well as the implications for a company’s rating (see table 1).
Table 1

**Business And Financial Risk Profile Matrix**

<table>
<thead>
<tr>
<th>Business Risk Profile</th>
<th>Minimal</th>
<th>Modest</th>
<th>Intermediate</th>
<th>Aggressive</th>
<th>Highly Leveraged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent (AAA/AA)</td>
<td>AAA</td>
<td>AA</td>
<td>A</td>
<td>BBB</td>
<td>BB</td>
</tr>
<tr>
<td>Strong (A)</td>
<td>AA</td>
<td>A</td>
<td>A-</td>
<td>BBB-</td>
<td>BB-</td>
</tr>
<tr>
<td>Satisfactory (BBB)</td>
<td>A</td>
<td>BBB+</td>
<td>BBB</td>
<td>BB+</td>
<td>B+</td>
</tr>
<tr>
<td>Weak (BB)</td>
<td>BBB</td>
<td>BBB-</td>
<td>BB+</td>
<td>BB-</td>
<td>B</td>
</tr>
<tr>
<td>Vulnerable (B)</td>
<td>BB</td>
<td>B+</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
</tr>
</tbody>
</table>

These rating outcomes are shown for guidance purposes only. Other qualitative and quantitative rating factors may override these measures.

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The following chart summarizes the rating process.
Part 1--Business Risk Analysis

We analyze business risk in four categories: country risk, industry risk, competitive position, and profitability. We then determine a score for the overall business risk (see table 2).

Table 2

<table>
<thead>
<tr>
<th>Business Risk Measures</th>
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<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td>Excellent</td>
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</table>
Factual data, including statistics, underlie our analysis of business risk factors. But the process ultimately involves a fair amount of subjective judgment. Business risk provides a context for judging financial risk, which covers analysis of cash flow generation, capitalization, and liquidity. In all cases, our analysis uses historical experience to arrive at estimates of future performance and risk.

1. Country risk and macroeconomic factors (economic, political, and social environments)
Country risk plays a critical role in determining all ratings on companies in a given country. That is because sovereign-related stress can have an overwhelming effect on company creditworthiness, both directly and indirectly.

While sovereign credit ratings suggest the general risk local entities face, they may not fully capture the risk applicable to the private sector. So, when rating a corporation, we look beyond the sovereign rating to evaluate the specific economic or country risks that may affect the entity's creditworthiness. Such risks pertain to the effect of government policies and other country risk factors on the obligor's business and financial environments, plus an entity's ability to insulate itself from these risks.

2. Industry business and credit risk characteristics
Broadly speaking, the lower the level of industry risk, the higher the potential rating on companies in that sector. Although a higher risk industry profile does not automatically limit a rating, it is usually much more difficult for a firm in a higher risk sector to demonstrate the earnings strength and stability that characterize highly rated companies.

Several significant industry risk factors elevate business risk in the telecommunications, cable, and satellite broadcast industries in many countries, including complex regulatory and technological issues. This creates heightened industry and credit risk.

In arriving at a view of the degree of credit risk in a given industry for rating purposes, we find it useful to consider how its risk profile compares to that of other industries. Although the industry risk characteristic categories are broadly similar across industries, the effect of these factors on credit risk can vary markedly among industries (see chart 2). We score the key industry factors as being: High risk (H), medium/high risk (M/H), medium risk (M), low/medium risk (L/M), and low risk (L).
Country-specific nature of some industry credit risk dynamics. Broadly similar factors affect telecom credit and ratings quality globally. However, the risk characteristics and impact of a given factor (e.g., regulation and competition) can vary significantly among countries. While it is useful to evaluate telecom industry risk within a generally comparable framework, it is best to identify and factor national differences on a country-by-country basis. The primary elements of credit risk in a given national market in telecom, cable, and satellite are:

- The degree of competition and pricing flexibility in a national market,
The nature and degree of government policy and regulation, and
Domestic market growth and potential.

