

Cable, Telecom & Infrastructure

The Fall Previews

What's new: the fall conference season kicks off this week and we are anticipating surprises. Last year's surprises were mostly nasty, so we feel entitled to more some pleasant ones this year. In this brief note we highlighted the one or two issues that will be pivotal for each of the stocks we cover over the next three to four months. We list a handful of questions for each management team that, if we knew the answer, would determine whether we would want to buy the stock or sell it. We are hoping you will ask these questions in your meetings with management in the next couple of weeks, and tell us what they say.

Wireless: The carriers have had a good six months helped by: a lull in competitive activity, receding concerns about new competition from cable, and the prospect of an improved industry structure driving even more benign competition, if T-Mobile's deal is approved (if the deal fails, that may be even better because then Sprint will fail leaving 40MM subs up for grabs).

Things to watch: 1) T-Mobile's share gains are accelerating again, this time without price cuts. This new T-Mobile may prove to be a bigger danger to the incumbents than the price aggressive T-Mobile of the last few years. 2) The Cable threat may not have passed; they may just be off to a slow start (Charter finally launched their product properly this week). 3) T-Mobile may have to grant concessions that result in a substantially less attractive industry structure for the incumbents. We could see moves on all three fronts in the next three months.

Cable: It has been an utterly grim year marked by a sharp drop in broadband growth, mounting wireless losses, an unpopular deal, and poor setting of expectations by management. All four of these issues may be about to reverse.

Things to watch: 1) Broadband growth is accelerating across the group, and expectations for the second half of 2018 look too low for the first time in a year (back in the beat-and-raise zone). 2) Wireless growth may be set to accelerate following the iPhone launch. 3) The Sky deal should be resolved by month-end. 4) We will see how management does with guidance, but expectations are markedly lower than they were, which should help regardless.

Infrastructure: For towers, the big themes US organic growth, with side themes in small cells (for CCI), and the collapse of the wireless industry in India (AMT). For data centers, the big themes are bookings growth, the durability of the interconnection model, and the trajectory of wholesale pricing.

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Verizon

Thrust & Parry

Status quo

Revenue and EBITDA have returned to growth, and this trend should hold for the next couple of quarters. If the T-Mobile / Sprint deal shows signs of moving forward investors will get excited about the prospect of a benign competitive environment during the integration process and a benign pricing environment with rising ARPU on the other side. In addition, Verizon genuinely has a strong lead in 5G in the US; they are the only national carrier with a credible strategy and the means and the willingness to make the investments that will make the vision a reality. Moreover, they have a brand-new management team that may be more willing to make bold strategic moves.

The issues

- **5G:** what is the cost? We have estimated that Verizon's initial 5G investment will cost them \$35BN over 5-7 years (LINK). This will give them ubiquitous coverage of just 20% of POPs, though they will have (far from ubiquitous) coverage in other areas too. Management has stated that 5G spending will be the same as 4G, but we estimate that they spent \$80BN on 4G over the last eight years. Virtually all their wireless capex has been on 4G since 2010 but remember that 4G replaced 3G and 2G; 5G will not replace 4G. They will be running two networks side by side for the foreseeable future. How much will capex increase to during the deployment phase of 5G?
- Cable competition: We expect cable to accelerate net adds over the next few quarters. We may not see a material change in 3Q18 results; however, we are likely to see evidence of accelerating activity following the new iPhone launch and in 4Q18, and this may impact Verizon's multiple. Verizon's multiple has expanded sharply on improved trends from easing competition. At some point, the market will become concerned about the opposite rising competition.

