Industry Top Trends 2018

Telecommunications

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Overview

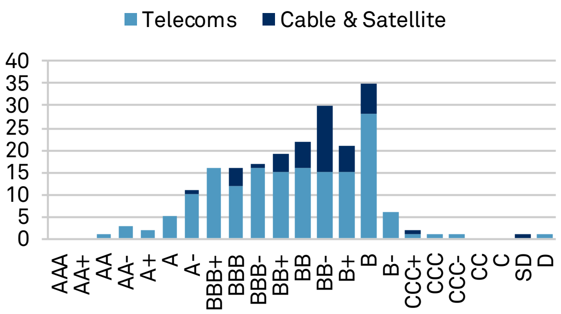
- **Ratings Outlook:** Ratings in the sector should remain largely stable through 2018, even as we have a larger negative bias on rating outlooks than in 2016. We attribute this change to weaker balance sheets, as well as structural and competitive factors in maturing markets, especially the U.S. Excluding the U.S., however, our outlook bias is trending favorably with a positive outlook bias in Western Europe, and improving trends in Asia-Pacific (APAC) and, to some extent, Latin America (LatAm). Negative ratings and outlooks in LatAm may not fully reflect industry credit quality as some ratings are affected by sovereign trends.
- **Forecasts**: We project flat-to-low single digit percentage revenue growth in more developed markets such as Canada, Western Europe, Japan and Australia, and modest erosion in the U.S., reflecting market maturity, intense competition, and secular pressure in several wireline services. We believe cable companies in the U.S. and integrated telecom companies in Western Europe will post stronger growth than their peers. Developing markets in APAC and LatAm should see higher (if slowing) growth versus other regions. We expect stable-to-improving profitability and free cash flow in most markets from cost control and operating leverage. Credit metrics are expected to improve given solid cash generation and operators' desire to bolster balance sheets.
- **Assumptions:** We assume existing market and pro-competition regulatory structures will keep competitive risks high, leading to only modest price gains at best. Developed markets will see ongoing pressure in voice, legacy data, and video, while broadband (wireline and wireless) will prove to be an increasingly pivotal offering. Against the backdrop of improving market conditions, emerging markets should see improved unit and revenue growth. We anticipate companies will focus on customer retention, bundling, and cost control to improve margins. Capital intensity should remain relatively stable for most markets and, with lower debt costs, should help boost free cash flow.
- **Risks:** Risks in the telecom and cable sector include intense competition, structural cord-cutting trends in fixed-line voice and video, and the capital-intensive nature of the industry to support the ongoing demand for data. Pro-consumer regulatory mandates in certain jurisdictions such as Mexico, Australia and India pose short-term risks for incumbents. These risks may drive additional price compression, higher attrition, lower EBITDA, higher capex, and weaker credit metrics. Any policy shift toward more aggressive shareholder returns or substantially debt-funded mergers and acquisitions (M&A) could hurt the financial risk profiles and ratings of many issuers.
- **M&A:** We expect more M&A in the U.S. than other regions given the need for scale to protect profitability and hedge against heightened competition, revenue diversity and technology shifts. Future combinations will likely be driven by the convergence of distribution systems and vertical integration. In APAC, operators will be looking for growth in new geographies and products. We expect M&A in Europe to be more subdued given the lackluster regulatory appetite there for additional industry consolidation that could harm competition. In LatAm, we believe that regulation and balance sheets are likely to inhibit M&A.

S&P Global Ratings

Ratings trends and outlook

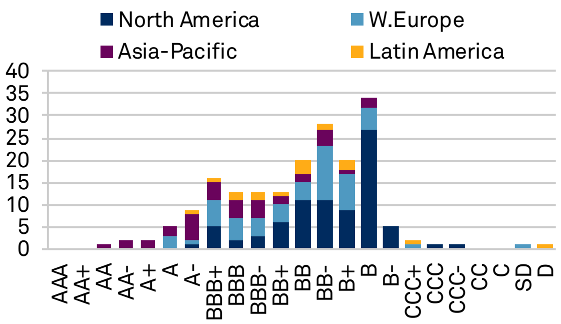
Global Telecommunications

Chart 1 – Ratings Distribution



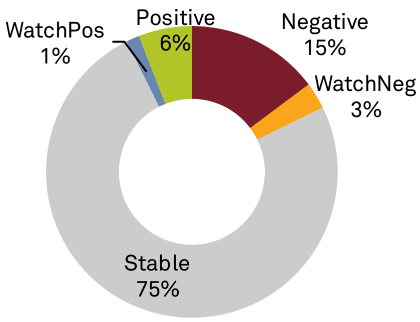
The rating distribution is weighted in the speculative-grade category, due to the high leverage to support the capital-intensive nature of the sector as well as aggressive financial policies.

Chart 2 – Ratings Distribution By Region



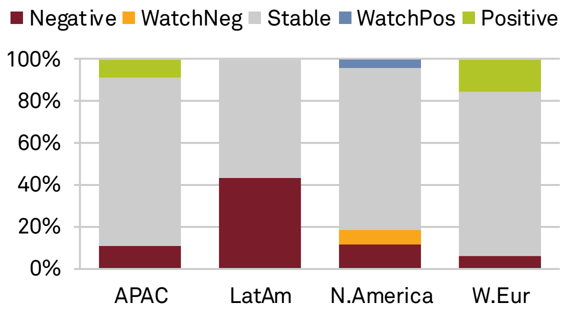
The highest incidence of investment grade ratings is at the 'BBB+' level with the majority coming from Western Europe and supported by entrenched market positions and relatively modest leverage.