The degree of competition in telecommunication, cable, and satellite broadcast companies is in many countries a direct function of government policy and regulation. National markets with higher telecom credit risk have a high degree of competition, growth prospects limited by market maturity, and government and regulatory policies that are inconsistent and difficult to predict. The U.K., for example, has a difficult operating environment, with strong competitive and regulatory pressures and limited growth prospects. Conversely, in markets with lower levels of competition where growth prospects are high, the sector credit risk profile can be much more favorable. This often occurs in countries, such as China, where government policies and regulations aim to support price levels and profit margins and create surplus cash generation to fund infrastructure spending by incumbents.

Opportunities and risks in rapidly transforming industry landscapes. Over the past 30 years, rapid technological and regulatory change resulting in a marked increase in industry complexity, competition (which the rapid development of wireless services has spurred), capital spending, and leverage have transformed the sector. In many countries, the telecom industry quickly evolved away from a protected telephone utility business model, with one company operating as a state-owned or licensed monopoly. Historically, fixed wireline voice telephony had low levels of competition, slow technological innovation, regulated prices and profit margins, and a stable credit risk profile. The Internet, satellite, and cable industries have accelerated the rate of change for telecoms. Cable and Internet telephony are now major low-cost competitors to traditional fixed-wire telephone service. Telecom and cable companies also compete head to head in the rapidly growing Internet-access business. In some countries, telecoms already are established competitors of cable and satellite operators in pay TV and video. New, digital-based wireless and broadband technologies have expanded capabilities far beyond traditional fixed-voice wire into a broad array of telephony, data, TV and video, music, messaging, and Internet services. This rapid evolution has been great for consumers and business customers in both developed and emerging markets, with much-improved cost, choice, availability, functionality, and quality of services. In emerging markets with traditionally low voice wireline coverage, the advent of wireless voice and messaging services has been a quantum leap, accelerating telephony penetration rates from a very low base.

Propensity for boom and bust. By the late 1990s, volatile industry dynamics and overly optimistic growth forecasts led the industry in the U.S. and Europe to overbuild capacity and the stock market to overvalue telecom companies’ shares, creating conditions susceptible to economic and financial market downturns. The 2001-2002 high-tech downturn also hit telecoms hard: The sector lost billions of dollars in market capitalization and massive equity write-offs. Sector credit quality fell sharply, with various high-profile bankruptcies and credit deteriorations among both telecom and cable companies, on declining EBITDA coverage and the inability to refinance as liquidity dried up. Small operators are particularly vulnerable at any point in the economic cycle, because of the highly competitive nature of these industries.

Industry structure. The various industry subsector divisions between fixed wire and wireless telephony and broadband and cable, that emerged from the early years of deregulation and privatization, are blurring. New technologies, consolidation, and ongoing regulatory changes are allowing phone and cable companies to compete in each other’s traditional businesses. To analyze industry dynamics from a credit perspective, it is important to understand the composition of its various subsectors and appreciate that while many companies still operate predominantly within one subsector, new technologies are allowing companies to take on competitors that previously were not in the same business lines. Examples are cable’s burgeoning digital Voice-over-Internet-Protocol (VoIP) stripping market share from land-wire telephone companies or wireless operators’ growing broadband capacities, threatening fixed line broadband providers. Nontraditional competition has markedly exacerbated business risk, and cross-subsector consolidation also is accelerating. Major telecom subsectors include:
• Local wireline exchange companies;
• Long-distance carriers;
• Wireless carriers;
• Diversified carriers;
• Cable system operators;
• Cell tower owner/operators; and
• Direct-to-home satellite (DTH) TV.

**Trend toward diversified carriers/conglomerates.** We can no longer view wireline and wireless separately because they are increasingly intertwined. Many incumbent wireline phone companies have significant interests in competitive wireless operations and vice versa. In many national markets, the dominant incumbent telecommunication enterprises, which were originally the old state-owned fixed wire monopolies, now provide a broad array of services including land-wire, wireless, Internet access, and, in some markets, growing capabilities in broadband/cable TV. Because of their privileged status as owners of extensive land wire, and in many instances wireless networks that were developed in accordance with government regulation, incumbent carriers are required to lease network access to competitors. Some of these entities are building out or planning broadband networks that are also required under law to be made available to competitors. Regulators have pressured European telecom incumbents to isolate their network infrastructure into a separate, independently run division, to ensure equal and fair access for all market players. In the U.S., where industry subsegments are still relatively well demarcated because of government policy dating back to the early years of regulation, shareholder pressure to increase revenues and improve operating and financial efficiencies is producing consolidation. The leading telecom companies in the U.S. now are the result of mergers of various components of the old AT&T monopoly, which are reuniting land wire franchises and seeking to create critical mass in wireless and digital subscriber line (DSL)/Internet, WIFI, and broadband. The one area that remains off-limits to mergers in the U.S. is marriages between telecom and cable because of government cross-ownership restrictions, which appear unlikely to change in the foreseeable future.