- When you deployed 4G your wireless capex increased 50% from a steady state of \$6.5BN to \$10BN today. Do you expect the same increase during the deployment phase for 5G?
- You have said 5G spending will be the same as 4G spending; you have spent \$80BN on 4G over the last eight years. Is it the same \$80BN? Is it over the same 7-8 years? And how much of 4G spending will be replaced (how much of the \$80BN is incremental)? Don't settle for the claim that none of it will be incremental; capex is equal to depreciation for the 4G network (i.e. a good deal of it is maintenance); the 4G network must still be maintained; a good deal of 5G spending must be incremental.
- You are only targeting 20% of POPs with the initial fiber deployment (30MM homes of 150MM). Will you only face capacity constraints in 20% of the country, or will you need to expand the fiber deployment? If so, what will the next 20% cost (likely multiples of the first 20%)? What about the 20% after that?
- Why wouldn't it be better to buy cable asset (like VOD in Europe)? I understand that the plant isn't perfect (8 fiber strands, blah-blah-blah), but it is the best plant available and it would be far quicker and cheaper to upgrade it than to overbuild. And it would help neutralize the threat of cable in wireless. Don't accept the claim that they don't have enough fiber; they tried to buy CHTR.
- If you can't buy them why not network share (like Altice has done with Sprint)? You could create the world's most robust 5G network, almost instantly. 25MM Wi-Fi nodes could be converted to 5G quickly and cheaply, all with gigabit capable backhaul already in place. Wouldn't the network advantage you gain relative to AT&T and T-Mobile trump the competitive impact from cable in wireless?
- How critical is getting deals with cities to economics and timing of deployment? What do you need from cities: just lower siting costs & accelerated zoning and permitting? Pace of deals with cities seems to be moving slowly; what can you do to accelerate them? Will you deploy in cities where you can't get the terms you want from the city?
- Bonus question: for the new management team (because they are all new and European and so you can ask them questions that you wouldn't ask the old guys). Oath: really? C'mon guys. If Tim wants to buy it, why not let him have it (from the archive, an account of our first brush with Oath: LINK)?

T&TA

The Modern Media Company?

Status quo

Wireless is getting better (for now), but trends in enterprise and entertainment are getting worse (DTV revenue now declining at 8%!). With TWX closed, the company is now presenting itself as a "Modern Media Company". This strikes us as a tad cheeky, with less than 20% of revenue coming from real media (i.e. legacy TWX; DTV doesn't count). The collection of assets is intriguing: premium content coupled with distribution and advertising technology. This is what Disney and Comcast have been fighting to assemble. AT&T has no history in the content business and their execution in the businesses they know doesn't inspire much confidence. We don't doubt that they will extract synergies and meet or beat earnings expectations during the integration process; however, this may not be enough to reinvigorate the stock. Execution is key.

The issues

- Is AT&T giving up on wireless? Wireless networks will need fiber to be competitive in a 5G world. Verizon has explored an acquisition of Cable infrastructure, and they are developing plans to invest aggressively in Fiber in the densest portion of the country. AT&T is doing neither (their FTTH deployment will cover xx% of POPs compared to Verizon's ambitions to get to xx%). Are they ceding the wireless market and using cash to buy their way into other businesses while they can?
- How will AT&T manage its balance sheet and dividend? The company saw 1H annualized EBITDA (excluding all of the new accounting) decline by \$4BN across the four core business (wireless, entertainment, wireline business, and media), and PF FCF after dividend is only \$10BN. In order to delever from ~3x and maintain the dividend, the company needs to either turn around the EBITDA trend, slash capex, or sell assets (and the most obvious asset, DTV LatAm, no longer appears sale-able).

- Why aren't you investing in fiber more aggressively ahead of 5G (the way Verizon is planning to)? Do you believe the fiber investment won't result in a network advantage at Verizon? Or that a network advantage won't result in a business advantage? Or do you just see better returns investing in media than in wireless at present?
- Where does the traditional DBS business bottom on subs and revenues?
- Presumably there is no way of replacing lost DBS revenue with DTV Now; can you replace the EBITDA? It looks like a roughly breakeven product today; how do you get the margin up?
- if DTV was generating \$8BN in EBITDA when the deal closed, where will this bottom and start to inflect? Where can it get back to in five years?
- I hear the strategy of increasing the budget at HBO; how will you monetize it? Do you think you can generate higher subscription and affiliate fees from traditional distributors? Or will the additional content be monetized exclusively through DTV Now? Or something else?
- Disney and Comcast are very focused on acquiring distribution globally; it seems that this is an increasingly necessary capability to compete with Netflix; what are your plans for distribution in Europe and Asia? Stick solely with traditional partners? Build a global DTC platform? Acquire distribution assets
- How do you plan to de-lever? Are there significant costs that can be taken out of the business? Do you
 plan to cut capex from the current \$22BN rate? What assets could you sell? Who would be the natural
 buyers?

