

Research Focus

Broadband development: one policy size does not fit all

Jeff Fountain*

In this fast-paced information and communication age, there is little doubt that broadband technology fails to register as a significant priority for governments worldwide. The distribution of video, voice and data through high-speed, wired or wireless-based broadband networks is indeed critical for government in its facilitation of economic development and universal e-health, e-government and e-education service reach.

Yet, broadband development has varied in many countries because of different content service demand and infrastructure in the ground, related to population density, distance and topography, and industry competition. Therefore, given these supply and demand scenarios, what has public policy's role been in shaping the broadband development process?

Research conducted at the Australian National University (ANU) in Canberra has investigated this question, drawing on the experiences of Japan, South Korea and Australia. While large-scale cross-country empirical analysis raises some doubt about the overall impact of policy, the case-study research shows that in these three countries, politics plays a significant role. The political process is broadly similar in nature in that local, regional and central government manoeuvring and negotiations play an important part in shaping public policy design and outcomes. This is where the similarities end.

Public policy has in fact played a diverse role in broadband development in these countries. South Korea's broadband-related policies have had a more quantifiable impact on broadband supply and demand diffusion than that of the

market. In particular, the government's Informatised APT Certification policy has ensured that new apartment blocks are installed with broadband-ready connections, and public subsidisation of Korea Telecom's (KT) ADSL broadband backbone network extension has also played a large part in overcoming geographical divide issues. Dovetailing with this latter policy, the government subsequently implemented a PC diffusion policy that has provided computers to low-income and rural households. As a result of these policy measures, South Korea has one of the highest broadband penetration rates in the world.

Japan has also relied on public policy to drive broadband infrastructure supply, in the midst of competition from mobile phone networks. Japan fell behind early in the broadband development game with its reliance on a capacity-plagued, ISDN-based network. The government is now increasingly focused on building fibre-to-the-home (FTTH) networks. Although infrastructure extension has played a large role in Japanese broadband policy measures, these supply priorities have overridden public service benefit in anticipating the demand for the actual use and applicability of broadband. As a result, broadband penetration is significantly lower in Japan compared to South Korea. Interestingly, community groups have spawned amidst this lack of policy attention to demand, and have contracted with the non-state sector to ensure grass-roots broadband service needs are met.

Economic growth and integration in East Asia

Building the institutional and financial foundations of economic growth and integration in East Asia is the theme of a conference to be held in Bangkok on 22–23 February. Key presenters will include Hadi Soesastro (Centre for Strategic and International Studies, Jakarta), Philippa Dee (ANU), Kanit Sangsubhan (Fiscal Policy Research Institute, Bangkok), Hiroshi Watanabe, Vice Minister (International, Ministry of Finance, Japan) and Yu Yongding, Institute of World Economics and Policy, Beijing.

Micro foundations of East Asian economic growth

Micro-economic policy making and structural reform will be discussed at a working conference in Tokyo on 26–27 February. The conference is part of a research project seeking to formulate recommendations on institutional design aimed at improving policy outcomes targeted to individual economies in East Asia as well as other economies in APEC.

Events

5–6 February, *China-Japan economic relations: Will they hold?*, conference, Canberra

20–26 February, *Blueprint for sustaining global fisheries*, conference, Bellagio

22–23 February, *Building the institutional and financial foundations of economic*

Australia, on the other hand, has faced problems related to broadband infrastructure supply. The use of competition and universal-service type policies has had less impact on the country's diffusion rate even in the midst of other broadband take-up options. Statistically, broadband take up has been largely influenced by geographic, economic and institutional factors. Broadband take up has been specifically attributed to the high rate of urbanisation, income and education levels, and political and economic freedoms.

What sometimes seems to be lost in the public policy design process is the importance of broadband to private sector communication firms. Broadband is increasingly vital to the private sector in its pursuit of the advantages to be derived from multi-media, voice, data and video network service convergence.

Convergence has created a vibrant and competitive broadband environment between telecommunication and cable firm platforms and communication service firms that piggy-back on top of the infrastructure. These companies are now entering into each other's traditional service markets and are also providing bundled Internet, voice, video and data services. This rapidly changing competitive environment provides the public sector with avenues to promote cost-efficient and quality broadband networks, namely through partnership.

Research at the ANU has also identified a possible model whereby public and private sector incentives in broadband backbone service can converge through public private partnerships (PPPs). PPPs are the 'new kid' on the infrastructure, network-services block. How they apply to broadband networks depends on a clear understanding of what they are, and what they are not: traditional, contracting out, government procurements. PPPs have been widely described as any form of informal or formal public and private relationship. This is incorrect in the case of broadband and other utility sectors.

Public private partnerships are in fact contractual agreements between a public and private party whereby both the infrastructure construction and operation are the responsibility of one firm or of consortia. Risks are shared by both government and business at the construction and operations stages, and the infrastructure is owned by the private sector for the length of the contract or life of the asset. Because broadband backbone infrastructure will extend into high-cost areas, the private sector will require financial guarantees during, or at the end of, the contract.

Government must also partner with incumbent infrastructure providers who benefit from legacy infrastructure. Partnering with an incumbent, universal, legacy infrastructure holder is more cost effective than with a

competitive infrastructure provider because of the minimal essential facility ownership required for broadband service upgrades. It should also be noted that 'last mile' related infrastructure operation needs to be subsidised by the government

Japan has begun to align public and private interests in contracting its FTTH roll-out on a community-led, and increasingly regional, basis. However, South Korea, where a dynamic broadband competitive market exists, has yet to venture down this path. As a stark contrast to these two countries, Australia does not have a sufficiently dynamic broadband competitive market to leverage these common interests effectively within a PPP-type agreement.

What these case studies show is that broadband development has resulted from a multitude of factors, and that public policy has had a varying role in this development. But public policy will play a bigger role in future efforts to align public and private interests by way of partnership, thereby balancing cost and quality issues more satisfactorily.

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These issues were investigated at a workshop on 'Broadband and Public Policy Development' held at the Crawford School of Economics and Government, Australian National University in Canberra on 11 December 2006. The workshop was organised by the Australia-Japan Research Centre at The Australian National University in conjunction with the National Institute of Informatics, Tokyo.

Events contd.

growth and integration in East Asia, conference, Bangkok

26-27 February, *The micro foundations of East Asian economic integration*, conference and public forum, Tokyo

6 March, *Public diplomacy in Japan and the Asia Pacific*, conference Canberra

Publications

Pacific Economic Papers

360 *Agriculture and Political Reform in Japan: The Koizumi Legacy*
Aurelia George Mulgan

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