Outside the U.S., many state-owned telephone companies were granted wireless licenses to set up mobile phone networks, and often have prominent market shares in cellular. Deregulation and privatization of formerly state-owned telephone companies has been a major global trend, as has sales of wireless licenses to new entrants as part of government policy to spur competition. In many countries, this has created a vibrant modern industry, offering low-cost telephony to individuals and businesses. In Europe, the strictly regulated unbundling of the local access infrastructure (local loop) has given alternative telecom players the chance to rapidly expand services well beyond their existing in-ground infrastructure, with limited additional capital spending. This has also allowed formerly pure wireless operators—such as U.K.-based Vodafone—to offer the full range of wireline services along with its mobile business.

In the U.S., the path to incumbent wireline phone companies owning wireless capabilities has been through joint ventures and consolidation. The surviving Baby Bell companies, with the exception of Qwest, now own competitive wireless offerings that provide most of their growth, either through fully owned subsidiaries or joint-venture affiliates. Large telecom operators that are predominantly fixed wire, such as Qwest in the U.S. and BT in the U.K., and lack meaningful wireless operations, are at a significant competitive disadvantage as the industry moves toward bundling services to increase market share and retain customers. Lack of wireless revenues places heightened pressure on wireline companies to invest and diversify rapidly into multimedia broadband, with its attendant risks.

Diversified incumbent wireline carriers generally have an advantage over newer entrants because of their still-profitable, if declining, wireline business. The profitability and cash flows help fund major capital outlays,
including building out wireless and broadband networks, reducing the level of debt they would otherwise incur. This is in stark contrast to newer entrants that often borrow heavily to build infrastructure because their business generally produces insufficient cash flow to fund capital expenditures (CAPEX). For this reason, incumbents’ business- and financial-risk profiles tend to be stronger than those for newer competitors, so our credit ratings on them generally are higher.

**Bundling, price wars, and operating leverage.** Rapid capacity growth has led to discounting pressure in many markets, forcing wire and wireless operators to cut prices for both their traditional products and services, and for new offerings. In industries with falling price environments and high fixed costs (such as developed market telecom), market-share gains and cost efficiency are keys to beating the competition and raising the top and bottom lines. The ability to bundle service offerings to attract new customers, and improve retention is a major advantage for diversified telecom carriers over standalone operators. In the U.S. and Europe, bundled services are increasingly popular, and contain a material element of discounting, compared with purchasing the services on an individual basis. Triple Plays bundle incorporate TV/video, Internet, and VoIP/telephone. Quadruple Plays also offer wireless service.

**Implications for satellite direct-to-home TV.** The satellite broadcast industry has been successful in taking video customer market share from the cable operators in major developed markets. Its lower-cost introduction of digital TV, before cable, and better customer service, led to market share gains. While the business is showing signs of maturing, it continues to deliver double-digit revenue growth, largely from subscriber additions, which average revenue per user (ARPU) gains from annual subscription price hikes and rising advanced equipment penetration have bolstered. However, unless companies deploy new services, the revenue growth rate will settle to a mature level, probably in the mid-single-digit area. The inability to provide the advanced two-way services available from cable puts providers at a disadvantage in the longer term compared with cable and is a major competitive issue facing the industry. Phone companies are an increasing threat, based on their early launch of advanced video broadband services. Diversified telecom and cable companies that package their own telephony, Internet, and video services together are creating a major challenge to satellite. To counter this trend, satellite TV operators have created co-branding alliances with diversified phone companies to offer bundled packages of video, voice, and data services to compete against cable operators. In the U.K., Sky B entered into an alliance with BT. These alliances give the telecoms TV and video content to distribute over their broadband platforms to compete with cable and allow the direct broadcast satellite operators to offer telephony services. However, the phone companies may increasingly get programming directly from cable content producers as they deploy their own on-network video products, becoming direct competitors to satellite TV. This has started in France, where telecoms are becoming major content purchasers, competing head to head with satellite and cable.