T-Mobile

Accelerating Sub Growth & Margin Expansion

Status quo

We are not talking about the deal (there is nothing to say; the market knows everything management does). Investors should be focused on what T-Mobile looks like if the deal fails. We think the standalone investment case is compelling (and if the deal happens it is gravy). The standalone case hinges first on an acceleration in subscriber growth that we think could run for years as they tap into new geographic markets and customer segments. T-Mobile is literally doubling their addressable market (from a primarily value-sensitive urban core to the entire market). T-Mobile has captured ~34% of their core market; if they capture comparable share of the entire addressable market they would double subs. Second, the company has been investing ahead of the growth in new markets, which has obscured operating leverage. Both themes should be evident in the second half of the year, with the company trouncing net add guidance while coming in at the high end of EBITDA guidance.

The issues

- Where is the operating leverage? We have anticipated growth in cost of service, driven by capacity needs (see prior report: LINK). The growth in SG&A has been more surprising it has increased 70% over the last five years. A large component of these costs should be fixed. Moreover, the variable component should have eased with the elimination of subsidies and the collapse of churn. We suspect there are two issues: part of the growth is driven by investment in marketing and distribution in new markets; we should see leverage against these costs as revenue ramps. Part of the growth may just be inefficiencies as the company focuses on customer growth (customers have grown 60% over same time).
- Where will capacity come from (and where is the fiber for 5G)? T-Mobile needs more spectrum to cope with rapidly growing usage (average usage is 10GB / month; double the national average). Sprint would solve the problem; absent Sprint, they need an alternative. Viable options include: DISH and the upcoming auctions (LightSquared could also help, but not immediately). In addition, with or without Sprint, they will eventually need more fiber for 5G. They will be at a disadvantage to Cable with ubiquitous fixed infrastructure, and Verizon with plans to deploy fixed infrastructure to 25% of the country, and even AT&T with pervasive fixed infrastructure (albeit of low quality).

- How much of the acceleration in sub growth is coming from new geographic markets and how much from new verticals? Are you ceding growth in core markets as new markets gain pace?
- Given source of growth why wouldn't it continue to accelerate through this year and into next year? How could you possibly do less than 4MM adds this year and a higher number next year?
- Why is SG&A growing so much? Subscriber acquisition costs should be down with volumes. Everything
 else should be largely fixed. I could see some growth in establishing the brand and distribution in new
 geographic markets, but growth seems high even taking this into account?
- What happens to SG&A next year, absent a deal? Should it be flat with this year? Or down? On similar revenue growth, how much would margins expand?
- If Sprint deal fails, where do you go for spectrum?
- With or without Sprint, where do you go for fiber? Are we right to think you would be at a competitive disadvantage relative to companies with more pervasive fiber when deploying 5G on mmWave? Do you need to deploy mmWave to be competitive? Won't carriers with mmWave and above be able to deliver much more capacity than those that limit themselves to low and mid-band?
- Thoughts on C-Band? How much do you need for this to be really valuable to you (100MHz)? What is the path & timing to get to 100MHz? Could you be at a disadvantage to Verizon in the market if only 100MHz comes to market and they manage to secure all or most of it?
- Why haven't you done a deal with DISH or Cable to improve the odds of approval on Sprint? Don't you want to get a deal done now, before the DOJ has reached a conclusion that you don't like and it is too late to move them with concessions (this is what happened to Comcast)? And why do you keep saying you would rather do a deal with DISH; they bring Spectrum of which you will have plenty; cable brings fiber of which you have none?