Chart 3 – Ratings Outlooks



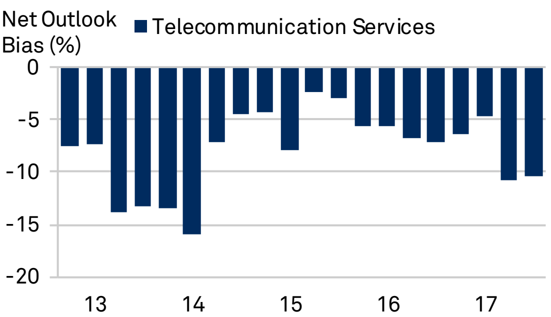
Stable outlooks have decreased to 75% from 77% a year ago while negative outlooks have increased to 15% from 11%.

Chart 4 – Ratings Outlooks By Region



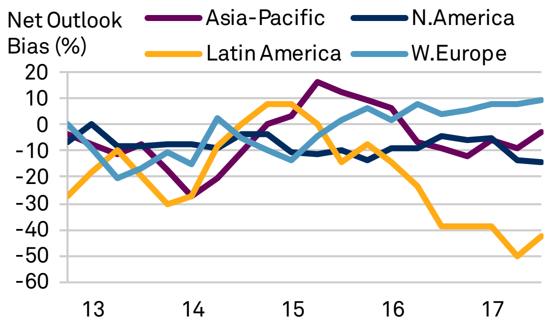
Predominantly stable outlooks across all regions led by Western Europe and North America.

Chart 5 – Ratings Outlook Net Bias



Out global telecom and cable outlook has had a predominantly negative bias since 2013, and has weakened in 2017.

Chart 6 – Ratings Net Outlook Bias By Region



Net outlook bias has weakened in the U.S., improving elsewhere.

Source S&P Global Ratings. Ratings data measured quarterly with last shown quarter ending September 30, 2017

North America

In North America we expect broadly stable ratings, although with an increasingly negative net outlook bias, primarily because of aggressive competition in wireless and secular industry declines in the wireline segment amidst more leveraged balance sheets. An acceleration of M&A in the U.S. because of a more supportive regulatory environment could also pressure ratings, depending on financing plans. In Canada, industry concentration, operational discipline, and balanced shareholder policies should alleviate balance sheet concerns and support ratings stability.

Europe

Our outlook for European telecom ratings is stable, supported by a continued soft recovery for integrated telecom providers. It is also the only region with a positive outlook bias, driven mainly by improving financial profiles. Western Europe has the highest portion of stable outlooks at over 80%, and Europe's is about two-thirds overall. However, there is fragility in the picture as growth prospects remain low in Europe's fragmented, mature, and highly penetrated markets. And while balance sheets have improved over the last year, financial profiles remain at the weak end for the ratings of many issuers. Our forecast incorporates the benefit of improving trends to provide more financial headroom and help ease leverage pressure. We have a stable outlook for cable ratings as well, where continued topline and EBITDA growth in the mid-single-digit percentage range remain offset by aggressive shareholder returns and M&A appetite.

Latin America

The rating bias on LatAm issuers is mostly unchanged from the prior year. The region maintains the highest negative bias at about 35%, though stable outlooks continue to predominate at about 65%. Negative outlooks mostly reflect somewhat high debt leverage, a highly competitive environment, a slow economic recovery that limits the near-term growth prospects of these issuers, and the negative outlook on Brazil's sovereign rating.

Asia Pacific

In APAC, overall ratings trends remain stable. We expect steady regional GDP growth and increasing mobile data consumption to support telecom operators' credit quality despite ongoing capital investment needs. A modest negative outlook bias is mainly due to intensifying competition in some Southeast Asian countries and Australia.

Industry forecasts

Telecommunications – Fixed and Wireless

Chart 7 – Revenue Growth (Local Currency)

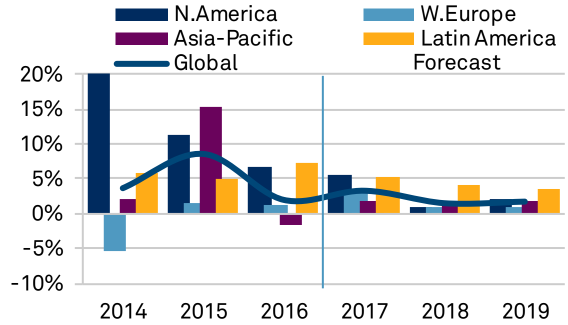


Chart 9 – EBITDA Margin (Adjusted)

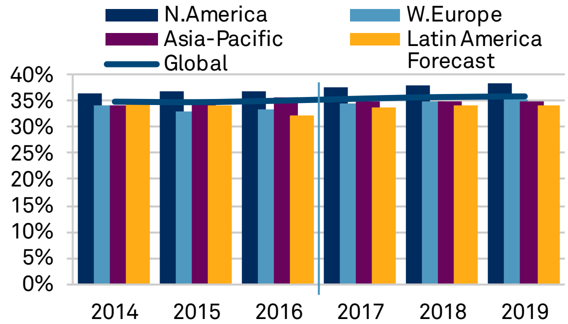


Chart 11 – Debt / EBITDA (Median, Adjusted)

