

by Stephen McClelland

News analysis *special*

Sealing broadband's great divide

It's a conundrum: broadband networks offer benefits to everyone, except it seems, policy-makers around the world who are wondering how to cope with market situations that weren't envisaged over two decades ago when the Great Deregulation of the telecom industry began.

The issues involved have become so important and so intertwined that they reach the highest governmental levels, nationally and internationally. Formulating coherent policy that matches national economic agendas, but at the same time allows market forces to act may be difficult, perhaps even impossible, without a radical change of policy structure.

The difficulties haven't stopped various international initiatives from being established to discuss how to use broadband as a major tool in economic development. ITU and UNESCO, for example, formed a Broadband Commission for Digital Development this year aimed at pooling the best expertise from around the world to share understanding.

The seniority of the Broadband Commissioners – key policymakers and regulators have been meeting in Geneva alongside at least four telecom billionaires – clearly means broadband is now critically important on the world stage. The Broadband Commission presented its reports to UN Secretary-General Ban Ki-moon in late September but the message they carried was clear: the future will be built on broadband.

Meet the goals

On the UN level, it might be a life saving option too. The UN is committed to Millennium Development Goals that, by 2015, call for a substantial reduction in poverty, a final push to universal primary education, basic universal healthcare, and associated issues such as more empowerment for women and girls.

Sadly, without a significant impetus at this, the half-way stage of the timetable, the goals may not be met, even though progress has been made as the UN Secretary General heard in the September MDG conference. The global economic crisis has also undermined the availability of resources everywhere.

Back in the telecom space, pressures are mounting, not merely to avoid a connectivity gap, but also a major broadband divide that could keep the poor in poverty for these reasons. "Today, you can tell the rich from the poor by the quality of their Internet connections, both within countries and between them," concludes Dr Shashi Tharoor, Broadband Commissioner, and long time commentator, author, international diplomat, MP in the Indian Parliament, and relentless enthusiast for more and better e-government.

Call it a new form of discrimination, he said, in an interview for the Broadband Commission. "When we talk about the lines that divide people there is a poverty line, and now there is also a high speed digital line that can both network

people, but sometimes leave them out."

So, should broadband be deployed to solve this? Some experts go further in predicting broadband can make a real difference. "Broadband is the next tipping point, the next truly transformational technology," says ITU Secretary General Hamadoun Touré. "It can generate jobs, drive growth and productivity, and underpin long-term economic competitiveness. It is also the most powerful tool we have at our disposal in our race to meet the Millennium Development Goals."

Dr Touré says he is calling on governments to ensure that half the world's population have access to broadband services by 2015. He is also asking every government to formulate its own broadband strategy in a similar timeframe. Backing this up are some authoritative analyses that clearly suggest a near automatic economic growth stemming directly from network deployment.

To intervene, or not intervene?

In the developed world, too, the issues for greater intervention meet some controversy, and are multi-faceted.

Firstly, and perhaps most important, is the question of government intervention. How much, how far? Should governments actually mandate broadband networks in pursuit of national economic or societal goals? How far can regula-

tory systems that were purely predicated on managing what was considered to be a fully-competitive environment now fare in an era when the mandate is quite different?

One response to this may be that broadband may be getting a new character entirely: as a critical infrastructure. Seen in this light, broadband is as necessary an infrastructure as the roads and railways of the past.

This reframing potentially gives governments a mandate to act. But the issue of development of course involves money. And even if governments are to mandate these networks, who, apart from governments, is going to pay for them?

Almost by definition, private sector investment, based on assessments of return, will not enter a market where return may be too low, or non-existent. So, should taxpayer dollars be spent in pursuit of these networks, and just as sensitive, who will be winners - and who, the losers?

The proponents of broadband-as-infrastructure argue that for many countries, the costs of building a broadband network could be recouped by savings in education, health, and energy over a decade. This trans-sectoral approach is plausible but there are several intertwined policy questions, too. Deregulation in fact meant highly specific regulation at the micro-level to ensure network functioning.