Sprint

Is There Life Without A Deal?

Status quo

Sprint is the only national carrier where service revenues are declining, and revenue declines accelerated this quarter. As other have been pulling back on promotions and exploring ways to take ARPU higher, Sprint continues to price very aggressively; they may be a long way from finding an ARPU floor. Despite aggressive pricing, customers are barely growing. And to cap it all, the company is burning \$1BN in simple FCF (cash EBITDA less capex less interest expense); they are underspending on the network relative to peers; they

Sprint faced near-term headwinds absent a deal; they are burning ~\$1BN in simple (Cash EBITDA less capex less interest expense) this year, before any working capital timing drag. The company is finally investing in the network this year, and with costs already cut to the bone, Sprint's standalone story rests on a top-line turnaround; while they have modestly benefitted from the less competitive wireless environment YTD, a sustainable top-line turnaround will require a reduction in churn

The issues

- Can they turn the business around? Sprint has suggested that they will lower churn beginning in 2019, driving more sustainably top-line growth. However, they also accepted a TMUS bid that was ~20% lower than what they were rumored to be getting just 9 months ago.
- What is the strategic plan without TMUS? Based on the TMUS merger proxy (LINK), it seems Sprint held discussions with CHTR/LBRDA/Malone, DISH, and possibly even CMCSA. The company also has insight into the value of a cable-wireless combination from its trials with Altice. In addition, Softbank could always come back to take out the minorities.

- What gives them confidence in 2019 churn reduction? Why isn't it falling more this year given industry tailwinds and increased network investment? 3 years ago, when you began leasing, that was supposed to lower churn; why didn't that work? Why was the early data wrong? Could the early data be wrong again?
- How does the company evaluate alternative strategic options vs. the standalone plane? Why did they ultimately choose the TMUS deal over alternative transactions? How does Sprint view the Altice trials why hasn't it been replicated elsewhere? Do you still believe cable/wireless synergies are as large as wireless/wireless synergies over a national footprint? Do cable companies believe that based on your discussions? How does SoftBank view the Sprint asset would they prefer to buy it in and turn around the business without as much visibility? Or would they prefer to sell out?

Comcast

Broadband, Wireless & The New NBCU

Status quo

The premier Cable asset in the United States is trading in-line with the Bells despite a better set of assets. Comcast's shares are down 9% YTD after battling investors' ire for Comcast's pursuit of Sky and Fox and investors' doubt of the sustainability of Comcast's core assets implied by the pursuit of those assets. While the shares have recovered, up ~20% off of their lows, Comcast is still not the \$40-headed-to-\$50 stock that it was at the beginning of the year.

The issues

- Continued broadband growth: Management has hung their hat on continued positive trends in the broadband business as the counterpoint to investor concerns that Fox / Sky was a reaction to threats to their core businesses.
- When will Comcast push wireless more aggressively: Comcast has the benefit of over a year of operating a wireless business that is growing steadily, but altogether quickly.
- Sky, the Netflix / Disney threat, and further investment in Media: Comcast's pursuit of Fox / Sky has frustrated investors, but management has yet to lay out a complete plan for the combined Comcast and Sky assets. Comcast's winning of Sky is not a foregone conclusion, but now the higher probability outcome.

