

National Broadband Planning and Market Liberalism: Regulatory Reforms for Citizenship?

Timothy Dwyer*

*University of Sydney, Australia

Abstract

Planning for the systematic upgrading to 'superfast' broadband networks has emerged as a key communications infrastructure in many countries throughout the developed world. These governance processes combine centrally directed state measures with laissez-faire market or civil society organisation components. In some cases we are witnessing the kinds of arrangements typically encountered when governments pursue capital works initiatives in collaboration with privately controlled corporations. In this sense broadband networks can be another instance of 'public-private' infrastructure partnerships, just as governments have constructed joint arrangements for the ubiquitous supply of telecommunications, transport, electricity, gas and water. Yet media and communications systems are simultaneously cultural industry sites that often represent a profound culture-economy disconnect. In such systems, because they culturally distribute 'public goods' that work to shape peoples' deliberation and participation in society, there is the tendency for conflict with the defining features of market liberalism (Keane, 1991). This dual life of media and communications systems, as both economic input to key infrastructure and foundational to political democracy is frequently highlighted (McChesney, 2008). And as is often argued, media and communications are not simply 'just another business' (Shultz, 1994) when it comes to the provision of media content such as news and information. How is nation-state planning for new broadband networks that works closely with commercial interests likely to articulate those regulatory reforms for content provision that arise as legacy systems subside and new convergent media systems flourish? Which structural priorities are embedded in the planning statements for the development of national broadband systems, and can we make any assessments of the likely policy consequences for content provision by forms such as IPTV? In particular, the paper highlights examples of those traditional laws and regulation governing content provision for citizenship building (including media diversity, local content, 'must carry' and fair use requirements) that will be placed under pressure in the mainstreaming of national broadband networks.

Keywords: National Broadband Policies, Market Liberalism, Citizenship, Content

Introduction

Planning for the systematic upgrading to 'superfast' broadband networks has emerged as a key communications infrastructure issue in many countries throughout the developed world. Nations as varied as Australia, China, Greece, the UK, the US and the Russian Federation, now have programs underway to pave the way for their information societies/economies. These range from specific stimulus interventions in response to the global financial crisis such as the USA's *American Recovery and Reinvestment Act (ARRA) 2009* (Public Law No. 111-5) and the FCC's National Broadband Plan to Australia's nation-building

infrastructure, the National Broadband Network set up through the *Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2009*, which is still being contested in Parliament.

These developments give rise to a series of important public policy questions:

How will ideologies of market liberalism be reconciled with the current national approaches for state-led planning of broadband media? How will such public-private partnerships manifest themselves in, for example, the content that is ultimately delivered to audiences? How is nation-state planning for new broadband networks that works closely with commercial interests likely to articulate the rules for content provision that arise as legacy systems subside and new convergent media systems flourish? Which emerging structural priorities are embedded in the planning statements for the development of national broadband systems, and can we make any assessments of the likely policy consequences for content provision by forms such as IPTV?

In this paper I am also arguing that traditional national laws and regulation governing content provision for citizenship building (including media diversity, local content, 'must carry') will be placed under ongoing pressure in the mainstreaming of national broadband networks. As with legacy media and telecoms, there are strong correlations between the actors who own and operate infrastructure, the rules which govern their operation, including the arrangements that govern the content they make available to audiences. Some of the interventions I will be describing are consistent with the Hallin and Mancini's liberal free market or 'North Atlantic' model of media systems, and post GFC, others evidence clear elements of a statist or 'Democratic Corporatist' model of media and politics (Hallin and Mancini, 2004).

21st Century Media Infrastructure

In this paper I want to consider how policies for broadband, still under construction by two national governments, have assumed centre stage, and are increasingly important elements in 21st century infrastructure projects. Inevitably they are now usually embedded in wider political rhetorics of 'nation-building' and strategic industry policy in globally competitive markets. After three decades of media deregulation, in the wake of the GFC and the broader responses by liberal democracies, we have now witnessed an unprecedented reversal with state-led fiscal interventions into this key media infrastructure of the 21st century.

