

From: Greg <[REDACTED]>

Subject: Fwd: JPM Cusick: Broadband: The State of US Broadband: Shifting Competitive Dynamics Across Cable, Fiber, Copper, and Wireless

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Inline-Images: image1.gif; image2.gif; image1(1).gif; image2(1).gif

Hi,

A timely update from JP Morgan on US Broadband.

‘Wireless/5G could be the biggest potential disruptor to cable long-term’

Tarana's 5G+ wireless capabilities far exceed the planned Verizon 5G capabilities in speed, range and all at lower frequencies. The Tarana tech is not well known, yet.

Fun days ahead with large markets in need.

Greg

Broadband

The State of US Broadband: Shifting Competitive Dynamics Across Cable, Fiber, Copper, and Wireless

By Philip Cusick, CFA^{AC}, Richard Choe, Sebastiano C Petti, Eudora Erickson

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In this report we examine the state of the broadband ecosystem in terms of existing customers across providers and services, as well as look at the potential winners and losers longer term as broadband speeds increase. We expect cable to continue to grow as it takes more share in copper markets but cedes some share to AT&T and Verizon's fiber and 5G

upgrades, while satellite broadband will bring new competition to rural markets. Telecom providers that rely wholly on copper are likely to continue to lose share even as they raise speeds, especially in homes limited to <40 Mbps against cable, and <20 Mbps against upgraded satellite broadband offers. AT&T can likely stabilize its broadband sub base with the fiber build to 14m customer locations, while Verizon could have upside to broadband growth as 5G ramps in 2019. Wireless/5G could be the biggest potential disruptor to cable long-term, but at mm-wave frequencies will be limited to the most densely populated areas; to expand beyond will require lower frequencies that also bring lower speeds and capacity.

- **Broadband still has a long runway for growth: we see penetration reaching voice levels of ~95% of occupied homes due to government support.** 79% of occupied homes in the US today pay for fixed broadband, and we expect this to eventually near 95% penetration, similar to wired voice at its peak, and well above the peak of PayTV at 88% due to its higher utility and similar government support. The broadband subscriber base is currently comprised of 51% cable; 27% telco, and 1% satellite. Our current models forecast broadband penetration of occupied homes increasing about 150 bps a year to 91% by 2025.
- **Broadband speeds increasing, slower copper-based offers are increasingly uncompetitive.** We estimate that 2% of subscribers pay for 1 Gbps service, 43% 100 Mbps or faster, 81% >25 Mbps or faster, and 6% for less than 10 Mbps. Cable has ramped speeds dramatically and is in the process of rolling out 1 Gbps nearly nationwide as well as taking up mass-market packages to >100 Mbps, while legacy telecom providers are still working to get available speeds to 20-50 Mbps in many markets. As cable providers push fiber deeper into their plant, copper-based telecom companies seem to be at an increasing disadvantage, even as many push copper-based speeds to 50-100 Mbps. We expect the need for higher broadband speeds driven by things like OTT video (4K+), IoT, virtual reality, and gaming will continue to grow over time, limiting copper offers to value pricing.
- **Competition is ramping in top markets, but cable's broadband advantage to persist in most areas.** We expect cable to continue to dominate broadband growth, and of the ~90% of US homes that cable passes it will only face a 1 Gbps offer from fiber or 5G in one-half of homes in three years. We expect telecom carriers to lose further share in areas with speeds <40 Mbps, maintain share in areas with 40-100 Mbps as a value offer, and to retake share in areas being upgraded to fiber or 5G from copper. We expect that fiber offers will expand from ~30m to ~40m homes in the next 3 years, and that Verizon's new 5G strategy will target many of these same homes as well as another ~20m in other dense parts of the top 25 markets. 32 million homes have access to cable as well as a copper-based telecom service in the 40-120 Mbps range, while the remaining 48m cable homes have a 40 Mbps or slower telco option. 25m homes have <10 Mbps telco option today, ~10m of which are not covered by cable; we estimate that satellite broadband will penetrate an additional 2m of these in the next 5 years.

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Telecom Services / Cable & Satellite

Philip Cusick, CFA^{AC}

(1-212) 622-1444

[REDACTED]

[REDACTED] Morgan Securities LLC

Richard Choe

(1-212) 622-6708

[REDACTED]

[REDACTED] Morgan Securities LLC

Sebastiano C Petti

(1-212) 622-8529

[REDACTED]

[REDACTED] Morgan Securities LLC

Eudora Erickson

(1-212) 622-5623

[REDACTED]

[REDACTED] Morgan Securities LLC

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