- Are broadband gross additions still trending above last years? Dave Watson mentioned that churn progress has been steady over the past year, should we expect that to continue or have you reaped all you can from the investments you've made in customer service?
- The postpaid wireless market has expanded in the last two years; there arguments that lower value subscribers are becoming postpaid subscribers (previously being prepaid subscribers or 'fake' lines created to take advantage of device discounts). Why should this argument not be applicable to continued broadband growth? Have you relaxed credit standards for any of your products? Is there a different credit standard for broadband only vs. bundled products?
- What have been the impediments to increasing wireless subscriber growth in 2018? Have you seen gross ads increase and decrease with change in new device subsidies (prepaid gift cards have fluctuated from \$0 to \$150 to \$300 currently).
- Are you having any issues warehousing / maintaining an appropriate amount of inventory relative to demand? Anecdotally, Xfinity's website has been out of stock in some iPhone configurations. Do you feel that Xfinity Mobile's visibility with consumers is sufficient? Are there any areas of your wireless operations that aren't fully up to speed yet?
- Your offer is significantly lower than your incumbent competitors', yet there is scarce discussion of relative pricing in your advertising. If Charter's marketing and selling strategy results in greater subscriber growth, would you consider pursuing it as well?
- What is management's plan with Sky? What can you share with us? How will Sky change the way you run the rest of NBCU?
- Are there any specific parallels in Comcast's investment and development of NBCU's that are comparable to planned investments in Sky? How does these plans create an effective competitor to Netflix and / or a more powerful Disney?
- AT&T made a similar series of investments (one could argue Chernin + DTV is somewhat comparable) that have proven to be unsuccessful; why should we expect a different outcome?

Charter

Just Broadband & Wireless (Thankfully)

Status quo

Charter's broadband trends in 2Q18 were significantly better than 1Q18 as the pressure from a self-inflicted wound lessened and underlying business trends improved (as they did for Comcast). We expect those underlying trends to hold and benefit Charter through the end of 2018. Since earnings, Charter has formally launched their wireless offering, and we expect them to follow Comcast's path with the addition of being more aggressive in marketing and selling mobile with their cable products. Charter is trading near its pre-M&A levels circa 2017; its share count is 13% lower; its EBITDA is 6% higher; and management believes the cable business (excluding the impact of wireless) can grow EBITDA at a double-digit rate.

The issues

- Accelerating broadband growth: Management indicated that underlying business trends are expected
 to be strong through the end of the year, and that they have all but eclipsed the churn issues flagged
 in 1Q18.
- The push into wireless: Charter has launched wireless and messaged to investors that they will be more aggressive in marketing and selling wireless with their cable products.

- Is the business experiencing any impact from the churn issue experienced in 1H18? Have competitive pressures remain consistent with 1H18? Are you seeing any competitive reaction to your speed upgrades? Will you inflict the same amount of pain from the all-digital transition in the 2H18 that you incurred in 1H18? What levers remain for management to drive broadband growth?
- The postpaid wireless market has expanded in the last two years; there arguments that lower value subscribers are becoming postpaid subscribers (previously being prepaid subscribers or 'fake' lines created to take advantage of device discounts). Why should this argument not be applicable to continued broadband growth? Have you relaxed credit standards for any of your products? Is there a different credit standard for broadband only vs. bundled products?
- Besides BYOD, what is the next key milestone for Charter's wireless business? Charter's mobile offering
 is soon to be equivalent to Comcast's in form (pricing, Apple devices, BYOD, etc.), what will make it
 more aggressive?
- Have you had any conversations with other potential MVNO partners since you had discussions with Sprint earlier this year?

Altice US

Can They Improve Subscriber Trends & Pricing At The Same Time?

Status quo

Altice US's shares were halved following issues in France in 2H17; we upgraded prematurely believing that even if our bear case (revenue growth of 2% and 45% margins) took hold, the resulting \$26/share valuation would provide support to the shares that were then in the low 20s (LINK). We were wrong. The punishment of Altice US continued in 4Q and then Altice US printed a sharp drop off in revenue growth and slowing margin expansion in 1Q18. We remained bullish, given management didn't need to hit their guidance for the shares to work, and looked to the spin as the catalyst that triggered a revaluation of the stock. We were wrong. We now expect that the market is requiring a) a demonstration of management's willingness to use share repurchases at these prices and/or b) revenue growth in-line with management's guidance. The shares remain very cheap on an equity multiple basis.