At the macro level, however, the industry has enjoyed a relatively light touch regulation which was thought to encourage competition, and by definition, rollout. But philosophically, well before the Great Economic Crisis, regulators, somewhat embarrassed by regulating an

industry in two different ways, had begun to leave sectoral regulation behind.

Whilst other regulation, notably in areas such as consumer protection had been beefed up, the new approach has made general constraint only on competition grounds.

Effectively, the environment has moved towards policymaking which is really only concerned with abuse by dominant players in the marketplace. It's an approach that has found parallels in major jurisdictions such as the United States and Europe although in slightly different forms.

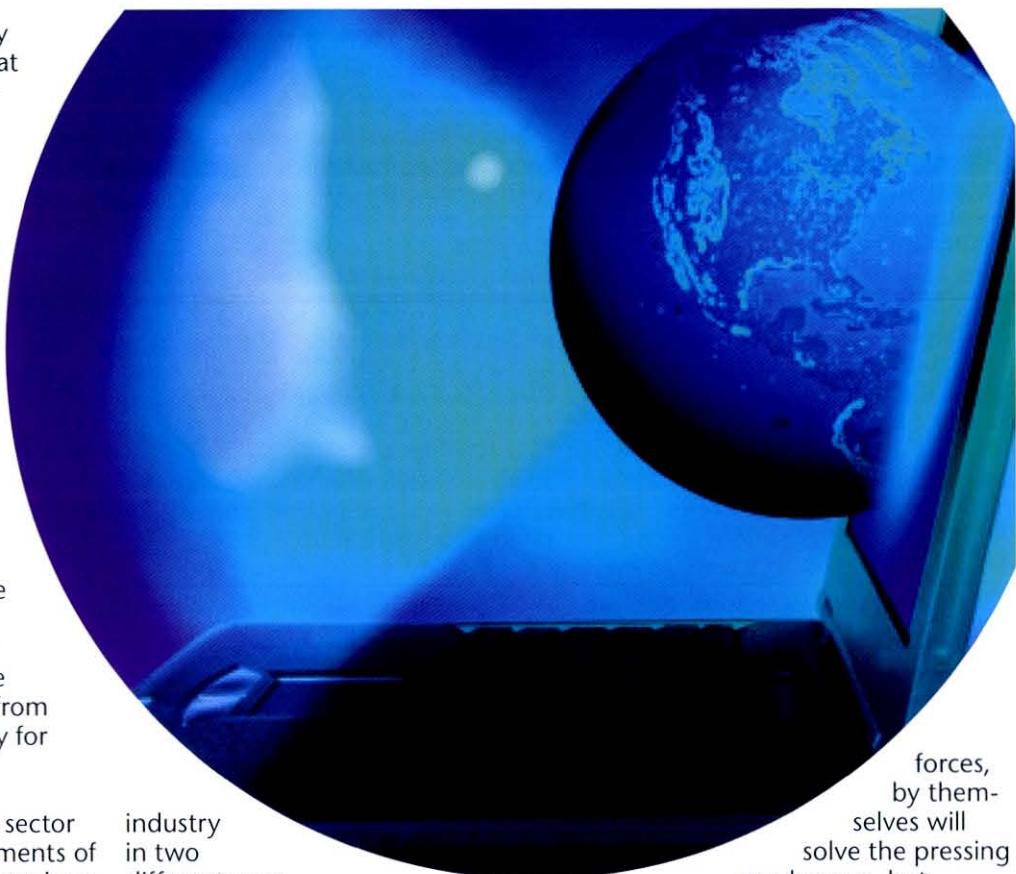
But how does policy such as this play out when governments feel themselves pushed to create what they said they did not want to: a dominant national player and some sort of new market structure? Not only has the sense that market

forces, by themselves will solve the pressing needs gone, but

complications arise in linkages to a range of other policy issues, notably consumer choice, consumer protection, the idea of universal service, and even net neutrality.