In the US, soon after the inauguration of President Obama, in the context of an on-going crisis in financial markets, talk of rolling out high-speed broadband networks was high on the new administration's list of priorities. The need to kick-start an ailing economy through a program of concerted government spending or 'fiscal stimulus' was reminiscent of the 'new deal' in the 1930s in the US. Australia's Prime Minister Rudd

had been in power for just over a year, and his government's economic 'stimulatory' measures included building a national broadband network with access for all. But the approaches taken by the two governments have been quite different as a result of their unique political and institutional histories. The centrepiece of the Rudd Government's election promise of a high-speed national broadband network was that a contracted network-builder receive \$A4.7 billion of government funds as the basis of a public-private partnership model. This would later be abandoned in favour of a Government controlled \$43 billion National Broadband Network (NBN) (see below). An important element of a parliamentary review process in 2008 was to establish the terms of the tender documents, which were to call for offers to build a new high-speed network.

By mid-2008 the Australian Senate had launched a review of broadband regulation, and began to consult widely about the establishment of an appropriate NBN model and the mode of its rollout (Senate Select Committee, 2008). Seventy public submissions were received from a range of domestic and international stakeholders: ISPs, Telco's, local councils, state governments. Google submitted that the future provider of the network ought not be permitted to operate both the network, and the retail broadband business (Hart, 2008). No doubt the ironies of this suggestion were not lost on some readers of their submission who would have thought their argument rather Janus-faced given the dominant position of Google in the search engine market. Google had argued that the new network: 'offer services on a wholesale basis to retail competitors on non-discriminatory and equivalent terms as it offers them to its own retail operations, from the perspective of both price and non-price terms and conditions' (Hart, 2008).

They were far from being alone in this suggestion. British Telecom also supported such a structural/functional separation model. Trenchantly opposed to this argument was the former monopoly provider Telstra Corporation who argued in their submission: 'All that presently stands between Australia and world-class broadband infrastructure is the current regulatory regime' (Hart, 2008). In reply, Telstra's critics put the case that Telstra was one of the world's most highly integrated telecommunications companies: that its structure gives it both the incentive and ability (reinforced by a very favourable access regime) to impede competition and slow the release of new technologies/products. Critics, quite rightly, noted that it was vertically integrated, owning both network and retail businesses. And that it was also horizontally integrated, owning various networks – including copper (ADSL), Hybrid Fibre Coaxial (HFC), 3G mobile and satellite – distribution platforms which all generate broadband products. Their argument was that maximising shareholder value for Telstra means minimising retail sales cannibalisation by refusing rivals access to its network or stalling and charging the highest access prices possible.

In the USA, President Obama also pledged a vast sum: approximately \$US790 billion would be set aside under the Congress' 'new deal' like 'stimulatory package'. Of this amount Congress targeted approximately

\$US7 billion to wire rural America with broadband internet services. The *American Recovery and Reinvestment Act (ARRA) 2009* provides that \$4.7 billion was directed to the Broadband Technology Opportunities Program (BTOP). The Act also provided \$2.5 billion to the Rural Utilities Services (RUS) for the Broadband Initiatives Program (BIP). Not long after his inauguration in early 2009 President Obama argued in Congressional debates for the stimulus funding for broadband internet in unserved and underserved areas to create new jobs while also providing better economic, educational and health-care opportunities (Kang, 2009). The way those funds is being invested in broadband is, not surprisingly, a highly politicised debate. For example, local planning and development agencies strenuously argue against any allocation to allow incumbent cable and telephone corporations such as AT&T or Verizon to build these networks.

National broadband investment strategies indicate the dilemma of providing broadband in rural, regional and remote areas in advanced economies by large communications corporations. Where the choice is between an investment strategy directed at corporate clients and affluent residential areas, or investment in underserved, less populous rural and regional areas the outcome is fairly clear. The investment will occur in markets where these companies already have a presence, and strong profits guaranteed. Inevitably, for these purely economic reasons, investment by these corporations in backhaul infrastructure in less populous markets is limited, compared with more densely populated markets. In the context of economic doldrums, the argument was also about how 'local networks open the door to local innovation and economic growth in ways that are impossible with absentee-owned networks' (Bowen, 2009).

Accounting for Broadband

Documenting an accurate overview of the state of broadband services at a national level is a difficult task, let alone making comparisons internationally. Before the introduction of the US ARRA John Horrigan of the Pew Internet and American Life Project had argued that there was no reliable national map of where broadband is available in US because telecommunications and cable corporations are loath to release such commercially sensitive information (Kaste, 2009). This is now being addressed under the *Broadband Data Improvement Act (BDIA)*, Title I of Public Law No. 110-385, 122 Stat. 4096 (Oct. 10, 2008), as it expressly provides for developing and maintaining the Broadband Map. But there remains a question mark next to this exercise until such time as it is satisfactorily completed.