The issues

- Subscriber trends have been weak (in part due to pricing decisions): Altice's subscriber trends worsened in 1H18, owning to weakness in 1Q18; they are also not participating in the underlying business improvement in broadband noted by Comcast and Charter.
- 2018's price increase in July: Management pushed through a price increase, largely attributable to video, of 3.2% in July. Early indications were the retention of that increase was above management's expectation of 1.5%.
- **Share repurchases:** Concurrent with the spin-off, Altice US's board authorized share repurchases of \$2BN.

- Is your rate increase retention rate still above your expectations of 1.5%? Are you giving discounts to keep subscribers following the rate increase? If so, what is driving the impetus for subscribers to churn? How much is due to price? Won't future price increases continue to pressure sub growth?
- With the buyback authorization in place since the spin, why has management not taken advantage of the current share price? Would you need to have a certain level of confidence in your financial performance in 2H18 before utilizing buybacks?

DISH

What Can They Extract From TMUS?

Status quo

DISH won't appear at the September conferences, but they should be at the DB leveraged finance conference in October and, even if they skip it this year, we have questions for other companies that will impact DISH. We will also get a chance to ask Ergen questions late in early November with 3Q18 results. The status quo is both bleak and exciting: the existing spectrum portfolio is under attack, by regulators who are investigating the AWS-4 buildout plan and looking to confirm a DE ruling that stripped DISH of ~\$3BN of license value, as well as by new sources of spectrum such as C-Band, mmWave, and CBRS (though none of these are perfect substitutes for DISH's portfolio); on the more exciting front, DISH seems to be staking its claim to some of the value created from a TMUS / Sprint combination, though it's a bit unclear which exact assets Ergen hopes to pry from the transaction.

The issues

- Is the spectrum at risk? DISH's AWS-4 licenses, which we believe comprise the vast majority of the company's equity value, require "service" to be provided over a given part of the country by March 2020. At the root of the question, is what qualifies as "service"? While the license rules make no mention whatsoever of broadband, DISH certainly intimated that they would be building a broadband network at the time of the license grant, and this FCC does not seem favorable to DISH and Ergen in the least.
- What can they get from TMUS? DISH has filed fairly substantive formal opposition against the T-Mobile
 / Sprint transaction, representing the only meaningful opposition from the industry. We suspect that,
 by leading the charge, DISH is seeking out a concession of some kind (they noted in their filing that the
 transaction should be blocked "as currently constructed"). We would be interested to hear what's on
 their wish list (since it's potentially expansive), but we think that a network-hosting deal would be
 transformative for DISH equity.

- Why do you think the FCC is investigating your NB-IoT build so closely? Would you litigate if they did seize the AWS-4 licenses? What might your odds be in litigation and what might the event path look like?
- What opportunities do you see arising from a T-Mobile / Sprint deal? How would you rank the litany of
 potential concessions (network-hosting deal, sweetheart MVNO deal, bargain purchase of legacy Sprint
 assets, others)? How have your negotiations with T-Mobile been going? What do you think is the most
 likely concession they are willing to part with?

American Tower Company

A Roadblock In India?

Status quo

AMT has shown a surge in organic growth and is outperforming peers by a wide margin in the US. The company has faced pressure from carrier consolidation in India, but mgmt. has put the issue behind them by already guiding to heavy churn in India over the next three years. The potential Sprint / T-Mobile merger remains an overhang on the sector, though should Sprint / T-Mobile merge, AMT is the most insulated among the three tower companies because they have the lowest exposure to the US market.

The issues

- How bad will churn in India be? Management has guided to consolidation churn of \$150-200MM over the next three years; however, churn could easily be worse. If AMT reaches a settlement with Tata, one of their major customers in India, later this year, churn could be \$160MM higher. Moreover, if Vodafone and India continue to weaken, they could potentially exit the market, driving an additional \$250MM of churn (LINK).
- Can US organic growth continue to outperform? AMT has seen organic growth accelerate significantly faster than growth at SBAC and CCI this year (<u>LINK</u>). The higher growth may be a function of AMT's more favorable lease terms, higher lease-up rates on tower acquisitions over the past few years, or it may simply be a function of timing.