**Impact on the industry's credit risk profile.** Over the past 20 years, telecom changed from being a relatively low-risk sector to having a weaker, more complex, and less protected credit profile. Wireless, cable, and established phone companies have had to invest heavily in building out or acquiring cellular and fiber optic networks, leading to a marked increase in sector debt levels. As a result, the industry’s financial risk profile and its business risk profile have eroded, as the number of rating downgrades reflects. Primary credit risk factors include:

- Increased competition, eroding profit margins; and
- Increased debt loads to fund the buildout of wireless and broadband networks.

Exacerbating credit risk are:

- New, often unproven technologies and associated business-model changes, which may not yield an adequate return to cover the cost of investment;
• Risk of unfavorable changes in regulation, such as terms and pricing set by regulators, governing access to telephony and broadband networks owned by companies that were previously state monopolies. This can have a major impact on the profitability of incumbents and recent entrants that pay for network access; and
• Plans for separating the fixed-line infrastructure from the telecom incumbent, which can step up competitive pressures, making investment decisions in new technologies more complex.

Many diversified telephone companies successfully replaced at least part of revenue lost from fixed wire cancellations with revenue growth in wireless and DSL. We expect these companies to see a material customer base erosion. At least for the foreseeable future, however, they can partially mitigate downward ratings pressure with sound financial policies.

**Regulatory risks.** The main regulatory barrier to entering the wireless telecommunications business is access to radio frequencies for transmission. The portion of the spectrum that can be used for radio signals extends from below AM radio up to infrared frequencies. As technology improved, wireless operators moved up the spectrum into higher-frequency bands. When wireless telephony began, governments sometimes gave away licenses to operate the networks. More recently, they have sold the licenses for designated parts of the spectrum through public auctions, raising considerable cash in the process.

Regulation is a key risk for telecom operators in fixed wire and wireless, as well as cable and broadband. Deregulation is the process of opening up telephony markets to competition and breaking up state monopolies, but the term is misleading. Regulation has not disappeared in any country, but it has evolved and often remains highly intrusive, so it is a significant credit risk factor. Public policy in major developed markets has evolved from no competition to controlled competition. Government supervision of telecom infrastructure and operators’ development, and making service available throughout the business and consumer economy at affordable rates, is considered a key purview of government in most countries. Major areas of government regulation include:

• Sale and renewal of licenses (covering geographic operational areas and wavelengths). The price at which licenses are auctioned off can be a major issue and burden for operators. While licenses can be an important source of government revenue, setting prices too high can be a burden on the industry. Risks and costs of license renewal also create uncertainty and credit risk volatility.
• Tariff regulation is a key consideration, because it has a direct effect on revenues, cash generation, and credit-protection measures. Tariff setting affects price controls on fees charged to customers, and government-set pricing for competitor access to land wire, wireless, and broadband networks. Access pricing levels and revisions can have a material impact on profitability for incumbents and those seeking access.

3. **Keys to competitive success**
We consider the following factors to be the primary contributors to business success in the telecommunication, cable, and satellite broadcast industry:

**Diversified telecoms**
• Presence in growth markets with good profit potential;
• Revenue diversification across wireline, wireless, and DSL/broadband;
• Ability to invest in geographic coverage and quality of reception;
• Investment in technology, providing bandwidth for high-quality multimedia and wire and wireless Internet capabilities;
• Ability to adjust service plan structure and pricing, and bundling where appropriate, to provide revenue growth
from new subscribers, offsetting declining overage and roaming fees, and customer loss to VoIP;
• Above-average subscriber growth (net subscriber additions) and ARPU and growth in non-voice ARPU;
• Below-average customer churn and cost per gross subscriber addition (CPBA);
• Effective marketing and sales, with a strong record in capturing wireline customers and retaining existing customers;
• Strong service quality, reception, and coverage;
• Appropriate leverage and financial policy; and
• Strong mergers and acquisitions strategy and record.