One Pew survey interprets the 14 percent of Americans still using dial-up Internet to mean that this group remains unable to access broadband in the area where they live. As with all comparative analyses the need to use an evaluation approach that takes into account key differences and yet is still able to render national

and international data into a useful analysis is the core challenge. The OECD has identified a range of indicators that can be used to evaluate comparative national take-up of broadband including, the actual number of available lines in an area; households which are in a position to access broadband; the actual geography and land mass; the prices of broadband services; and, the speeds, products and services (including data caps) on offer in a given location (OECD, 2009). Not without critics for some of its inbuilt assumptions (for instance, regarding the assumed ability of people to acquire relevant knowledge, or lack of distinguishing between domestic and workplace access), the sum of the parts of these statistics produces their analytical value. Using OECD data allows the number of broadband subscribers per 100 inhabitants to be cross-checked with the chart of population density or the size of the total landmass, the pricing structures of particular product and service offerings, and the price of these for specific access speeds.

According to the most recent OECD broadband data, the US is ranked 15th and has approximately 82.5 million fixed (wired and wireless) subscribers or 26.9% of the population. Australia is ranked 17th and has 5.3 million fixed (wired and wireless) subscribers or 24.3% of the population. Behind the statistics of course are highly politicised rollout processes and a need for the recognition of a new reality of broadband communications policy. One's access to a broadband network at speeds capable of using content-rich audiovisual media is an important precondition for social participation at the close of the first decade of the 21st century. Public infrastructure provision, then, is simultaneously concerned with social, cultural and economic policies. Broadband provision is now generally seen by media policy advocates and most governments as an important component of 'universal' infrastructure; a policy position that is consistent with nations who proselytize their place as information societies/knowledge economies.

Broadband Policy Debates in the USA and Australia

In the USA

The broadband stimulus programs created in the *American Recovery and Reinvestment Act 2009* (or ARRA), had by May 2010, under the supervision of two agencies, the National Telecommunications and Information Agency (NTIA) and the Rural Utilities Services of the Agriculture Department (RUS) (at the time of writing) awarded 134 Recovery Act grants totaling approximately \$1.3 billion. NTIA has made awards in all 50 states, the District of Columbia, and several territories.

Having completed Round One awards NTIA had awarded 82 grants totaling \$1.2 billion in Federal funds, with \$359 million in applicant-provided matching contributions for projects benefiting the vast majority of states and territories. The projects include 49 Infrastructure projects totaling \$1.04 billion in Federal grant

funds to deploy middle mile and last mile broadband facilities in unserved and underserved areas of the United States; 20 Public Computer Center projects totaling \$57 million in Federal grant funds to provide access to broadband, computer equipment, computer training, job training, and educational resources to the general public and specific vulnerable populations; and 13 Sustainable Broadband Adoption projects totaling \$110 million in Federal grant funds to support innovative projects that promote broadband demand, especially among vulnerable population groups where broadband technology traditionally has been underutilized (NTIA, 2010).

The Round One BTOP awards give a sense of the kind of 'comprehensive community' infrastructure projects that are being funded over the three categories of Broadband Infrastructure (including Last Mile and Middle Mile projects), Public Computer Centres, and, Sustainable Broadband Adoption. The projects range from amounts of approximately US\$1 million through to amounts of up to US\$40 million. Typically these are for infrastructures of internet, broadband computer networks and related outreach/training programs in schools, libraries, workforce, family, youth and other centres throughout rural areas in the US (Appendix 1, NTIA, 2010a).

There are statutory deadlines of 30 September 2010 for the awarding of all BTOP grants, a Broadband Map is to be posted to a website by 17 February 2011, projects are to be 'substantially complete' by 30 September 2012, and fully complete by 30 September 2013.

The ARRA establishes eligibility requirements for grantees and grant projects and it allocates certain amounts of funding for specifically-identified broadband initiatives. It imposes substantive and procedural requirements for the administration of the program, as well as on grantees in their use of BTOP funding. It requires that all awards be made before the end of fiscal year 2010. An additional requirement is for the NTIA to develop and maintain a comprehensive nationwide inventory map of broadband service capability and availability, and to make the map publicly available via the internet. The NTIA website explains the purpose of the map is to:

Further educate consumers and businesses about broadband internet availability, enable broadband Internet providers and investors to make better-informed decisions regarding the use of their private capital for future broadband investment, and inform the decisions of Federal, State, and local policymakers as they work to expand the benefits of broadband to all Americans (NTIA website).

