Broadband and Wireless: The Next Telecom Crises

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Telecommunications debates often have a post-modernist flavor.

Facts do not exist. It is all a matter of perspective. And perspective is a matter of economic interest.

For telecom debates, the reigning orthodoxy for 25 years now has been competition. This perspective was advocated by new entrants, large corporate users, new technology companies, and free market advocates. For a while, this policy was successful. But more recently the sky seemed to be falling. The telecom sector was over-valued and over-expanded, and it subsequently contracted.

According to the Economist magazine, ten times more money has been lost in the telecom crash than in the dotcom bubble. AT&T, the world’s foremost telecom firm for a century, is no more, having been acquired by SBC.

Why did this happen? And what are the implications for the future?
The industry as a whole has been picking itself up again, though not at the pace of the past years. But the problem is not immediate recovery; it is long-term health. And here, the perspective of most participants is one of denial.

To some, the cause for the telecom crash is flawed government policy. To others, it is accounting malfeasance. Or, the raw power of incumbents. Or, the excesses of the financial sector. Or, managerial failures.

But the most popular explanation is that all of these factors, and more, were coming together in one gigantic “perfect storm” scenario. Since the chances for such a confluence to happen again are small, this scenario it is comforting because it suggests that will not repeat itself soon.

Yet the real problem goes much deeper than such a probabilistic scenario. The deeper problem is that the telecom industry as a
whole has become unstable. It has moved from utility to volatility. From the model of the water company to the model of the airline. And its underlying dynamics are similar to those of airlines, a famously unstable industry: high fixed cost, low marginal costs. Competitive entry driving down prices. Expansion. Overinvestment. Continued price deflation. Financial losses. Credit spirals. Crash.

In 2005, four of the major six airlines in America had filed for bankruptcy protection. Is this a harbinger for the telecom sector? And what should be the strategies for telecom firms to avoid such a fate?

The first option is to follow economics textbooks, i.e., cut prices and raise efficiency. The problem is that competitors do the same, and the resulting price deflation will make firms worse off than before.
The second strategy is get out of commodification by differentiating the product. This means, in particular, technological innovation. The problem with this strategy is that consumers and business users cannot keep up with a pace of technological innovation in the electronic hardware sector (“Moore’s Law”). Technology supply outpaces the demand to absorb it. Therefore, bursts of change are followed by breathing periods. For firms then, innovation is a difficult strategy, expensive to create and difficult to sustain.

The third strategy is much easier. It is to regain control over prices and reduce price competition. This means, in most cases, to seek an oligopolistic market structure. And this is what has happened. Where once competition abounded or was anticipated, consolidation has taken place. Many of the new entrants have failed. Incumbents have merged. And investors, have been burned badly, do not fund new network competitors as that would challenge the incumbents.
With such consolidation, prices rise or at least stop dropping. Already, large business users of telecommunications have lost many choices, and their bargaining power.

Today’s telecom industry recovery, however, is not the end of the story. We have merely seen the first cycle, and there will be others. One cycle will be in wireless, another in broadband Internet connectivity. Both follow the sequence discussed above: excitement; public policy support; platform competition; investment; multiple entrants; over-investment; saturation; dropping prices; failures; consolidation.

How then will the broadband market look like? That is an important question. In the United States, it is likely to consist of two major platforms provided, respectively, by the local cable and telecom companies, plus a few smaller platforms, primarily in wireless. Such a market structure can be described as one of “2.5”
firms, a number that seems to prevail in many other telecom submarkets.

The two major platforms will face the basic strategic options analyzed above. They can either price compete, which would be a blood bath for both considering the large investments they have undertaken. Or, they can differentiate their product. But basically they provide a commodity product -- the transmission of bits -- on top of which run applications. They can bundle their commodity transmission with specialized applications. But they will not be able to control the entry of other applications providers, unless governments let them do so.

The market structures for infrastructure and applications will move in different directions, following their underlying economies of scale. And that means, eventually, unbundling rather than bundling transmission with applications. For voice service, that trend is emerging. And this will eventually also reach cable TV once the
content providers can reach customers through the broadband route.

The third and more likely option is that the two major platforms, after the market becomes saturated, will behave oligopolistically and cooperate. And that may mean sharing the fiber infrastructure. This will happen at first for rural low density areas and be blessed by regulators as a way to service these regions. It is likely to spread to higher density areas for the last mile of infrastructure. On the content side, Internet-TV will lead to a boom-bust cycle for content providers. This follows an earlier cycle that ended on “Black October” of 2001, when three service providers folded.

In wireless too, we are in a boom-bust cycle. The excitement over 3G and data services has given way to skepticism around the world. Service providers have consolidated in the US, from six major national footprints to four, with a few small participants. This number is not likely to be the equilibrium either as growth
rates slow or as data services such as WiFi siphon away some of the expected revenues. And in wireless too, will there be sharing of infrastructure by competitors. Eventually, these consolidations will stabilize the wireless market after it goes through overcapacity and price deflation.

But this will not be the last cycle for wireless either. What will come next? It may well be, on the infrastructure side, the next generation of software-defined radio, which will destabilize the wireless sector and enable the growth of sensor networks and low-power applications.

Are these boom-bust cycles a special problem? On one level, they are simply examples for the Schumpeterian process of creative destruction. We may feel sorry for the employees and small investors affected, but that’s how high-risk sectors behave.
But we must also take a broader perspective. These upheavals affect much more than telecommunications. Similar dynamics are taking place across the entire information sector. Computers. Semiconductors. Music. Advertising. E-commerce sites. Portals. Search engines. Newspapers. Radio. Consumer electronics. Wherever one looks, the information industries are going through price deflation followed by crashes and restructuring.

In the good old days, each of these sectors prospered and suffered on its own. But now, with digital convergence and sprawling media, the synergies are both positive and negative. Downturns in one segment percolate and oscillate through the entire information sector. An overinvestment in Internet portals leads to a collapse of banner advertising prices which affect advertising on cable channels and affect ISPs which affects backbones which affect telecom carriers which affect equipment makers, and whose lowered trans-Pacific prices lead to increased outsourcing which affects consumer electronics makers and labor unions.
At the same time, governments do not have many tools to deal with these instabilities. Keynesian demand policy is not the solution because demand is not the problem. People consume more bits and connectivity than ever before. The problem is prices. Nor is monetary policy a solution, because the instabilities are not caused by credit or interest rates. One could argue that letting firms merge is, the government’s *de facto* policy for dealing with these instabilities: a de-emphasizing price competition in favor of investment protection.

This dynamics of boom-bust instability happens on both sides of the Atlantic. Major European telecom companies have been mired by even more debt than Americans. Consolidations have taken place in Europe, too. For example, in Brussels, regulators have let the five major music companies become four, when just a few years ago they did not allow similar mergers. What has changed is that the music industry has become volatile and has declined.
Rather than reducing barriers, the EU Commission has permitted consolidation. But it is unlikely that such a policy will protect the music industry as it faces new business and distribution models. And there are international dimensions. Even as some countries may try to stabilize their markets and economies, other nations have no vested interests to protect in such a way, and will follow other paths.

This leads to the conclusion that the information economy is an unstable economy, and therefore will probably lead to an unstable society. More volatility creates less cohesion and more disagreements. We can see that already in domestic political discourse. These disagreements will spill across borders, with different countries taking different measures. Therefore, the information economy, regrettably, for a trans-Atlantic dialogue, is not likely to bring us together globally in policy, even as it links us more powerfully than ever.
Bibliography