Cable industry
• Franchise size and robust demographics, with high population density and personal income growth and high per capita income;
• Ability to invest in broadband and digital capabilities to provide state-of-the-art multimedia;
• High ARPU;
• Ability to offer bundling;
• High average revenue per user and low churn;
• Effective marketing and sales, to capture wireline customers and cross-sell bundling;
• High value franchise that creates strong borrowing capacity;
• Appropriate leverage and financial policy; and
• Strong mergers and acquisitions strategy and record.

Satellite broadcasters
• Strong customer value proposition, including content and price, allowing market share gain versus cable;
• Unique special event and sports content;
• Competitive bundled services through joint ventures with wireline carriers;
• Minimizing costs associated with customer acquisition and churn;
• Strong customer service;
• Maintaining price advantage compared to cable; and
• Appropriate leverage and financial policy.

For our business analysis of a telecom, cable, or satellite broadcast company, we analyze the following elements of the enterprise’s key market characteristics and variables:

• Geographic footprint and market dynamics;
• Diversification and market share;
• Scope of service offerings and business lines;
• Market penetration;
• Market maturity and growth potential;
• Competition;
• Technology; and
• Regulation.

Other key elements of the business risk profile include:

• Operating strategy, capability, performance, and efficiency;
• Management evaluation;
• Business risk appetite, record, and growth strategy;
• Other corporate culture and organizational considerations; and
• Earnings and profitability.

Geographic and demographic footprint. In assessing a company’s footprint--its licensed and developed geographic territory--we primarily consider the market type: international, national, regional, major metropolitan, suburban, or rural. The capital costs of building and upgrading network infrastructure, the economies of scale that can be realized in providing service, income levels and spending patterns of the market, and the degree of competition are key factors in determining a market's desirability. The value of any given customer or potential customer varies from one geographic region to the next.

Diversification and market share. We analyze diversification by geography and demographics, product, customer base, and segment. High market shares let companies spread out costs and enjoy more economies of scale than their competitors. Strong market positions enable companies to reinvest in fixed assets and develop new services, to maintain leadership. Size often is closely correlated with, and is an outgrowth of, diversification: To reach a large size, companies need multiple products and revenue streams across broad areas. Small- and medium-size companies usually are precluded from reaching the highest ratings levels, despite having strong profitability and financials characteristics, because of a lack of product, market, and geographic diversification.

Scope of service offerings/business lines. For wireless, it is important to break revenue out into its various service components, including monthly fees, postpaid and prepaid services, roaming, surcharges, and non-voice services. For cable, we analyze basic-TV service, premium-channel charges, pay-per-view, Internet access, and VoIP revenues to understand which products are mature rather than high-growth, and, if data are available, their respective profit contribution. More mature products, while no longer contributing significantly to top-line growth, may be critical cash cows to fund the buildout of new networks and services.

Market penetration. The measurement of market penetration is particular to specific industries. The industry that measures wireless penetration as a percentage of POPs, which is the total population within a licensed wireless area. For cable television, the industry historically has measured penetration as the number of subscribers as a percentage of homes passed by cable. But the total amount of services per customer has also evolved into a key parameter since the introduction of services beyond basic cable including digital, Internet connectivity, and telephone.

Market maturity and growth potential. The level of a market’s maturity and growth potential is closely correlated with the level of economic development and growth prospects in an economy, as well as the extent of competition and regulation (see below). In the past few years, for example, wireless operators have adjusted their growth strategies. As markets mature, rather than seek market penetration at any cost, operators generally seek growth through higher customer retention and more focus on market segmentation and increasing ARPU.

Technology--opportunity and risk. In order to remain competitive, telecom and cable companies must continually invest in new features and service capabilities, which are often based on new technologies that in some instances may not be fully proven. A company’s decisions on the type of technology it employs, and the degree to which it is ultimately creates a competitive advantage or disadvantage, is a key consideration.