The ARRA authorised the NTIA to expend up to \$350 million pursuant to the *Broadband Data Improvement Act (BDIA)*, Title I of Public Law No. 110-385, 122 Stat. 4096 (Oct. 10, 2008), for the purposes of developing and maintaining the Map.

At the time of writing the NTIA had awarded 54 grants totaling approximately \$102 million for broadband mapping and planning activities to nearly every State and territory.

The purpose of the BTOP is to: 'increase broadband penetration and adoption in unserved and underserved areas of the United States; provide broadband training and support to schools, libraries, healthcare providers, and other organisations; improve broadband access to public safety agencies; and stimulate demand for broadband. In addition, the \$4.7 billion in funding provided under the Act is intended to create jobs and stimulate economic growth' (NTIA, 2010).

BTOP funds were made available through three categories of eligible projects:

- Broadband Infrastructure (including Last Mile and Middle Mile projects);
- Public Computer Centers; and,
- Sustainable Broadband Adoption.

The evaluation criteria used by expert reviewers to review and analyze BTOP applications included: (1) Project Purpose; (2) Project Benefits; (3) Project Viability; and (4) Project Budget and Sustainability.

In the first Round/Notice of Funds Availability, the two agencies (NTIA/RUS) received almost 2,200 applications requesting nearly \$28 billion in funding for proposed broadband projects reaching all states, five territories, and the District of Columbia. In Round Two, NTIA received 867 applications by the deadline requesting \$11 billion in funding for proposed broadband projects reaching across the United States. Applications came in from a diverse range of parties including state, local, and tribal governments; nonprofits; industry; anchor institutions, such as libraries, universities, community colleges, and hospitals; public safety organisations; and other entities in rural, suburban, and urban areas.

As explained in NTIA's February quarterly status report:

In its second NOFA, NTIA has allocated approximately \$2.6 billion, of which approximately \$2.35 billion will be made available for infrastructure projects. NTIA is adopting a "comprehensive communities" approach as its top priority in awarding infrastructure grants in this round, focusing on middle mile broadband projects that connect key community anchor institutions – such as libraries, hospitals, community colleges, universities, and public safety institutions. Comprehensive Community Infrastructure (CCI) projects maximize the benefits of BTOP by leveraging resources, promoting sustainable community growth, and ultimately laying the foundation for the expansion of last mile broadband service to households and businesses (NTIA, 2010).

This process is being overseen by the House Commerce Subcommittee on Communications, Technology and the Internet. It was reported that Edward Markey (D-MA), former chairman of the subcommittee and a senior member, praised the stimulus projects for creating jobs and expanding open broadband networks so underserved rural areas 'can link to the global economy.' On the other hand Republicans on the panel have

argued that the programs were a waste of money since they supported build-outs where there were already broadband networks.

These Republican critics noted that a Republican amendment offered to the stimulus bill over a year ago, which would have required stimulus funds go to unserved areas before going to underserved areas was not voted for by Democrat representatives. This was proof they argued, 'that the broadband stimulus funds were not about quickly getting service to those who don't have it, but about subsidizing companies and projects that were not otherwise economically viable.' (Hart, 2010). Such tussles are clear evidence of the extent to which the broadband stimulus program has become politicised.

Reclassification Debate

The ARRA committed the Federal Communications Commission (FCC) to delivering to Congress a national broadband plan by February 2010. It released such a plan in March, 2010. In relation to the role of the FCC and its power to regulate broadband, the FCC has recently affirmed that: "Working to make sure that America has world-leading high-speed broadband networks—both wired and wireless— lies at the very core of the FCC's mission in the 21st Century." (FCC, Genachowski, GN Docket No. 10-127). Recognising the primacy of market mechanisms, it's noted "government has a limited but vital role to play in spurring ubiquitous, fast, competitive, and affordable broadband networks available to every American" (FCC, *ibid*). At the direction of Congress, and after extensive consultation, beginning with a Notice of Inquiry in April 2009, the FCC released the National Broadband Plan in March 2010. To briefly summarise the FCC's National Broadband Plan:

The Plan describes how the 'Government can influence the broadband ecosystem in four ways':

- Design policies to ensure robust competition and, as a result maximize consumer welfare, innovation and investment.
- Ensure efficient allocation and management of assets government controls or influences, such as spectrum, poles, and rights-of-way, to encourage network upgrades and competitive entry.
- Reform current universal service mechanisms to support deployment of broadband and voice in high-cost areas; and ensure that low-income Americans can afford broadband; and in addition, support efforts to boost adoption and utilization.
- Reform laws, policies, standards and incentives to maximize the benefits of broadband in sectors government influences significantly, such as public education, health care and government operations.

