

From Pipe Dream to Reality

New commercial models and regulatory approaches for next generation broadband

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- Public policy makers face two critical and interlinked questions:
 - Will higher speed, or next generation, broadband access deliver economic and social benefits to the citizen consumer?
 - If so, will a competitive market be able to attract the investment needed to build NGA networks?
- To address the first question first.
 - Six or seven years ago, when the BSG was first formed, no one knew what the benefits of broadband would be. There was plenty of conjecture – usually by consultants paid to come up with a “big number”. Remember Bob Crandall’s \$50 billion dollar opportunity?
 - Despite lack of empirical evidence, governments believed that broadband would deliver benefit.
 - Today, the first empirical evidence of the benefits of broadband is emerging. An MIT study in the US found broadband delivered increased employment, more employers and more IT intensive firms.
 - Do we as a society believe that NGA will deliver yet further economic benefits, or are those benefits likely to peak at a certain access speed and then see diminishing returns? Of course we don’t know as yet. There is a risk that 100mgbs to the premises will not deliver benefits commensurate with the cost. But there is also the possibility that economic benefits will increase exponentially faster than bitrates.
 - Benefits may not only be economic, accrued to network operators and users. There may also be wider social benefits we all gain from. Suppose higher speed access led to an increase in home working. Currently around 2.5 million people work an average of 1.5 days per week from home using a computer (teleworkers) saving around 80 commuter miles per week each. An average car produces 290gm/mile of CO₂. Do the maths and these telecommuters reduce carbon dioxide by 50,000 tonnes per week! If NGA leads to more telecommuters working more days per week at home, these benefits accrue to us all.
 - I see no reason why NGA should not deliver disproportionately more benefits to individuals, firms and society than current generation broadband. And anyway, can we afford to wait and see whilst other countries race ahead?
- So to the second question: will the market deliver? This is where regulation comes into play. Anyone likely to invest in NGA faces a range of risks: will demand materialise? Will complementary applications develop? Will the

technology live up to the job? These are the normal risks of business and things we can do little about. What we can affect is policy and regulation where they are risk factors.

- To encourage investment, what we need is Next Generation Regulation. If first generation regulation was all about interconnect, and current generation regulation is about equivalence, NGR needs to be about creating a stable and predictable regulatory environment which allows investors in NGA to earn a return and only intervening if either consumers or competition are harmed.
- Ofcom's discussion document on NGA was good in many ways. But what I was concerned about was that there was an implicit assumption that the competition problems of current generation access would be replicated in the NGA world and therefore the same remedies should be applied, amongst which would be some form of price control.
- Is it right to assume the competition problems will be the same? For 100 or more years there has been a bottleneck in the local loop. Will that be the same for the next 100 years? Or could say wireless NGA be a sufficient substitute for fibre to act as a constraint? I don't know the answer to these questions, but I do know that if we assume the same problems will exist in NGA and ex ante regulate for that, then they almost certainly will happen as there will not be sufficient incentive for investment in competing infrastructure.
- Price control, which is discussed in Ofcom's document, has within it an assumption of a reasonable rate of return the investor can earn – where reasonable equals cost of capital. It would concern me if Ofcom set a framework which wanted the private sector to invest but said you can't earn more than what we deem to be a reasonable return.
- If regulation assumes there will be a monopoly and ex ante regulates for a monopoly then a monopoly is likely to be the best it will get. An equally possible outcome is no investment at all.
- If policy makers want the private sector to invest in competitive NGA then they must allow investors to earn at least their cost of capital and only intervene if firms gain a position of market power and abuse that market power. This does not mean regulatory holidays (a la Germany). It means more of an emphasis on ex post regulation than ex ante *where investment in genuinely new infrastructure is required*.
- The alternative is to accept that investment in NGA is too big and too risky for the private sector and will only happen with active government involvement or perhaps a de jure monopoly at least on wholesale access. That seems to me to be a retrograde step, but if it is necessary to earn the benefits of NGA, then perhaps, in a forum like this we should consider it.