Operating strategy, capability, performance, and efficiency. Key measures include:

• Average customer churn (monthly);
• Average revenue per user (ARPU);
• Minutes of use (MOUs);
• Revenue generating units (RGUs);
• Cost per gross subscriber addition (CPGA)—average cost of signing up new subscriber—also defined as...
subscriber acquisition cost (SAC);
• Cash cost per user (CCPU)—average monthly cost of serving subscribers;
• Marketing and advertising spend;
• Marketing and advertising costs/sales;
• Capital expenditures (annual dollar and percentage growth);
• Payback period/hurdle rate on CAPEX;
• CAPEX/sales;
• Operating margin: operating income/sales;
• Return on assets; and
• FFO/sales.

Quality of (customer) service. Quality of service is a key ingredient in telecommunications, cable, and satellite. Because the market has become more competitive in recent years, customer satisfaction and retention are key to fostering long-term revenue growth. Minimizing churn is just as important as securing customers and retaining them. Churn is the percentage of total subscribers that terminate service with a carrier on a monthly basis, and it is an indicator of customer satisfaction. Product and service innovation is also crucial to minimizing churn.

Capital expenditures merits close attention in the telecommunications, cable, and satellite broadcast industries. In deregulated, competitive, and mature market environments, a company's long-term growth prospects increasingly depend on ongoing investment in new technologies and network maintenance and upgrades.

Management evaluation. We assess management on its ability to run and expand the business efficiently while mitigating inherent business and financial risks. Our evaluation also focuses on the credibility of management's strategy and plans/projections, its operating and financial track records, and its appetite for assuming business and financial risks. Telecom, cable, and satellite broadcast companies are highly competitive businesses requiring experienced and successful management to have a strong mix of:

• Focus on diversification and earnings quality;
• Profitable network/services development, with focus on service quality and customer service;
• Operating efficiency/cost control;
• Marketing brand development and management;
• M&A acquisition and divestment; and
• Appropriate financial policies and leverage.

Business risk appetite and record. The quality of a company's growth and operating strategy is another important determinant of success. We look for acquisition and diversification strategies that are consistent and well-executed, whether they are organic, "bolt-on," or transformative.

4. Earnings/profitability
A healthy profitability outlook is critical for telecommunication, cable, and satellite broadcast companies because of their need to invest heavily in network buildout and maintenance and marketing, and in making acquisitions. Profit potential is a critical determinant of credit protection. A company that generates high operating margins and returns on capital and operating margins also should be more able to fund growth internally, attract capital externally, and withstand business adversity. Earnings power ultimately attests to the value of the company's assets, as well. In fact, a company's profit performance provides a litmus test of its fundamental health and competitive position. Accordingly, our conclusions about profitability should confirm the assessment of business risk.
For wireless, top-line expansion and ARPU are keys to profitability. Top-line growth is especially important for the telecom and cable industries because large up-front costs (for equipment deployment, spectrum rights, and branding/marketing) create significant operating leverage. For established operators, the growth curve will flatten as the customer and revenue bases become larger and more mature. A sharply declining ARPU is typically a negative sign, except in fast-growing emerging markets, because it may indicate that a carrier is adding too many low-margin customers, cutting its prices too much, or losing its best customers. Prepaid wireless customers generally have much lower ARPPUs than postpaid customers. Historically, prepaid customers have been either low-usage subscribers or applicants with poor credit.

Profitability in wireline depends largely on:

- Price differential with mobile;
- Operating efficiency;
- Degree of operating leverage and flexibility--specifically for former monopolies;
- Regulatory hurdles and constraints; and
- Number of competitors and their business models.

The more significant measures of profitability are:

- Pretax, pre-interest return on capital;
- Operating income plus D&A as a percentage of sales; and
- Earnings on business segment assets.

Return on capital measures the underlying efficiency of invested assets and can be a leading indicator of long-term survival. This profitability ratio is indifferent to the mix of debt and equity in a company's capital structure, facilitating the comparison of one company to another.

**Part 2--Financial Risk Analysis**

Having evaluated a company's business risk, we look next at several financial categories. The company's business risk profile determines the financial risk appropriate for any rating category. We assess financial risk largely through quantitative means, particularly by using financial ratios.

We analyze five risk categories: accounting characteristics; financial governance/policies and risk tolerance; cash flow adequacy; capital structure and leverage; and liquidity/short-term factors. We then determine a score for most of the financial risk categories (see table 3).