In addition, to providing very detailed objectives in relation to these broadband system design issues, the plan sets out six goals for the next decade:

Goal No. 1: At least 100 million U.S. homes should have affordable access to actual download speeds of at least 100 megabits per second and actual upload speeds of at least 50 megabits per second.

Goal No. 2: The United States should lead the world in mobile innovation, with the fastest and most extensive wireless networks of any nation.

Goal No. 3: Every American should have affordable access to robust broadband service, and the means and skills to subscribe if they so choose.

Goal No. 4: Every American community should have affordable access to at least 1 gigabit per second broadband service to anchor institutions such as schools, hospitals and government buildings.

Goal No. 5: To ensure the safety of the American people, every first responder should have access to a nationwide, wireless, interoperable broadband public safety network.

Goal No. 6: To ensure that America leads in the clean energy economy, every American should be able to use broadband to track and manage their real-time energy consumption (see Broadband.gov).

An inevitable consequence of the FCC's Broadband Plans has been the highly contested attempt to reclassify broadband as a telecommunications service, with all the flow-on implications such a move would entail. FCC Chairman Julius Genachowski is leading the charge to define broadband access as a telecommunications service subject to 'common carrier' obligations to treat all traffic equally. This issue of traffic or content equity inevitably draws the broadband debate squarely into the contested Net Neutrality terrain, and is likely to be challenged in the courts for many years.

The future of the proposal looks very limited, with a majority of Congress, Republicans and Democrats, opposing it. It also has the full weight of the telco lobby opposing it, who do not wish to see an open Internet out of their control. FCC Chairman Julius Genachowski announced in May 2010 that he would seek to reclassify broadband as a 'telecommunications service. He did this in response to a court decision which had undermined the FCC's authority in relation to attempts by the agency to broaden its agenda of access to broadband services. This was linked to Net Neutrality debates and the desire of the FCC to intervene to prevent ISPs from discriminating against content or applications that travelled on their networks (Jerome, *The Hill*, 2010). The FCC's attempts to intervene are likely to face further challenges in the courts as soon as such a rule-making order is issued. The Republican initiated letter to derail the attempt to reclassify a broadband service as telco service argued:

The FCC concluded on a number of occasions, under both Democrat and Republican led commissions, that broadband is not a telecommunications service but an information service

outside of the reach of the Title II common carrier rules...We write to encourage you not to proceed down your announced path to reclassify broadband service as a phone service...Such a significant interpretive change to the Communications Act should be made by Congress (Jerome, 2010).

The Public Knowledge advocacy organization noted that: 'In signing these letters, the members of Congress from both parties are signaling they would rather be captives of industry than see our country try to regain its leadership, protect consumers and defend the vitality and health of the 'innovation without permission' culture that produced today's internet" (Sohn, 2010).

The FCC recently opened a 'Notice of Inquiry' into a so called 'Third Way' interpretation of the Title II reclassification under the Communications Act, specifically tailored to ensure protection for broadband consumers and encourage broadband investment. The Commission developed the 'Third Way' to overcome a legal setback in *Comcast v. FCC* and thereby establish a solid legal basis for future interventions¹. The FCC argued that a 'Third Way' reclassification of broadband internet access service is necessary to implement the policies of the National Broadband Plan with legal certainty. It's also argued that without reclassification, Congress' plan to expand broadband connectivity to underserved communities, to increase broadband speeds across the country, and to protect consumers from unjust and unreasonable practices may be delayed or halted.

Predictably, while telcos, cable companies and the ISP industry oppose the rule change, content providers like Google and Skype, support the proposal, which is consistent with the stakeholder positions in the Net Neutrality debate.

In Australia

The most recent Australian debates focus on the future direction of broadband rollout in terms of optic fibre networks, or more specifically a fibre-to-the-premises (FTTP) network that could be capable of delivering download rates of up to 100 megabits per second (Mbps). The same speed that the US' FCC has nominated as a desirable objective. It is claimed to be the single biggest infrastructure project yet undertaken in Australia (<http://www.nbnco.com.au/>). Ninety three percent of Australians will access the open, wholesale-only network.

