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The world currently faces a very challenging dilemma with regard to the future evolution of two very significant historical drivers of economic development and prosperity – financial services and telecommunications. That the two have been highly interdependent in the past is a well-established fact, as well as a source of bittersweet irony.

The privatization of former state telecom monopolies, as well as the global merger and acquisition frenzy unleashed by this process, was a major fillip to the global investment banking sector during the 1990s and early 2000s. Latterly, the banks also developed a crucial role in the syndication of debt underpinning private equity deals, many of which involved telecom-related companies. Conversely, the seemingly inexorable expansion of the banking industry was a clear driver of growth in many parts of the telecom value chain over the same period, producing demand for advanced private corporate networks and trading platforms, data centers, call centers, network managed services contracts, and corporate mobile services. The widespread availability and affordability of internet connections for ordinary consumers allowed banks to serve customers better and more cheaply online, and the availability of online financial services was yet another powerful incentive for consumers to adopt the internet. It was a virtuous circle, a match made in heaven.

To say that the world has changed would be an understatement of embarrassingly epic proportions. The highly unfortunate decision to allow Lehman Brothers to collapse subsequently revealed, with very painful consequences, the high degree of interconnectedness underlying the complex system which is the global financial services market. In the wake of this decision, we have witnessed an unprecedented wave of bailouts/quasi-privatizations, government backed shotgun weddings, currency crises and IMF interventions. Interest rates have been cut to recent historical lows in many countries, yet there is little evidence so far of this policy decision having any meaningful effect on unlocking additional liquidity trapped in the system.

Wall Street, historically a reliable source or arranger of liquidity, is on the sidelines. Meanwhile, the alternative investments space, an even more enthusiastic player in recent history, is dealing with the fallout of events. The \$2 trillion global hedge fund industry is facing huge redemption demands following poor performance, with some estimating that up to one-third of hedge funds could be forced to close as a result. Private equity firms, many of whom are holding large amounts of cash raised before the crisis began in mid-2007, will probably be content to be highly selective and patient, particularly those with a large proportion of deals on their books from the most aggressive vintage (2006 – 7). Sovereign wealth funds, previously reported to collectively comprise as much as \$3 trillion, must also be feeling more risk averse, given the collapse in the prices of oil and other commodities which underpin much of their wealth in many cases.

Even as the supply of financial liquidity worldwide becomes increasingly constrained, the growth in demand for information – and its two chief components, connectivity and bandwidth – appears unbridled. Traffic transiting through the London Internet Exchange, currently c.220Gbps, is double the level seen one year ago, and nearly ten times that

measured in late 2004. Silicon and software continue to advance far faster than capacity in the access network. Over-the-top video delivery systems such as Hulu in the US, and BBC iPlayer in the UK, continue to grow in popularity and are now adding quasi-HD quality content to their output. The wave of litigation against filesharers has fostered a new breed of proxy server-based BitTorrent services, which employ VPNs to obfuscate traffic to end users. Short of a significant contraction in the number of broadband connections, it is difficult to envisage the current appetite for bandwidth in aggregate diminishing.

Simultaneously, we see growing evidence that, at least at a regional and municipal level, ultra-fast broadband is increasingly viewed as a key policy lever for government to foster economic and social development and attract investment. "A-list" blogger Doc Searls recently stated it eloquently:

"Bringing fiber to homes and offices costs between \$1000 to \$7000 per "drop." Those costs are in the same range as home entertainment systems, which begin depreciating to worthlessness immediately. Meanwhile, fiber's value increases with every new connection you can make through it, and every new application you can run on it. And the costs of fiber, conduit and installation are coming down while quality goes up. We've all heard reports about how the U.S. has been falling behind other countries in broadband deployment. This is a red herring. The term "broadband" has many meanings, only one of which is data transmission rate. Worse, it's generally associated with telecommunications, a category of business that has been subject to strait-jacket regulation going back to the 1934 telecom act and beyond... We need to exit the conceptual space called telecom and see raw connectivity and maximized capacity as the Wild West. Given the hundreds of \$billions flushed into rescue and stimulus boondoggles, what's a few hundred billion more for something that creates immeasurable support for the economy, far beyond the foreseeable future?"

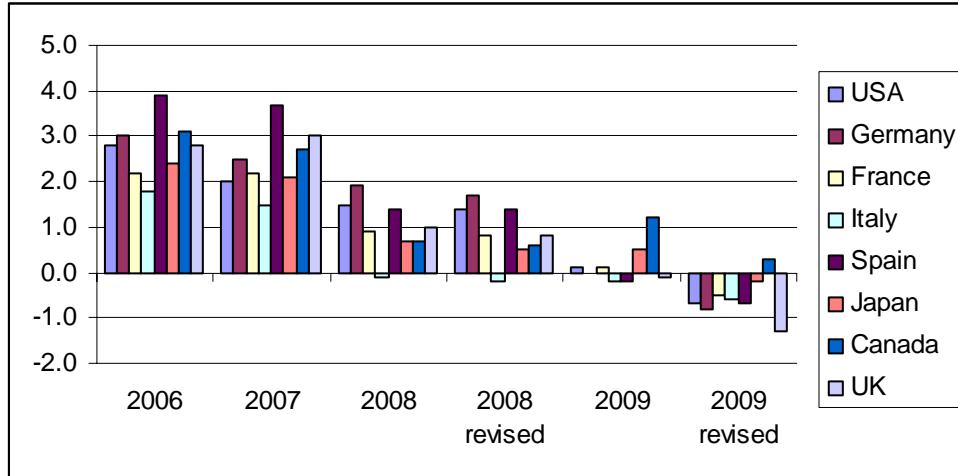
However, the reality is that the implications of the liquidity crisis and broader economic slowdown inevitably call into question the sources of funding for the deployment of "future proof" networks. Like the other major industrial economies on the planet, the UK is not immune from the potential conflicts and stresses surrounding next generation access.

