Random thoughts on cable and wireless post Q2 earnings

I had a lot of interesting conversations about the cable / telecom sector on the heels of my podcast with The Science of Hitting. I wanted to share some of the thoughts coming out of those convos, so I've done so in bullet form below. Honestly, the conversations have been really interesting, so please feel free to reach out to keep the conversation going!

- Let me start the conversation out by laying out a framework for why I'm so bullish on cable companies in mobile. Say the average person pays $100 per month for connectivity split evenly between internet and mobile (so $50/month for mobile and $50/month for their home internet) and consumes 10 gigs of data with 80% of it coming in home (over their internet / cable connection) and 20% over mobile. Those are simple numbers but they are directionally correct.
    - As the two markets increasingly converge, cable has a mammoth advantage because they handle most of your data usage already. Cable can go to you and say "pay us for mobile and broadband" to steal you as a sub and then try to offload all your data usage onto their network while paying an MVNO partner (i.e. an existing wireless company) for any data that Cable can't currently handle (again, an example might show this best: cable can pay a wireless company for data usage when you're using your phone in the car and there's no wifi there, but they can try to offload all of your data onto their wifi network when you use the phone at work or at home). The cable companies can then use the

data they get from your data usage to slowly expand their networks and cut out the wireless players over time (i.e. "people use lots of data in the park, so let's build out our network there to cover them and not need to pay the wireless company!").The wireless companies don't have anything like that option: wireless networks couldn't handle it if everyone tried to use 100% wireless all of the time (again, they're currently only handling 20% of your data. If all the sudden they handled 100% of your data, their networks would effectively shut down), and no cable company is going to let their network offload for a wireless player (i.e. Charter isn't about to say "hey Verizon, you can own the customer and we'll charge you by the gig anytime they use our network," but Verizon does let Charter do that for the Verizon network!).

- Let's assume that there's $5/month of customer handling costs in cable and mobile (i.e. the cable company pays $5/month to bill you and take care of you, and so does the mobile company), and that by combining the two services a company is able to eliminate that customer care cost and nothing else. In our simplified model, today cable can slightly undercut the mobile players: because they have $5 in potential synergies, they can offer a bundle for $95/month and save you $5/month. That's a superior product in every way: less headache because you get one bill, $5/month saved, and you get the same network. But, over time, cable can do even better: if they build out their network to the spots where usage is most prevalent, slowly they can lower their costs and offer a cheaper and cheaper combined product that prices mobile at a point so low the traditional mobile players could never match. Indeed, you're already seeing cable companies trend that way: Altice offers a $20/month unlimited mobile plan ($30/month if you don't take cable from them). Similar plans from traditional mobile companies are well over $50/month, so you can see why cable's entry into mobile is such a potential threat.

        - In reality, the synergies should actually be larger, mainly because the cost of operating a cable network is largely fixed so cable can save money by switching customer data from wireless usage to cable.

    - Just to emphasize: a huge assumption of this argument is that a wireless network could not cost effectively handle 100% of your data today. If that assumption is wrong, than this whole argument is wrong. But I'm positive the argument is correct for a variety of reasons. For example, first, when most people think about wireless handling 100% of their data, they only think about it handling their phone data. But your data is so much more than that: your home broadband powers your TV, your Alexa, your online gaming, etc. Wireless networks couldn't handle all that, and to even begin to do so they'd need both more spectrum and to send their subscribers equipment to handle their home operations. Second, data usage is growing so quickly, there's a lot of evidence that wireless players can barely handle their current data load. Verizon is going to aggressively bid on CBRS and C-Band (as I'll discuss later) because their network is currently approaching capacity. AT&T will hit a similar spot at some point soon. T-Mobile is unique here in that their purchase of Sprint gives them tons of excess spectrum.

- Anyway, we can already see that "cable taking share" framework playing out in the market. Charter was, by far, the fastest growing mobile company in America in

Q2. Remember that Charter only offers mobile in their cable footprint, and their footprint only covers about a third of the country. Despite those restrictions, cable grew by multiples of the larger wireless players in Q2. Doesn't that growth point to a potential disaster for the wireless companies in a few years as Charter's efforts continue to grow and the other cable players get their efforts up to speed?

- The risk to wireless companies is something like this: cable keeps taking share for a few years, and they keep building out their network to offload more and more data. Eventually, they take enough share where operating deleveraging happens for the major wireless carriers. Wireless carriers are now stuck between a rock and a hard place: they're losing customers because cable companies can offer a better product that undercuts them on price, but the wireless companies can't match that price because they don't have the core network that cable does.
- All of this stems from one fact: cable's infrastructure handles >80% of data most people use right now. Cable can offer wireless much, much cheaper than wireless players can offer cable / home internet (if the wireless players can even credibly offer home internet; I'm not convinced! I think Verizon's stalled attempts at home wireless service powered by 5G show just how big the barriers are here).
- This scenario is bad for every wireless player, but I think it's worst for AT&T. Verizon at least gets some revenue from cable mobile share gains as Verizon runs the Charter/Comcast MVNO (though that's short to medium term; in the long term, I think Charter and Comcast build their own networks and try to get as much data as possible off of Verizon). T-Mobile has tons of excess capacity and

    cost cutting opportunities thanks to their Sprint deal, so they can probably fight back pretty strongly in the short to medium term. AT&T, however, has no such levers to pull; I think they could be a huge share donor over the medium term.