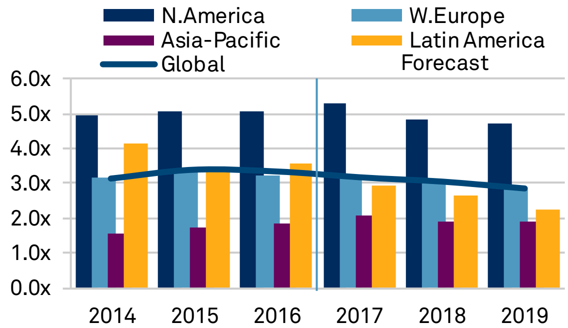
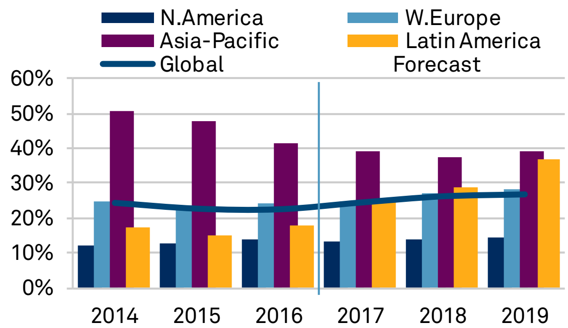


Chart 13 – FFO / debt (Median, Adjusted)



Cable and Satellite

Chart 8 – Revenue Growth (Local Currency)

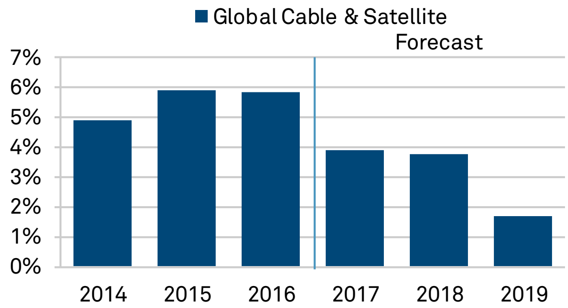


Chart 10 – EBITDA Margin (Adjusted)

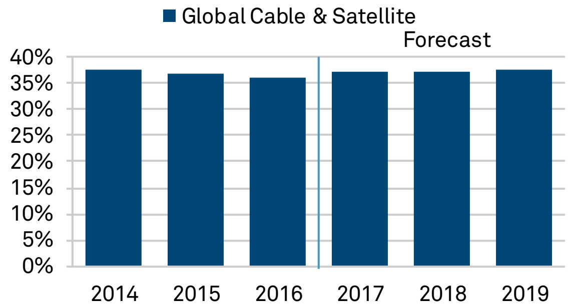


Chart 12 – Debt / EBITDA (Median, Adjusted)

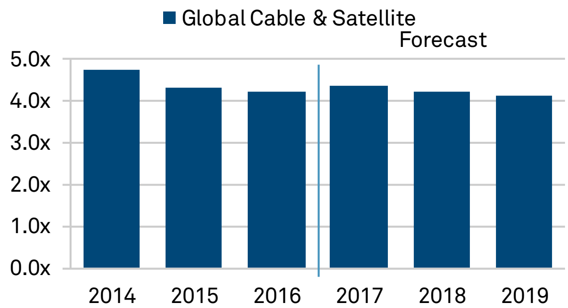
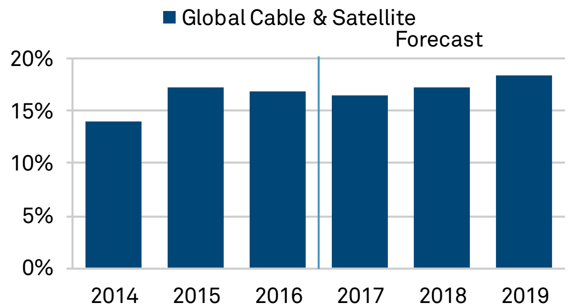


Chart 14 – FFO / debt (Median, Adjusted)



Source: S&P Global Ratings. Revenue growth shows local currency growth weighted by prior-year common-currency revenue-share. All other figures are converted into U.S. Dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate.

Key assumptions

Telecommunications

1	**Broadband pivotal to industry growth** We assume technological shifts will continue to pressure voice, video, and legacy data revenue. However, we expect demand for high-margin broadband (wireless & wireline) to remain strong. Service bundling initiatives should support modest overall revenue growth in most markets except for the U.S. Improving economic conditions and penetration of high-growth offerings in developing markets should allow for mid-single digit percentage revenue growth.
2	**Competition and regulation limit profitability improvement** We expect competition to remain intense given market maturity and the increased commoditization of services. Regulatory mandates favoring more competition will limit industry consolidation, and market share imbalances will prevent significant improvements in near-term industry profitability. Issuers, nonetheless, have substantial opportunities to cut costs and improve subscriber economics through stickier bundles and differentiated offerings.
3	**Stable capital intensity should drive free cash flow growth** Capital spending levels will remain high across the industry. Spending will be aimed at broadband infrastructure, with telecom companies expected to invest in fiber builds and wireless capacity. Telecom providers in emerging markets will accelerate their 4G investments while the U.S. players embark on 5G wireless investment. We expect wireless spectrum spending to be somewhat subdued relative to recent years given the timing of auctions and the evolution of 5G technology. However, we expect capital intensity (the ratio of capital spending to revenue) to remain relatively stable. Combined with lower borrowing costs, that should help boost free cash flow.