The UK economy faces a challenging 18 months, before any light will be seen any light at the end of the tunnel. Consider the following:

- In October, Ernst & Young's regular updates on profit warnings from publicly listed companies in the UK painted a dire picture. Of the universe of companies encompassed in the FTSE indices, 111 issued profit warnings in the third calendar quarter of 2008, the highest third quarter number since Q3 2001, and a level nearly one third higher than in the corresponding quarter of 2007. Particularly noteworthy was the fact that, of this group, nearly 20% was accounted for by support services companies, underlining broader weakness across the economy.

- The International Monetary Fund's recent revision to 2008 and 2009 growth forecasts showed the UK posting a contraction of 1.3% in 2009, following the largest downward revision of any advanced economy.

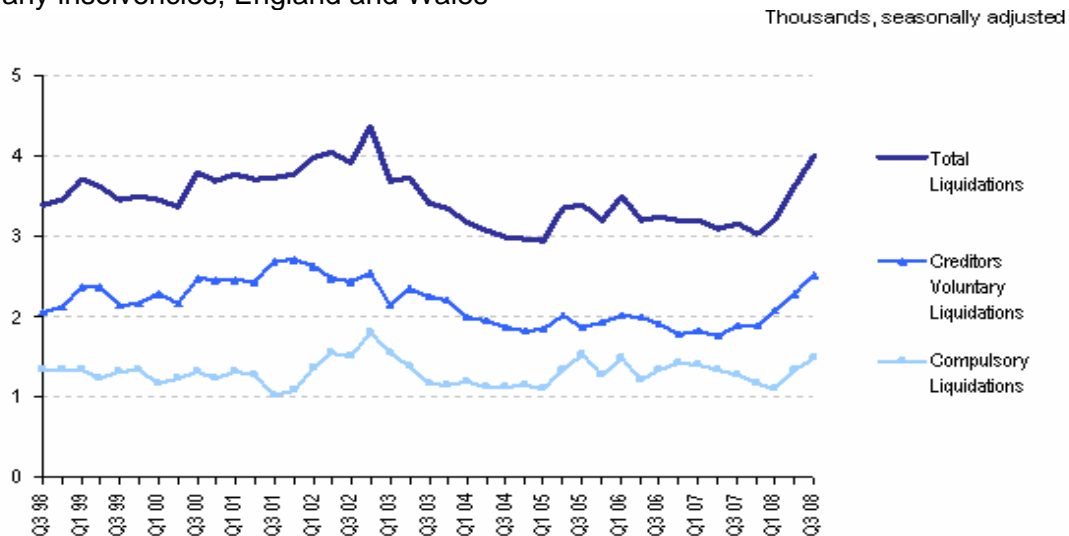
IMF advanced economy growth rate projections



Source: author, from IMF data

- Statistics from Q3 2008 show that company insolvencies in England and Wales are approaching levels not seen since the deepest part of the post-dotcom crash. Notably, this data excludes October, which anecdotally seems to have seen a marked deterioration in business activity.

Company insolvencies, England and Wales



Source: Insolvency Service and Companies House

- As a result of government interventions in the financial system, public sector debt in the UK is now around 43% of GDP, and looks likely (along with a number of other member states) to breach limits under the EU Growth & Stability Pact.

Against this stressed financial background, it is challenging to envisage where the resources for a committed investment program in ultra-fast broadband would come from. The recently published report from Analysys-Mason identified a range of scenarios for NGA deployment in the UK, but at the top of the range, i.e., a nationwide point-to-point Ethernet deployment, the cost envisaged is on the order of £30bn. The Caio review, which followed shortly on the heels of the Analysys-Mason report, concluded that there is no basis at present for government intervention to stimulate investment.

If there is no rationale for government intervention, then can we count on the private sector to invest? The £30bn cost estimate for ubiquitous, ultra-fast broadband in the UK looks almost trivial in light of the amounts committed to bank rescues and financial stabilization measures; however, it represents the equivalent of 10 years' worth of capital investment for the entire BT Group. Following its recent profit warning and thrashing by the market, BT and its shareholders are likely to be feeling risk averse. Virgin Media is a heavily leveraged company, and is not financially capable of committing to an aggressive capex program. Sky, Carphone Warehouse, and the other alternative players in broadband do not have cash flow profiles which would support anything like the commitment required. Even as a collective effort via a newco with mutualized network assets (as was proposed, and rejected, years ago in the Netherlands), the amount of investment involved would be challenging in the absence of a compelling business case.

The central problem with ultra-fast broadband, in my opinion, is that many of its collateral benefits are impossible for a commercial entity to capture to the satisfaction of its shareholders. Cost reductions for delivery of social services, improved social inclusion, greater economic competitiveness and new business creation are all hugely positive, but difficult, if not impossible, to link directly to the quarterly income statement of the company delivering the network. Shareholders will continue to look at the current KPIs of customer numbers, average revenue per unit, and margins, and management teams respond to those short-term indicators of value, rather than what the greater value creation effects of the network could be over 20 or 30 years. Until we find a mechanism which reconciles these two seemingly irreconcilable frames of reference, it is difficult to see the UK moving aggressively towards ultra-fast broadband in the foreseeable future.