- Why has organic growth been so much higher than peers this year?
- Have we seen the full impact of AT&T deploying FirstNet in your run-rate growth yet?
- Is there room for organic growth to climb from here, or are we at the peak?
- What is the most likely outcome of your pending settlement with Tata, and how much AFFO is at risk?
- VOD / Idea continue to weaken as Jio takes share. Do you have any protections if the companies exit the market? What gives you confidence that the market will return to growth?

Crown Castle International

Could Small Cells Become The Next Towers?

Status quo

CCI is one of the best ways to play the rollout of 5G networks. 5G will require a significant increase in small cells which require fiber connections, and CCI has acquired a stellar set of fiber assets located in the top markets that are suitable for small cells. CCI believes small cells are just as good as towers. The company grows slower than AMT and SBAC, but with a much lower risk profile since they have no international exposure, and will deliver a compelling total return over the next five years relative to other REITs and stocks with high dividend yields.

The issues

- The right multiple for small cells: Management has stated that small cell returns are at least as good as towers; however, this depends upon the volume of small cell nodes they can install on their fiber, and the economics of those nodes. CCI has acquired 60K route miles of fiber; we think they need to stall 380K small cell nodes, at current economics, for small cell returns to be equivalent to towers (LINK). If the company cannot attract this many small cell nodes, or the economics of the nodes deteriorate, returns will be worse than towers. It will be difficult to justify the same multiple as other tower companies with assets that generate inferior returns.
- Is there upside to organic growth on towers? AT&T and Sprint have increased the amount of equipment they have deployed on towers this year, but it hasn't manifested in a significant increase in new leasing revenue at CCI. CCI may have signed Master Lease Agreements (MLAs) with carriers that guarantee a certain level of activity at the expense of potential future growth; the carriers may have gained the upper hand in negotiations, or the lack of growth may be a function of timing.

- How do you think about the size of the small cells industry from a top down view? How can you sustain your current levels of market share over time?
- Are you seeing an inflection in your backlog for small cells? Do you expect your run-rate for small cells to increase from the 10-15K per year you can install today, or have you reached steady state?
- What are you seeing from the competitive front on small cells? Are prices coming under pressure for new contracts?
- With AT&T and Sprint coming back to the market in a meaningful way, why isn't organic growth a lot higher this year?
- Is there room for organic growth to climb from here, or are we at the peak?

SBA Communications

Can Growth Outperform Peers This Time Around?

Status quo

SBAC has historically grown faster than peers due to a combination of strong contract terms and high financial leverage. This hasn't shown up this year, causing investors to question the sustainability of SBAC's levered growth model. Moreover, mgmt. has backed away from their guidance of \$10 in AFFO per share by 2020. Mgmt. has attributed the trouble in hitting their target to factors that are beyond their control (interest rates, FX) rather than factors related their core leasing business; however, investors place a lot of value in the stability of the tower model, and now value SBAC's towers at a steep discount to peers because they are less certain of SBAC's ability to grow AFFO as quickly as they previously thought.

The issues

- What AFFO growth rate can we underwrite: Mgmt. has backed off their target of \$10 in AFFO per share by 2020. If they had kept it, the implied AFFO per share growth rate between now and then would have been 16%. Can this business still deliver mid-teens growth in AFFO per share? Or will growth be closer to CCI, who has targeted AFFO per share growth of 7-8% over the foreseeable future.
- Can you outperform peers on organic growth in the next cycle? SBAC massively outperformed peers during the years in which carriers deployed LTE; however, SBAC's organic growth has lagged AMT's by a wide margin over the past two years (LINK). SBAC's slower growth may be driven by shift in industry dynamics that will drive AMT to outperform over the next several years, or it may just be a function of timing.

- Why are you backing away from your target of \$10 in AFFO per share by 2020?
- Can the tower business still deliver mid-teens growth in AFFO per share?
- Why has organic growth lagged peers this year?
- Have industry dynamics changed whereby others are capturing more share of the growth?
- Historically you have more effectively monetized network deployments do you still think this is possible?
- How much are backlogs up Y/Y? What does this mean for growth in 2019?