The costs of a policy rethink may be apparent to philosophers, commentators, and even the occasional journalist. But some increasingly claim pragmatism of economic development automatically trumps established sectoral policies – and even the sacrosanct interests of individual private sector players operating in a legally deregulated market - and otherwise level playing field.

Only a few countries have bitten this particular bullet: Singapore, South Korea, Japan and possibly Australia, but of all these territories, only Singapore has seemingly made the relevant analysis to create a carefully crafted, government-funded broadband infrastructure in a competitive environment, rather than say,



provide top-up support for areas and customers not supplied by the private sector.

Other countries may be watching from the sidelines. Some are less enthusiastic about spending public money on a sector that appeared for a long time not to need it. And in spite of policy pronouncements for a national broadband network, and stung as various commentators are about the relative ranking America has in world broadband league tables, the US seems to be hardening to a viewpoint that only a small minority of subscribers will require any sort of state support. The rest, policymakers seem to say, can be delivered by the private sector in what appears to be the conventional business model.

A duty?

European policymakers, too, seem reluctant to mandate an across-the-board initiative, whilst favouring support for underserved areas. Neelie Kroes, in an interview carried out for the Broadband Commission, says she has no doubts about the future place of broadband in Europe: "I want everyone to see broadband as a positive fact of life. Broadband enables new jobs, new connections, and a better quality of life. And because of its massive collective and individual benefits, it is our duty to make sure that every European has access to broadband," she says. But Mrs Kroes, the EU Vice President responsible for the EU Digital Agenda, and now, Broadband Commissioner, emphasizes that she is less interested in labels than in "delivering the networks".

But she acknowledges some impediments to a European vision that plans on 100Mbps broadband for everyone by 2020: "Cost is obviously a huge issue. Everyone wants the benefits, but it is much harder to incentivize the investment needed to get the networks. Urban areas are already well covered – it

is the farmers in the mountains and those in rural areas who are struggling to get a good quality connection."

Light in the dark

Singapore, with commendable rigour, has also shone a light on the other issues that universal broadband creates, notably state aid and competition policy. In developing plans for a national broadband network right in the middle of a fully liberalized sector, the country seems to acknowledge that, by returning at least part of a broadband infrastructure to a public commons-type basis, it can create, not merely a universal provision in a timetable of its own control, but also solve the potential competition issues by making the network fully open. In fact, the public policy issues have never been very far from the thinking of Keng Thai Leong, Singapore's telecom regulator and Broadband Commissioner, over the last few years.

As Director General of Telecoms and Post at the country's Infocomm Development Authority, he had already tracked the rise of fibre networks and their implications. "It was a question of when, rather than if, the new networks would be implemented," he pointed out in a recent interview for the Broadband Commission. "We also knew that private sector solutions [by themselves] would be driven by considerations such as return on investment. This is a perfectly fair way of looking at the marketplace, but from a national perspective, we [also]wanted to gain national competitiveness from the new infrastructure."

The aim was to see a complete and fully open national broadband network deployed. But any new policy approaches had to acknowledge – but not disturb – the fully-liberalized market that Singapore had already developed, stresses

Mr Leong. "We looked at various possible policy options for encouraging NBN deployment in a timely manner," he says.

The potential policy toolkit could have ranged from investment incentives to regulatory forbearance on those players building an NBN. The most important objective, however, was to be national, open and, above all, to maximize the possibilities of service innovation. "We wanted to create an environment where any individual with a good idea could access the network and see it developed," he argues.

Disturbance

The impact on the private sector, particularly in the market segment (backbone and wholesale) in which most of these current developments sit themselves is less clear. For most countries, private sector players, and specifically the incumbent telcos, already provide backbone services, so there is an immediate issue of a state-aided player in contest with a private sector one, ironically often a former state-owned, but now privatized entity, itself.