North America

In the U.S. **wireline** segment we expect mid-single-digit percent revenue declines, as consumers continue to switch to wireless and move to cable rather than digital subscriber line (DSL) broadband subscriptions. Cable can provide a superior customer experience as it can be faster, owing to the cable service internet specification (DOCSIS) 3.1 technology. In the business segment, we also expect wireline companies will continue to face aggressive competition from the cable operators, which are building their market share. While we expect modestly lower levels of capital spending to preserve cash flow, we also believe that wireline providers will need to invest more in their networks to effectively compete with cable in the long-run. Furthermore, in our opinion, cost-cutting alone is unlikely to be sufficient to offset the revenue erosion that is leading to smaller margins for the wireline companies.

In **wireless**, we expect low-single digit percent revenue declines in 2018 based on very limited subscriber growth and lower average revenue per unit (ARPU). This reflects heightened price competition, as all the carriers are now offering unlimited plans. Despite more aggressive promotional activity and the launch of unlimited plans from AT&T and Verizon, we still expect Sprint and T-Mobile will continue to take share in the post-paid segment (although subscriber gains should moderate). Our assumptions about the industry’s long-term growth and competitive intensity could change, however, if a merger reduced the number of major U.S. wireless providers to three from four.

The **cable** industry’s strength reflects its strong broadband subscriber base and growth in the business telecom segment. There are also modest video customer losses. All things considered, we expect low- to mid-single-digit percent revenue growth for cable providers in 2018. Margins should be relatively stable as rising programming costs are offset by growth in higher-margin broadband offerings. We also see stable capital spending in the cable business because upgrading to DOCIS

3.1 is relatively low-cost and can be offset by lower capital spending on customer premises equipment (CPE).

As a result, we expect that **credit metrics** will remain largely stable in 2018, barring any significant debt-funded acquisitions. In the long term, 5G wireless service could take share away from cable broadband. But given the lengthy time needed to deploy 5G and uncertainty about its profitability, we don't yet see it as a near-term threat.

Europe

In Europe, we expect competition will remain intense, reflecting market fragmentation and mature conditions in its highly penetrated markets. Because growth prospects are weak, we expect to see continued cost cutting as a major path to higher profitability. Our forecasts also assume that mobile prices will stabilize: Market consolidation and more converged service offerings have helped moderate competition in many markets. The monetization of mobile data is also helping offset the commoditization of voice and short message service (SMS). At the same time, ARPU trends have improved modestly as a result of tactical price increases in fixed broadband, and increased penetration of multi-play products, supported by improved internet protocol television (IPTV) and high-speed broadband offerings. Despite largely complete 4G wireless rollouts, we assume that capital spending will average 19% of revenue over the next two years as telecom companies compete with cable and upgrade capacity. Meanwhile, cable growth will rely on adding broadband customers and cross-selling bundled products. But cable growth will moderate as the performance advantage over telecom companies narrows and penetration plateaus within their existing geographic markets. We expect capital spending at cable operators to average 22% of revenues over the next two years.

Latin America

We expect mid-single-digit percent revenue growth in 2018, as macroeconomic conditions gradually improve, especially in Brazil and Argentina. We expect industry dynamics to continue to be driven by the migration of fixed-to-mobile and voice-to-data. Pre-paid migration to hybrid and post-paid plans is a favorable trend that will hold through 2018 and should support EBITDA margins in the 35% area. In addition, we expect an increase in 4G wireless coverage across most operators, which should drive higher data usage and revenue. In Mexico, we believe that EBITDA margins will remain constrained by fierce competition, high subscriber acquisition costs in the wireless segment (on account of post-paid subscriber growth), and increased content charges in the pay-TV segment, which are exacerbated by the peso's weak exchange rate with the U.S. dollar.

APAC

In APAC, demand for mobile data is likely to remain strong and an avenue of growth, even as wireline voice revenue continues falling. That supports modest overall growth for most telecom operators. We expect intense competition in developing markets such as India and Thailand because smaller players are adopting aggressive pricing strategies to increase market share. We also expect overall capital expenditures to remain elevated because of the ongoing investment needs for 4G and fiber-based broadband. Key credit measures, such as debt to EBITDA, are likely to remain stable for most operators. The exception is likely to be at some companies in South-East Asia where competition is fierce and capital spending needs are high.