But the controversial element of the structure set up in the post-GFC climate by the Rudd government, was not the speed or technologies on the wish list, but rather the fact that the Government announced it would *own* 51% of the new network via a broadband company in which it intends to invest up to \$AUS43 billion.

¹ The DC Circuit found in April that the FCC's ancillary jurisdiction must be tied to a direct statutory mandate, which did not exist for the nondiscrimination rules the Commission had attempted to enforce against Comcast. After the Comcast decision, the Commission's ability to promote the goals of the National Broadband Plan is uncertain. Comcast arose as a challenge to the FCC's finding that the cable broadband provider had violated the Communication Act's nondiscrimination policies by throttling and even blocking some peer-to-peer downloads of its customers (Bentons.org, Digital Beat Blog).

The proposal as it currently stands, before negotiations with the former monopoly telecommunications provider are settled, and before the parliamentary horse-trading that will undoubtedly ensue is over, is that the Government will be the owner of what is, effectively, a re-nationalised monopoly-style network for a period of 13 years (until 2022), when the network would be privatised, and sold to the highest bidder. The network, the government claims, will be structured as an open access one, wholesale-only infrastructure (Hudson, 2009).

There have been a number of legislative steps and processes on the road to the setting up of the NBN Co structure. On 25 June 2009, the government introduced the *Telecommunications Legislation Amendment (NBN Measures No. 1) Bill 2009* (the first NBN-related legislation). It was immediately referred to the Standing Committee on the Environment, Communications and the Arts Legislative Committee. The purpose of this bill was to amend the Telecommunications Act 1997 to give the Minister the power to require that telecommunications carriers provide network information.

When the inquiry reported to the Senate on 17 August 2009, the majority report recommended that the Bill should be passed without amendments. This didn't actually take place because the government subsequently introduced an almost identical piece of legislation into the House of Representatives, where it was passed and sent to the Senate on 21 October 2009. Prior to that, on 15 September 2009, the government introduced the *Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2009* (the second NBN-related legislation), a consequence of the extensive submission process on regulatory reforms. The Bill attempts to address anti-competitive behaviour in the telecommunications industry. Again, the Bill was sent to the Environment, Communications and the Arts Standing Legislative Committee for inquiry and report.

Given only four weeks to investigate and analyse 119 written submissions, the government-led committee reported on 26 October 2009, with the majority recommending that the Bill be passed. However, Coalition senators remain concerned with the proposed functional separation of Telstra. The Committee recommended that: "further consideration of the bill not proceed until after the NBN Implementation Study has been completed". The Bill itself was scheduled to proceed to be debated in final sitting weeks of November 2009. However, the Emissions Trading Scheme debate led to the NBN/Telstra issues being put on hold until Parliament resumed in 2010 (Dwyer, 2009)

That NBN Implementation study, after ongoing pressure on the Government from the Opposition parties, has now been tabled in Parliament. The Government was quick to trumpet that the study found their implementation plans for the earmarked \$43 billion NBN financially viable, and that this was the case whether or not Telstra agreed to participate in the project. This point was reiterated by the Government on 20 June 2010 when it stated in a Media Release that it welcomed 'the announcement by Telstra and NBN

Co that they had entered into a Financial Heads of Agreement'. Although there is a great deal that remains subject to negotiations, the purpose of this 'first step' Heads of Agreement, it was claimed, was to set the broad terms for 'the reuse of suitable Telstra infrastructure, including pits, ducts and backhaul fibre, by NBN' and 'the progressive migration of customers from Telstra's copper and pay-TV cable networks to the new wholesale-only fibre network to be built and operated by NBN Co. (Joint MR by the Prime Minister, and the Ministers for Finance and Deregulation, and Broadband, Communications and the Digital Economy, 20 June 2010). The MR also noted that 'Australia's largest telecommunications company, Telstra, will become a participant in the rollout of the NBN, and is likely to become NBN Co's largest customer'. In effect, the Government is paying Telstra \$AUS9 billion to buy their network infrastructure, absorb their customer base, and merge Telstra into the NBN.