Equinix

Sustainability of Premium Pricing Model

Status quo

EQIX has amassed a premium portfolio of data centers clustered around network nodes, which have enabled the company to price at a premium (<u>LINK</u>); however, recently growth has slowed as build activity shifts to hyperscale and the company digests the Verizon assets. Moreover, the emergence of software defined networking fabrics has given customers the ability to interconnect virtually, rather than having a physical presence in an EQIX facility. These factors will drive slower growth for EQIX than investors have come to expect.

The issues

- Can organic growth recover? Organic growth has fallen from 14% in 2016 to 9% currently, largely due to slowing growth in the US and Asia. Mgmt. has commented that bookings activity was a record high this quarter does this imply that organic growth is at the start of a re-acceleration? Additionally, mgmt. has formed a Hyperscale Infrastructure Team (HIT), which will strategically build hyperscale data centers near existing facilities on network nodes. Can these factors drive higher growth next year?
- How deep is the interconnection moat? EQIX has been able to sustain a premium pricing model
 because their assets are not replicable. In recent years, physical cross connects have been marginally
 replaced by virtual connections, both by EQIX themselves and by a host of new entrants. Is the
 premium pricing model sustainable in the face of new, viable substitutes?
- The path to margin expansion: EQIX has guided to margins expanding to over 50% over the next several years, but when will this start to kick in? Margins have been weighed down over the past few years by investments in the newly-acquired Verizon assets and a sales force to land enterprise accounts; however, next year could be the start of a reverse in trend.

- Why has organic growth slowed so dramatically this year? Do record bookings this past quarter mean that we are at the start of a rising trend for organic growth?
- Where is the record level of bookings demand coming from? How much are backlogs up Y/Y?
- Does the HIT program imply that technology is eroding the moat around your interconnection business? How much pressure have you seen from software defined network fabrics?
- How much demand do you see for the HIT program, and how much can this dilute your returns?
- How much of a threat are network fabrics like Megaport? Why can't they disintermediate your interconnection business and capture a large portion of your future growth?
- Where are the key areas where you expect to gain efficiency to get EBITDA margins above 50%?
- Will your investment in the Verizon assets drive higher revenue growth coupled with margin expansion next year?

Digital Realty Trust

Pricing Risk Heading Into Peak Renewal Year

Status quo

DLR has shown robust growth in backlogs this year from landing major hyperscale deals. DLR is perfectly positioned for robust growth as hyperscale data centers grow at 30% over the next five years. Additionally, they are benefitting from cross selling customers from the DFT assets which they acquired last year and further penetration international markets. These factors will drive accelerating growth for DLR over the next couple of years.

The issues

- Renewal pricing: 20% of DLR's revenue is up for renewal in 2019, up from 10% this year (LINK). Most of the increase is taking place on wholesale leases, which tend to have lower pricing power than retail colocation leases. In 2018, DLR has guided to slightly negative renewal rates for the year; this may worse heading into 2019 as significantly more revenue comes up for renewal, putting pressure on revenue growth.
- Bookings activity: DLR showed a massive spike in bookings revenue this quarter by landing a 25MW hyperscale deal. The company has cautioned that these deals are lumpy in nature, but DLR's global footprint and expertise in hyperscale builds may position them well for capturing more hyperscale deals than the market expects over the next couple of quarters.

- 20% of your revenue is up for renewal next year. How much visibility do you have into pricing/renewals at this stage? Is flat renewal pricing a reasonable assumption, or is it more likely to be negative?
- Bookings growth was very strong this quarter, which you attributed to one large hyperscale deal. What
 does your pipeline of hyperscale deals looks like over the next couple of quarters? How much more
 opportunity is there for cross selling between legacy DLR and DFT customers?

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Rating history

Full 12-month historical recommendation changes are available on request

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