Key risks and opportunities

Telecommunications

1	**Competition** The key risk for both telecom and cable providers remains aggressive competition, which could increase churn, add pricing pressure, and affect cash flow—particularly in more mature markets. We believe that competitive risks could rise as distribution systems converge and carriers fight to protect customer relationships. Given that the industry requires large investments, it's critical for many companies to grow larger and minimize customer attrition. Major new investments can create opportunities that allow companies to differentiate their offerings from their rivals, particularly in the early stages of a new technology.
2	**Technology shifts and changes in consumer preferences** Thanks to technological advances and changing consumer preferences, companies are seeing higher demand for data and video. But intense industry competition and the commoditization of these services can limit the chance to benefit from these trends. In the wireline industry, traditional landline phone service is being hurt by wireless. In cable, consumers have increasingly cut (or reduced) conventional television in favor of over the top (OTT) video. Cable providers have a natural hedge with their broadband product, but it's critical for them to keep churn low, sometimes accomplished by bundling products to provide additional value. Companies can mitigate the threat of disruptive technologies, such as OTT, and preserve credit quality with prudent investments that maximize competitive position (such as fiber and next generation wireless), sustainable product differentiation, and products and services that earn a strong return.
3	**M&A and financial policies** Slowing growth, rising competition, and low borrowing costs are driving companies to aggressively pursue M&A. Companies seek to increase scale, lower costs, limit competition, or diversify their business model to achieve the vertically integrated models we see in the U.S. The risk is that some large debt-funded transactions won't deliver sufficient long-term returns. In addition, pressure to return capital in a low-growth, low-interest rate environment has led to increased dividend payouts and share repurchases, which can pressure balance sheets. While our ratings assume that issuers will adhere to more balanced financial policies, increasing shareholder return will continue to be a risk for their credit profiles.

We see **competition as the primary risk** across all regions and industry sub-sectors. Although demand for data is strong, competition among traditional rivals (and non-traditional players) are weighing on prices and forcing operators to provide discounted or lower-priced, stripped-down bundles. Secular shifts, including wireline and (more recently) video cord-cutting, remain a challenge for fixed-line telecom operators and non-converged cable companies, in particular. Data monetization has been positive for the mobile sector worldwide, but as with voice and SMS, maturing products can quickly become commodities with few differentiating features to support pricing. Data appears headed down a similar path, with operators in many markets adding ever more gigabytes (Gb) into existing plans at minimal or no extra cost, thereby eroding the upside potential of customers migrating to larger buckets as their consumption rises. In the U.S., most providers now offer unlimited data packages, and are also offering value-added content to differentiate themselves. Similarly, in France, Free raised its 20 euro 4G data bucket to 50Gb from 20Gb last year for all existing customers, and this year they have made it unlimited for all their bundled customers, pressuring data pricing for the entire market. We are skeptical that consumer data demand can keep growing by 50% (or more) per year. If data does become a commodity like voice and SMS, we believe the risk of a prolonged period of price compression increases. And while bundling allows some operators to sell more products, we typically see price erosion per product (given bundle discounts), requiring continued growth of multi-play penetration to avoid losing market share. This could be difficult to sustain given the substitution effects we see in the U.S.

Although we see **less new spectrum** available over the next 12-18 months than in the recent past, higher-than-expected or ill-timed wireless spectrum spending is an ongoing risk for the sector. Competitive pressures or governments looking to boost revenues would be the main reasons for higher spending on spectrum. In APAC, for example, while we see a low-to-moderate likelihood of significantly higher spectrum costs, the impact would be felt most acutely among the smaller, second-tier players.

In Latin America we continue to expect a highly competitive environment where the largest players will continue to focus on investments that strengthen service quality and market position. Capital investments should remain between 15% and 20% of revenue, mostly for network upgrades and expansions, both in fixed and mobile networks. More specifically, we expect sizeable investments for 4G and the deployment of fiber optic networks. Some smaller players may take a similar route. In some cases we could also expect some aggressive pricing campaigns.

Another important risk for Latin America in 2018 relates to the effect of general elections in Colombia (May 2018), Mexico (July 2018), and Brazil (October 2018). The outcome of these elections could introduce a measure of market volatility that might delay certain investment decisions. In addition, uncertainty surrounding U.S. trade and immigration policies still weigh on consumer confidence, particularly in Mexico.

U.S. telecom providers already have **aggressive shareholder-friendly financial policies**, which include large dividend payout ratios, although the pace of share repurchases has declined as issuers have focused on allocating capital to acquiring spectrum licenses and/or M&A. Balance sheets are stretched at these issuers, who are funding acquisitions with large equity components in order to preserve credit metrics. However, using equity to fund these deals can constrain discretionary cash flow as dividends increase. In the wireline segment, secular industry declines and integration missteps from recent acquisitions have forced some of these companies to reduce dividends. In cable, financial policies are generally less aggressive, and these companies often use free operating cash flow for share repurchases and acquisitions rather than dividends. Stock buybacks offer more financial flexibility than dividends to pursue M&A and network investment. The unknown is whether tax reform will happen in the U.S. While we believe that tax reform would likely improve free operating cash flow for the telecom and cable operators, we expect that incremental cash flow would likely be allocated to shareholders and capital expenditures, rather than debt reduction.

Financial policy has generally supported our current ratings in Europe, with management teams scaling back dividends in the first half of the decade to compensate for weak operating performance and the high investment needs associated with 4G implementation. As noted earlier, we expect elevated capital spending despite 4G rollouts largely being complete. We also forecast steadily rising dividends as telecom companies return to breakeven and slightly positive growth. As a result, we see modest cash flow risk that stems from investor pressure to increase shareholder returns after several years of weak equity performance. This could become a rating concern because balance sheets for several telecom issuers are still at the weak end of the existing rating limit and because higher capital spending is constraining free operating cash flow. In our current forecast we expect an average mid-single-digit percent growth in dividends for the top 13 European rated telecom companies over the next two to three years. We view this as sustainable in light of growing discretionary cash flow, which should provide scope for de-leveraging. However, a rise in shareholder returns that outpaces a rise in cash flow could pressure ratings.