- Alright, hopefully I've established that cable's mobile entry represents a threat to traditional mobile players. That leads to my next point: shouldn't cable be hyper aggressive in bidding on new spectrum? I'm particularly thinking of higher spectrum like CBRS, C-Band, etc. I think such a move makes sense from both an offensive and defensive point of view.
    - On the offensive side, if cable continues to take mobile share (which I fully expect them to!), adding spectrum and building out their own infrastructure will make them increasingly less reliant on the MVNOs. That increases cable's bargaining power in future negotiations ("give us a better rate or we'll just handle everything ourselves").
    - On the defensive side, the whole reason cable has a huge advantage in mobile is they offer a home broadband product that mobile can't. The only way for mobile to overcome this is to build a home broadband product of their own, and there are two routes to that: building out fiber to the home, or offering a fixed wireless broadband offering. Fiber to the home has been tried plenty of times (AT&T U-Verse, Verizon FIOS, Google Fiber) and the returns have always been poor to put it generously. Despite the poor economics, I'm sure the mobile companies will try to lean into Fiber to the Home as it becomes more and more clear that a cable wireless offering could be an existential threat, but I'm not sure it will matter: it takes years to build out Fiber to the Home, and by the time mobile companies manage to build out enough

Fiber to the Home to make a difference, cable will have taken so much share that the mobile companies will be decimated. So the solution for mobile companies is figuring out fixed wireless broadband, and that's where cable bidding on spectrum becomes defensive. In order for mobile companies to offer fixed broadband, they need tons of excess spectrum. The best excess spectrum for fixed wireless out there is C-band; if cable gets aggressive bidding on that, they'll be able to use the spectrum to further aggressively build out there mobile networks while also further reducing the odds of mobile companies successfully offering a fixed wireless product to compete with them.
    - The CBRS auction is going on as we speak. Most people think Verizon is going to take the lion's share of that spectrum, and maybe they will. But if you're cable, I think you look at that spectrum and think "hey, that would work really well on our network if we started installing a lot of small cells. Why let Verizon have it? Let's bid aggressively on it; if we win it, great! If not, let's make Verizon pay a price that precludes them from thinking about building Fiber to the Home because they've spent way more than they wanted to on spectrum and now they're prioritizing debt paydown."
- So, right now, cable is the dominant internet provider in the country. It's gaining share as the last hold outs on DSL or who were trying to make only a wireless connection work convert to broadband. Any cable market share gains should fall almost straight through to the bottom line as the incremental cost to serve is near zero. In sum: cable's a natural monopoly with advantage economics that I think has a clear path to expanding into another market (mobile). The big worry when you hear all that? Regulation.

- To some extent, regulation is always a worry with cable. I suspect the near term regulatory environment is going to be really good for cable; they've likely bought themselves a ton of economic goodwill from everything they did during the pandemic (their networks worked really well, they agreed not to cut people off for failure to pay due to COVID issues, etc.), and their old nemesis (the tech companies) has gone from golden child to whipping post in a few years.
- Still, in the medium term, I suspect cable will have something to worry about. If they're taking mobile share and everyone is geting broadband from them, they're going to be natural targets for politicians. And the major wireless players will be complaining constantly to regulators if they are losing share. Don't take that lightly: major wireless employees tens of thousands of people and pays a bunch in taxes; they have major political pull and will have some very sympathetic ears.
- So I think regulation will be a risk. Still, I think it's manageable. Cable always had various forms of monopoly and always managed to come through. I mean, in the early 90s (before DirecTV / DISH really got off the ground), satellite was a real monopoly: your alternative to the ~50 channels cable offered you was to use an antennae / bunny ears to get the 3 major channels. That's a pretty sweet monopoly: people didn't have internet at the time, so cable was offering to basically 10x their at home entertainment viewing options.Cable regulation got pretty aggressive on the heels of that period but cable largely pulled through; I'd imagine that any regulation coming out of the current period would be both less intense and still a ways down the road, so I feel pretty comfortable here.

- One more thing here: when T-Mobile bought Sprint, one of the initial arguments they rolled out was that the proper definition of their market included cable companies as competitors. The company quickly realized that defense wasn't working and pivoted to a Sprint as a failing firm defense. However, if what I'm arguing here comes to pass, in the medium to long term, cable companies will not only be an actual competitor for wireless but an increasingly aggressive one. Most cable bulls have traditionally thought the endgame was cable companies and wireless companies merging (and this was somewhat backed up when Verizon made loose meger overtures with Charter in ~2017). But if cable is increasingly taking wireless share, the merger partners might actually be between the wireless companies. It seems crazy to think about now because there's absolutely no chance in heck Verizon and AT&T would be allowed to merge today, but if they lost enough share you could paint me a picture where a merger would be allowed like ten years from now.
    - Humorously, if that came to pass, the wireless battleground would look something like this: a dominant regional player who could offer a superior product (because it bundles the best broadband with wireless) in cable (Comcast in some parts of the country, Charter in others, etc.) with two national players who cover the whole market with a slightly inferior product (in this case, the merger T / VZ and the current TMUS). You know what that's awful reminiscent of? The old cable TV model, where there was a dominant regional player offering cable TV competing against two national providers (DISH and DirecTV)
    - Make no mistake- that's an outlandish prediction. 10 years might be too soon for it. But I increasingly think cable is showing a clear path to a dominant mobile position, and the wireless

> companies will be in for a world of trouble because of that. When huge industry shake ups come, mergers than once seemed unthinkable become tenable.

Anyway, I'm not married to any of these views, but that's increasingly how I'm looking at the cable companies and their entry into the wireless market. I have some more thoughts on the subject and I may dive more into why I think the wireless players are in so much trouble at some point, but I wanted to throw some emerging thoughts to the internet masses and see if anyone was seeing anything different / thinking differently about it.

(PS- If you're looking to dive further into the cable companies, my friends at Daloopa were kind enough to put together models on all the major cable companies: Charter, Comcast, and Altice.)