**Table 3**

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<thead>
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<th>Financial Risk Measures</th>
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<tr>
<td>Highly leveraged</td>
<td>B</td>
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</tr>
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</table>
1. Accounting characteristics
In evaluating a company's risk profile, we think it is important to form an understanding of, and an opinion about, a company's accounting consistency, strategy, and policies, and related implementation processes. We use financial statements and related footnotes as a primary source of information about a company's financial condition and performance. The analysis begins with a review of accounting characteristics to determine whether ratios and statistics derived from the statements adequately measure a company's performance and position relative to those of both its direct peer group and the universe of industrial companies. Our assessment is important in providing a common frame of reference and in helping determine the quality of disclosure and the reliability of the reported numbers.

Analysis should focus on:

- Analytical adjustments and areas of potential concern;
- Significant transactions and notable events that have accounting implications;
- Significant accounting and financial reporting policies and the underlying assumptions; and
- History of non-operating results and extraordinary charges or adjustments and underlying accounting treatments, disclosures, and explanations.

2. Financial governance/policies and risk tolerance
The robustness of management's financial and accounting strategies and related implementation processes is a key element in credit-risk evaluation. We attach great importance to management's philosophies and policies involving financial risk.

For example, we closely scrutinize new debt financing, and particularly aggressively leveraged deals, relative to the burden debt service will place on the company’s cash flow and other liquid sources of funding. A major consideration in this regard is management's commitment to debt reduction. Providing that a company's cash flow can support it, we view debt amortization involving substantial repayment more favorably than financing, which includes little or no amortization prior to maturity. Companies' financial and accounting strategies and track records are critical to our understanding of management’s intent and risk appetite and can be a material negative rating factor in instances where over aggressiveness and imprudence are evident.

Understanding management's strategy for increasing its share price, including its financial performance objectives (e.g., return on equity) can provide invaluable insights into its financial and business risk appetite.

3. Cash flow adequacy
The primary fixed-charge coverage ratio is EBITDA interest coverage. For all corporate borrowers, cash flow analysis is the most critical element in all credit-rating decisions. There usually is a strong relationship between cash flow and profitability, but many transactions and accounting entries affect one and not the other. Analysis of cash flow patterns can reveal debt-servicing capability that is stronger or weaker than might be apparent from earnings.

In telecom and cable, larger, well-established, diversified companies generally have stronger internally generated cash flows than less-established stand-alone service providers, because their mix of services often includes mature products with positive cash flow characteristics. This is one of the major factors that contributes to incumbents and other diversified operators often having solid investment-grade business risk scores. Positive cash flow not only provides stronger debt service characteristics but also allows for internal funding of requisite heavy capital expenditures, translating into lower borrowing requirements and financial leverage. Thus, established diversified
operators also usually have investment-grade-level financial risk scores which, when combined with the higher business risk profile, translate into investment-grade ratings (those 'BBB-' or higher).

**Cash flow ratios.** Ratios show the relationship of cash flow to debt and debt service, and to the company's needs. Because there are calls on cash other than for repaying debt, it is important to know the extent to which those requirements will allow a company to use cash for debt service or lead to a greater need for borrowing. The most important cash flow ratios we look at for telecommunication, cable, and satellite broadcast companies are:

- \[(\text{EBITDA} - \text{capex} - \text{common and preferred dividends})/\text{debt},\]
- \[(\text{EBITDAR} - \text{capex} - \text{common and preferred dividends})/(\text{total debt} + \text{present value of operating leases}^*),\]
- Funds from operations/total debt (adjusted for off-balance-sheet liabilities),
- Debt/EBITDA,
- EBITDA/interest,
- Free operating cash flow per subscriber,
- \[(\text{Free operating cash flow} + \text{interest})/\text{interest},\]
- \[(\text{Free operating cash flow} + \text{interest})/(\text{interest} + \text{annual principal repayment obligation})\] (debt-service coverage),
- Total debt/discretionary cash flow (debt payback period, and
- Funds from operations/capital spending requirements.

*Measures how much total debt discretionary cash flow covers after adjustment for estimated future operating lease expense.