Industry developments

Lower appetite for M&A outside of the U.S.

In the U.S., we expect M&A activity to accelerate in 2018 due to a more benign regulatory environment. However, unlike previous waves of telco and cable M&A, potential combinations could include issuers from different sub-sectors, such as telco and media companies as well as wireless and cable. Speculation around these types of combinations are driven by the potential longer-term convergence of distributions systems, vertical integration, revenue diversity, technology shifts, and changes in consumer preferences. For example, in late 2016, AT&T announced that it would acquire diversified media company Time Warner Inc. for US$85 billion. We expect this transaction to close before the end of 2017.

Other factors are also contributing to the flurry of M&A activity. In the fixed-line industry, consolidation has largely been the result of declining revenue and the need maintain profit margins from increased economies of scale. In wireless, aggressive competition and mature industry conditions have led to pricing pressure and weak service revenue growth. Moreover, the scale intensity of the industry and ongoing capital spending and spectrum requirements imply that consolidation could give rise to healthier industry conditions. In cable, programming expense pressure and rising competition from OTT providers are prompting acquisitions among some of the mid-sized cable operators.

In Europe, we see reduced prospects for M&A, with the exception of in-market convergent consolidation, which we think regulators would view as creating stronger competition incumbents, and thus welcome. However, we think sharp differences in valuations, financial policy and capital structure could complicate deals, as has been the case in the long-mooted transaction between Vodafone and Liberty Global. Notably though, after several years of consolidation, regulators have taken a harder line on in-market mobile M&A, with the European Commission blocking 2016 transactions in Denmark and the UK, and requiring steep concessions in Italy that will result in a new fourth player Iliad). Given this track record and focus on consumer protection, we do not anticipate further in-market consolidation for the next two years. We also see little chance of cross-border consolidation as the typical M&A benefits (spectrum, infrastructure, and cost synergies) are largely absent with non-overlapping markets.

France remains a particular market of consolidation interest given that consolidation attempts have been made twice in the last three years. But Bouygues Telecom's results have sharply rebounded and with its commercial success in 4G over the last year, the four operator market structure seems more viable today than one or two years ago, raising doubts as to whether the competition authority would be receptive to another attempt. And as Iliad builds out its own 4G network, the value of acquiring Bouygues' infrastructure diminishes.

Regulation – quest for industry balance creates uncertainty

As noted, the **U.S. regulatory environment** appears more benign under the new administration than it was a year ago. Since the beginning of the year, the Republican-led Federal Communications Commission (FCC) has undone or removed from consideration many Democratic-led initiatives that were passed under the previous administration, including set-top box reform, "special access" reform and certain consumer privacy rules. Perhaps most importantly, it has launched a notice of proposed rulemaking (NPRM) to address the following:

- End Title II regulation of the internet by reclassifying ISP's and "information service" under the lighter touch Title I classification.
- Eliminate the "general conduct standard" for reviewing possible violations of open internet principles not covered under the rules.
- Determine whether to keep, modify, or eliminate the so-called bright-line open internet rules against blocking, throttling and paid prioritization of internet access.
- Reinstate mobile broadband as a private mobile service.

We expect a resolution to come in the December timeframe that will most likely be a 3-2 partisan vote to reverse Title II classification of broadband providers. This would eliminate the general conduct standard that potentially allows the FCC expand its regulatory reach, therefore reducing the risk of price regulation of broadband providers by the FCC. We believe the concepts of no blocking and no throttling of internet traffic are less controversial and could be retained while the fate of paid prioritization is less certain. Separately, if ISP's return to Title I jurisdiction, then the Federal Trade Commission (FTC) would reclaim privacy-rule oversight under a more lenient approach that does not require consumers to opt-in to sharing of data (as the previous FCC administration had required for ISP's). We believe this could open the door for more targeted adverting and data monetization opportunities for ISP's.

However, unless a more permanent Congressional solution to Title II regulation can be reached – which we view as unlikely given partisan divide and a range of other high profile initiatives to tackle-- we believe the Title II debate will continue. Therefore, over the longer-term, the threat of more intense regulation could return under a new administration.

In Europe, regulation remains a key risk. In our recent global telecom & cable webcast poll, 48% of participants cited regulation as the primary risk to Europe's telecom sector, more than double the next cited risk (high investment needs). In addition to the chilling impact on M&A, which we describe in the section above, we view network and rate regulation as the key risks. Between the two, we believe network regulation poses an increasing risk to operators, while rate regulation is now on the decline as mobile termination rates (MTRs) are already at very low levels, leaving operators less exposed to further MTR reductions, and Europe's roaming phase out completed earlier this year.

Network regulation encompasses wholesale access to networks such as MVNOs in mobile, and local loop unbundling in fixed. While such access regulation has been in place for years with regard to mobile and incumbent copper networks, national regulatory authorities have increased pressure on operators by opening discussions on cable access and fiber access. Regulators have also more formally pushed to separate some incumbents from their networks to make them truly independent wholesale providers.

