Fiber Showdown Tests the Viability of "Telecom".

"Fiber showdown looms as Verizon builds in AT&T territory" (Cited on Dave Farber's list but also disputed)

Verizon is setting up a Wild West-style telecom showdown by expanding its FiOS network further into territory traditionally held by rival AT&T, says a new report from Information Gatekeepers.

So maybe we are indeed heading for collapsing the carrier-bubble. (Why are they called Telcos?) This is the twenty-fifth anniversary of ATT's divestiture and it continues to play out as the remaining children battle it out. Of course the Bells are looking much more like the cable companies, even if their cultural histories are very different.

We are paying the price for ignoring the implications of bits as a commodity by continuing to instead presume that this is a marketplace for differentiated services. I can't help but feel a tad cynical as I try to understand how policymakers and investors continue to act as if today's concept of telecom makes sense for society and makes sense as an investment.

Have we learned anything from naïve enthusiasm and bubbles of the past? Why has the price of oil collapsed while the price of bits has been sustained?

This turf war may be an encouraging rush to a winner takes all collapse since:

- **Costs are based on houses passed; revenue is based on subscribers.** The player with the biggest share is most profitable. Conversely, in a price war, whether secondary players can sustain a price is now highly questionable, but it's become clear that tertiary players needn't even apply. Yet, as we see with commodities like milk, it's unclear if even the biggest player can sustain price above cost. It's far more difficult when dealing in the most fungible of commodities -- bits.
- **If a single player wins, what happens to "competition"**? If competition is sustained only by artificially assuring a price floor, are we missing the point of competition just to maintain an illusion? But then this process is already near completion as the old Bells regroup. We call them Telcos so which gives us the illusion they are different from Cable-Cos, thus enabling them to claim competition. There are cultural difference to be sure so that merging won't be easy (remember Comcast bought ATT's cable division) but still, bits are bits.
- **Transfer charges dominate.** The more traffic within a provider's network, the less transfer charges appear in the accounting reports. Again major advantages come from being biggest and then the only player. The issue of distant transfer costs also reminds us that this is not a consumable, but instead we are referring to bits that are being exchanged among a community.
- **Any attempt to differentiate** the "product" other than "more" goes against the basic principle of bit-indifference (a term I prefer to neutrality).
- **We currently have high capital costs that have so far defied Moore's law.** How long is this sustainable? Do we ever get to pay off the costs and get the benefits of very low incremental costs for local connectivity?
- **If a small player collapses** that would create an opportunity for bankruptcy to remove the debts of the fallen player and allow a competitor to take charge and just incur a low incremental cost. RCN was sort of like that but hung on..
- **Billing for bits is difficult and expensive** – if a new player made deals with communities to install and simply maintain the system for the community as a whole then it would have a tremendous advantage in terms of lower costs for local support.

Fortunately, for the carriers they can use their control of the backbone and the belief that we can "use up" the Internet to maintain their role as sole providers of "Internet". This is similar to what has been going on in cellular communications as the carriers work to assure scarcity. We see the result in the many places that provide fiber, but limit the available capacity by handing control to service providers.

If I were an investor putting billions into these build-outs I would be very nervous that the model may not be unsustainable. So the companies are betting all their investor's money on:

- **Continued limited supply of backbone capacity** by intentionally limiting it to avoid another over-supply bubble, like we've had in the past when the providers increased fiber capacity the prices crashed. Since then, even though the supply is essentially unlimited, unlike oil, the price has remained very high. This means that local providers can take a percentage of that cost and cover the local expenses and thus be protected from the realities of an otherwise true local marketplace. If that system of using transfer pricing to justify high prices collapses then the investors will be in deep trouble.
- **Generating real profits from selling services.** Were it not for being given a pass on antitrust users wouldn't pay high prices for services .Why don't the carriers simply offer their video services over the paths of others, just as they do with VoIP? The current situation isn't different from Verizon running copper wires for voice next to ATT's fiber and then running their own fiber next to ATT's copper, and all other possible combinations of same, just to build a physical plant for each product like in the good old days? How is the current approach of spending investor's big bucks to gain turf going to work in the long run? If they bankrupt their competitors, then lots of capacity becomes available at low cost but if they don't then there isn't real competition as per the above.
- **The ability to run their own fibers**. Why should a carrier expect to install their own facilities in an apartment house just so they can charge retail and force people to buy a separate "HBO" fiber?? It .

makes a lot more sense for the building owners to aggregate the demand. In a simple case why don't two adjacent homes share a connection? Usage is bursty so they are unlikely to have a noticeable impact on others behavior. For that matter why don't cities aggregate their demand and get the benefits of very low ongoing costs?

- **Wired and wireless bits being segregated.** We're living on the legacy of 1920's or even 1800's engineering. These artificial distinctions based on the accidental properties of each physical path no longer make sense. So why do we tolerate the presumption of scarcity that are rooted in isolating bits?
- **Moore's law stopping at the backhoe.** The fiber bubble should have dispelled this but we continue to assume that network architecture and technology won't change. So we use $50,000 routers instead of $1 mirrors to do routing.

But maybe I'm just naïve. I remember Black-Scholes numbers being added when I was at Interactive Data in the 70's. I thought the idea was useful in having a model for assessing. It gave traders what they needed to do business – a number they can agree on and that's fine as long as we remember it's just a working number that continued to change. The problem is that they buried the number inside derivatives and forgot it was essentially a guess and not a hard number. In the same way Telecom is a construct and doesn't work in the face of a market with alternative ways to exchange information. We've seen what happened when people confuse their models with reality