Careful assessment of free cash flow and debt-service burden is particularly important for speculative-grade issuers (those whose debt we rate 'BB+' or lower), because of near-term vulnerabilities arising from either aggressive leverage and/or weaker competitive positions. The results of these ratio calculations should not be viewed exclusively on a stand-alone basis because apparently healthy values can belie hidden risks. For example, telecom companies with mature service/product portfolios may throw off (and project) an apparently healthy level of net cash because of the lack of growth opportunities that might otherwise require cash to be utilized in working capital or fixed asset investment. Investments in next-generation networks, whether in fixed line or mobile services, can also be delayed for some time if returns are uncertain or if the company has other priorities. However, the sustainability of such cash flow generation capacity may be suspect. Conversely, companies building out new networks or investing in technology generate weak cash flow because they need to fund increased working- and fixed- capital needs.

4. Capital structure and leverage

A company's assets and related cash flow mix are critical determinants of the appropriate leverage for a given rating level. Assets producing strong cash flow, with clear marketability justify a higher level of debt than assets with weaker cash generation and market value characteristics.

Because of their role in building out a major part of the infrastructure underpinning the new digital economy, the telecommunications, cable, and satellite broadcast industries have had to, in recent years, invest vast amounts of capital in technology (hardware and software), licenses, marketing, and customer service. The long-term nature of capital commitments and extended breakeven periods on investment make the type of financing companies require to fund these needs similar in many ways to the financing needs of other long-term infrastructure and utility sector projects. Debt leverage, and interest and amortization coverage ratios are key components of the financial risk score.
Key ratios that are useful indicators of leverage include:

- \( \frac{\text{Total debt} + \text{present value of operating leases}}{\text{EBITDA}} \) (lease-adjusted),
- \( \frac{\text{Total debt}}{\text{total debt} + \text{equity}} \),
- \( \frac{\text{Total debt} + \text{off-balance-sheet liabilities} + \text{equity}}{\text{total debt} + \text{market value of equity}} \).

**The need for, and access to, capital.** Our analysis of cash flow in relation to capital requirements begins with an examination of a company's capital needs, including both working and fixed capital.

**5. Liquidity/short-term factors**

For speculative-grade issuers, the short-term horizon can be particularly critical in regard to liquidity, event risk, and susceptibility to changes in business conditions—all of which can lead to precipitous declines in earnings, cash flow, and capital.

Our analysis of liquidity (and financial flexibility more generally) starts with operating cash flow and cash on hand, then looks at other actual and contingent sources and uses of funds in the short term that could provide or drain cash under given circumstances.

Working capital can be a critical use or potential source of cash flow, depending on the nature of the company and its operating cycle. A company may also be able to extract cash from working capital at least temporarily, for example, by monetizing receivables through factoring or securitization, liquidating unneeded inventories, or stretching out payments to suppliers. Each of these techniques has potential drawbacks, however, in terms of time needed to execute, or—in the case of stretching out payments—sending potentially alarming signals to suppliers.

Telecommunications, cable, and satellite broadcast companies that are in a growth phase, rather than in mature stages of development, often are short on working capital. In this environment, access to external working capital finance is often critical. In this regard, a source of liquidity is bank lines.

Key factors we look at are:

- The total amount of the facilities;
- Whether they are contractually committed;
- Expiration date(s);
- Current and expected usage and estimated availability;
- Bank group quality;
- Evidence of support or lack of support by the bank group; and
- Covenant and trigger analysis.

Financial covenant analysis is critical for speculative-grade issuers. We request copies of all bank loan agreements and bond terms and conditions for rated entities, and we review supplemental information that issuers provide for listings of financial covenants and stipulated compliance levels. We also review historical covenant compliance as indicated in compliance certificates, as well as expected future compliance and covenant headroom levels. We give special scrutiny to entities that have already tripped or are that we expect to trip financial covenants and review them for their ability to obtain waivers or modifications to covenants. Tripping covenants can have a doubly negative effect on a company's liquidity. It may preclude the company from borrowing further under its credit line and may lead to a contractual acceleration of repayment and increased interest rates. In cyclical downturns, reduced
financing requirements for working capital and capital expenditures temper deterioration of debt leverage and cash flow protection measures.
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