In the UK this has so far resulted in a legal separation of Openreach from BT and we believe structural separation could be reconsidered if the regulator (Ofcom) is not satisfied with the ability of current measures to yield greater independence, service levels, and investment within the next two to three years. In Italy, the government has also taken a more vocal stance in advocating for the separation of Telcom Italia's assets as a means to more efficiently and independently ensure network investment, and also to potentially address concerns around foreign ownership of a strategic national asset.

If such regulatory pressure leads to the stripping of telecom assets, we would generally view it as negative to business profiles, with incumbents losing one of their key competitive advantages, their comprehensive networks and resulting wholesale operations. The ratings impact would be determined on a case by case basis with the use of any sale proceeds and/or transfer of debt to the network entity potentially strengthening financial profiles, providing an offset to weakened business profiles.

LatAm has seen a series of regulatory changes over the last few years to modernize the sector, which have transformed industry dynamics and the competitive landscape. The common theme of regulators across the region has been to foster competition in the market and protect the end consumer. For 2018 we are not expecting major regulatory changes, although certain initiatives are under way. Brazil, for instance, may change its fixed –line segment from a concessions model into an authorizations scheme. This initiative is still under review, and the timing for approval is uncertain. In Mexico, legal controversy on the zero-interconnection-rate regime was resolved and the regulator is currently defining the interconnection rate that will apply, beginning in January 2018.

In APAC, competition in part has been stoked by regulatory changes aimed at improving consumer access in terms of connectivity and cost. Such initiatives have ranged from paving the way for new entrants in Singapore and Australia to mandating price reductions for interconnection, mobile roaming, and termination rates fees in Indonesia as well as the Philippines. Also, in Australia, the establishment of the government-driven National Broadband Network (NBN) will structurally separate the incumbent Telstra's fixed-line services, resulting in intensifying competition in the country's fixed broadband market.

5G wireless – no panacea for slow growth

The U.S. wireless carriers have been at the forefront of 5G wireless, in contrast to other global carriers who expect 5G will evolve at a more moderate pace. In our view, large U.S. carriers have the incentive to be aggressive in their deployments in order to differentiate their wireless networks given the mature industry conditions and intense price-based competition for 4G wireless services, which are increasingly being commoditized.

We expect the first iteration of 5G will be a fixed wireless broadband service. AT&T and Verizon are already conducting trials of a fixed wireless product, which might offer customers very fast data speeds that are comparable with existing cable broadband products and also expand their reach beyond their existing wireline footprints; this could represent a longer-term threat to the cable broadband moat. Moreover, the cost to deploy and maintain a fixed wireless network can be less expensive than deploying fiber directly to the home because last mile access usually represents the largest portion of the deployment cost.

Nevertheless, we believe there are several risks associated with an accelerated 5G deployment strategy, and the near-term financial benefits are unproven. Furthermore, despite faster speeds, greater availability, and lower latency, using high-frequency wireless bands that have weaker propagation makes 5G fixed wireless services better suited to dense, urban markets. Moreover, it is highly uncertain whether a wireless-based broadband service can be as reliable and as economical as a wired connection on a per bit basis, especially as consumer demand for data and video grows. We are wary that risks associated with 5G mobile networks are even greater. Unlike previous wireless technologies, we expect that 5G will not be widely available for some time. Instead, we expect deployments will focus on denser, urban areas, which will initially limit the addressable market and could prove challenging to market efficiently. At the same time, the build-outs associated with dense fiber for wireless backhaul, small cells, and the acquisition of wireless spectrum licenses, could burden the balance sheet while the 5G use cases and revenue take some time to develop. Finally, the ability to monetize these investments in 5G are likely several years away, especially since a mobile 5G standard hasn't yet been finalized.

European telecom companies appear to be taking a more cautious view of 5G. We think that's likely to continue until a compelling economic use case emerges to support investment. We've yet to see an example of a killer application nearing maturity that would specifically require the speed and low latency of 5G to help drive adoption. But in the meantime, European carriers and markets that are ahead of the curve in terms of fiber deployment will have an advantage because of the very dense fiber networks that 5G will eventually require. We think operators in Spain, Portugal, the Baltics and Nordics, and increasingly also Italy and France, are positioning themselves well for 5G if and when it does get rolled out more broadly.

We expect Japanese and Korean carriers will adhere to their planned timelines to roll out 5G in 2019 or 2020, even though 5G's technological standards have not been confirmed at this stage. Their stable performance and healthy balance sheets means that they have the financial capacity to make initial 5G investments. SK Telecom and KT Corp, both of Korea, plan to provide a test 5G service during the Winter Olympics in February next year.

As noted, the investment in 5G could be substantial for carriers. This will likely come from three broad areas; deep fiber investments, cell site and core network elements (including related software, data center and IT support), and additional mid to high-band wireless spectrum, which facilitates very high speeds and supports much higher capacity. Compared to prior generations of wireless technology, we believe deeper fiber investments would entail an investment with a much longer-tail return. Capital spending for the other two areas will likely prove to be similar to that of 4G through its technological cycle. Integrated telecom operators who need to make these investments to remain competitive with cable rivals therefore are strategically better positioned to pursue these investments in the medium term, as they have the ability to leverage the fiber investments across their fixed-line and wireless business.