In the case of Singapore, this seems less of any issue than it might have been. But the disturbance in the marketplace remains a potential difficulty. Australian NBN plans a flagship initiative from the country's Labor Party. Whilst a narrow victory for Labor, essentially constructed via a hung Parliament in the August 2010 general election, has probably confirmed the NBN plan, it remains politically controversial.

Prospective regulatory issues are also complicated. As Australian commentators have been quick to point out, it remains difficult to regulate the incumbent, for example, in wholesale pricing, at the same time as the economic plans for an NBN get worked out. Even during the election period,

the effect on Telstra's share price was noticeable as the fortunes of the individual political parties fluctuated. Telstra is an important contractor for the NBN so any cancellation would have inevitably impacted the company.

Policymakers have barely begun to think about these issues in a changed environment, and such approaches that exist are hardly formed or illustrative. Nevertheless, the policy scenarios are extremely complex. One end game for the new broadband world could plausibly see a shift in the landscape and a major restructuring for many service providers as these new vehicles appear. This could spell an end, some commentators say, to vertical integration, or involve a separation of networks from services.

Hyperactive divide

If the problem is complicated in developed countries, developing economies now find themselves confused. If they wish to play catch-up, how now should they do it? The digital divide seems both near at hand, and yet far away, in such countries, as key developments have been implemented, but some relative gaps appear larger than ever. Not only is connectivity limited, it is also very expensive in some of the poorest countries - a subscription to modest Internet capability may be many times a household income. International connectivity remains very expensive in many countries, a fact which clearly influences prices at the retail level.

For the developing world, even if broadband telecom is placed on

a national priority list, it has to compete with the other "priorities": clean water and sanitation, basic medical and health provision, or with other infrastructures such as highways and railroads. For development economists, this equation doesn't work because not only are the available donor funds already spoken for many times over, domestic justification would be difficult also.

Nevertheless, 2G mobile uptake has seen hyperactive growth even in the poorest parts of Africa leading some policymakers to ask if the same conditions could not be replicated in broadband rollout. The trick, say development experts, would be to generate the sort of massive scale of self-sustaining deployment that we have seen in mobile whilst pump-priming for the future.

Or rather, it would be to generate the conditions –including policy– that would leverage the impact of broadband and kick start wider economic developments. Broadband would mean less load on future medical and education infrastructures and, in the case of high growth developing economies such as India, filling what is prospectively an enormous gap particularly in the healthcare and advanced education sectors.

For the time being, the interaction justification and policy environment of broadband is still being worked on. But given the explosive development of technology, the future may be here sooner than we think. For visionaries to have their way, that future will certainly involve broadband.

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A BROADBAND JUSTIFICATION

"Nearly all research suggests that positive returns can be expected from investment in broadband infrastructure. For example, an analysis for the European Commission estimates that broadband can create more than two million jobs in Europe by 2015, and an increase in GDP of at least EUR 636 billion. A study in Brazil reported that broadband added up to 1.4% to the employment growth rate. In China, every 10% increase in broadband penetration is seen as contributing an additional 2.5% to GDP growth. In Thailand, where in 2010 only some 3% of households have broadband and 12% of individuals, it has nevertheless been forecast that broadband could add nearly 1% to the country's GDP growth rate."

"A 2009 study by management consultants, Booz & Company found that a 10% higher broadband penetration in a specific year is correlated with 1.5% greater labour productivity growth over the following five years. They also suggest that countries in the top tier of broadband penetration have seen 2% higher GDP growth than countries in the bottom tier. Another management consultancy, McKinsey & Company, estimates that a 10% increase in broadband household penetration delivers a boost to a country's GDP that ranges from 0.1% to 1.4%."

"Research carried out in Germany earlier this year (2010) predicts that the construction of broadband networks will create almost a million jobs (968,000) over the ten years up to 2020."

(Source: Broadband Commission for Digital Development)