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Cash, debt and returns

Global Telecommunications

Chart 15 – Cash flow and primary uses

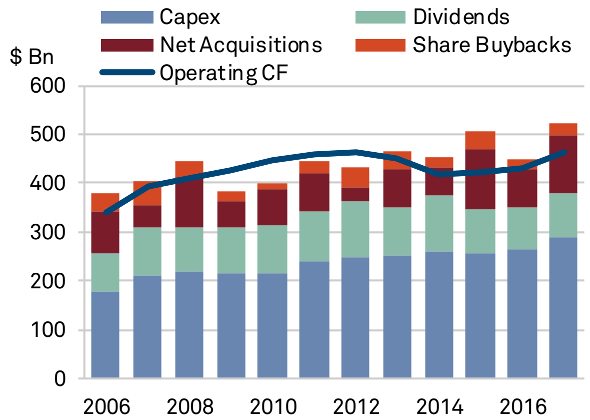


Chart 16 – Return on capital employed

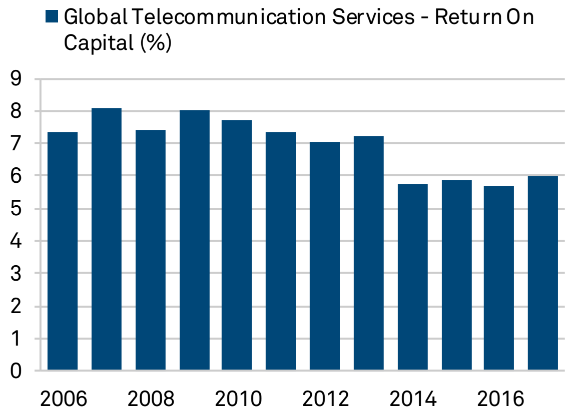


Chart 17 – Cash and equivalents / total assets

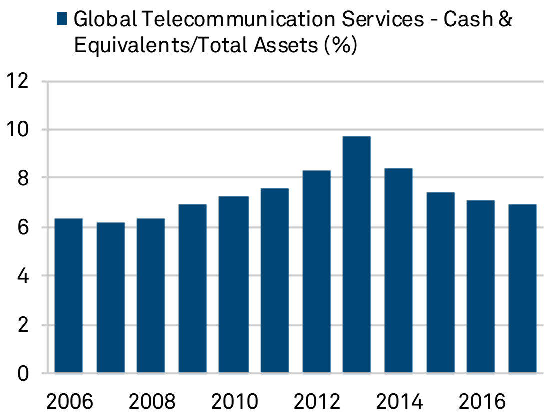


Chart 18 – Total debt / total assets

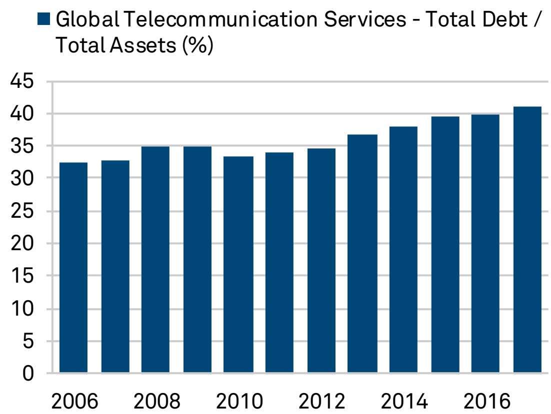


Chart 19 – Fixed versus variable rate exposure

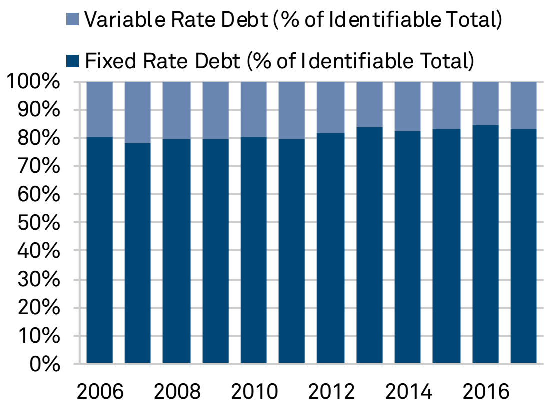
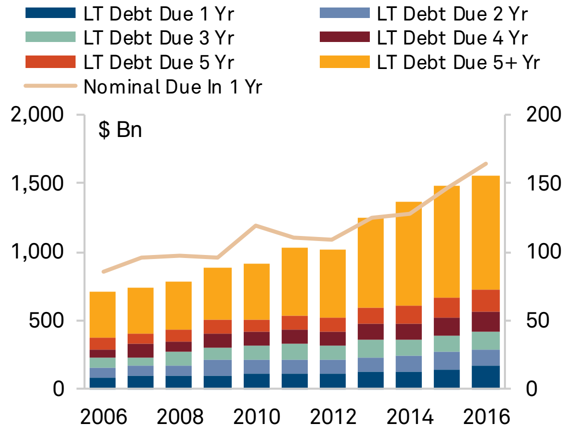


Chart 20 – Long term debt term structure



Source: S&P Global Market Intelligence, S&P Global Ratings calculations

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