Valuing Telstra Corporation at approximately \$9 billion the Government claims it will contribute another \$2 billion in its efforts to:

- Establish a new entity, USO Co with Commonwealth funding of \$50 million in 2012-13 and 2013-14, increasing to \$100 million per annum thereafter. The remaining funding that USO Co requires will be contributed by industry, as it is now with final arrangements subject to industry and stakeholder consultation;
- Provide \$100 million to Telstra to assist in the retraining and redeployment of Telstra staff that will be affected by this very significant reform to the structure of the telecommunications industry; and
- Require NBN Co to be the wholesale supplier of last resort for fibre connections in greenfield developments from 1 January 2011.

NBN trials and some limited network building are already underway, but wider implementation will need the operational legislation to be passed. Exposure drafts of the *National Broadband Network Companies Bill 2010* and the *Telecommunications Legislation Amendment (National Broadband Network Measures—Access Arrangements) Bill 2010* have been released to solicit comments in relation to how NBN Co. will be regulated and operated – including as it amends Part XIC (the access framework) of the *Trade Practices Act 1974* and the *Telecommunications Act 1997*. Submissions to the Bills raise many concerns about the ability of NBN Co. to operate in the public interest. Submitters had a range of concerns including private telco ownership of the NBN Co. and its ability to operate at a retail as well as wholesale level (DBCDE, 2010). As the companies Bill currently stands it seems possible that a retail service provider (or a consortium of such providers) could become a major shareholder of the NBN Co, and such ownership may enable a vertical integration model. This would be an outcome similar to the current market dominance of Telstra that the Government claims it was seeking to avoid.

Where it can be divined, regulation in the 'public interest' is framed primarily in terms of 'access' under existing and amended TPA laws. It's reasonable to assume that as a market-based infrastructure the NBN, to the extent that it contemplates content citizenship rules, does so mainly in these commercial terms. For example, any 'must carry' type rules will be a matter of commercial negotiation with specific retail service providers on the wholesale-only access structured NBN.²

Information Infrastructures, Diversity, Scale

We can reasonably ask the question, 'is it possible to overstate the transformative powers of new media infrastructures?' Media theorist and cultural geographer, David Morley, has provided an historical analysis of the social and cultural construction of technologies within modernity, arguing that market fundamentalisms that rely on economic policies underpinned by science, technology and the 'rational' can be likened to a deity. He suggests that 'if Comte and Saint-Simon worshipped the beneficially transformative powers of the new communications systems of their day, in the form of canals and railways, and both early twentieth-century American capitalists and Soviet communists worshipped the benefits of electricity, today it is the Internet which is enshrined as the ultimate source of goodness and progress' (Morley, 2007: 314). Neoliberal ideologies (manifestly the most widely dispersed form of market fundamentalism) are coupled with a technologically determinist vision that anticipates 'a convergence in forms of social life (and values) around one, rational solution, which...is the nub of Fukuyama's hymn to the inevitable worldwide triumph of free-market capitalism' (p. 314).

Predictably, with all new media technologies, their introduction is shaped by competing corporate interests, with governments being involved to varying extents, and they are always underwritten by prevailing ideologies, or ways of envisioning their utility. The current period of economic 'stimulus' measures by governments and investment in public works programs, including for broadband 'nation-building' infrastructures, is surprisingly *contre-courant* of the prevailing 'let the market provide' ideologies of neoliberalism.

In a timely policy research report for the US Congressional Research Service titled *Infrastructure Programs: What's Different About Broadband*, the authors note that broadband in the United States may be distinguished in several ways from 'conventional infrastructure' programs, and this warrants different treatment by government. These distinctive features include:

- Virtually all broadband networks in the United States are privately owned and financed through

² Deputy PM Julia Gillard replaced Kevin Rudd as PM on 24 June 2010 and now leads a re-elected Australian Labor Party (which formed a minority government on 7 September 2010). With the re-election of an ALP government came certainty that the NBN, previously under a cloud, would now proceed as planned, subject to ongoing parliamentary negotiations and negotiations with Telstra Corporation.

private capital markets;

- In most geographic markets, there are two or more broadband networks offering competing services over their own facilities, rather than a single provider;
- The competing broadband networks generally employ different technologies and each of these technologies has somewhat different capabilities;
- Each is also experiencing rapid technological progress, making it difficult to predict which technology will prove most successful from a technical or commercial perspective;
- Because the capabilities of these technologies are at various stages of development, some broadband network technologies may be better able than others to meet a stimulus package requirement to be quickly deployable, though perhaps at the expense of long-term productivity and innovation;
- Most broadband network providers are vertically integrated into the production of downstream services/applications that they provide to customers over their own networks;
- These applications compete with the offerings of independent applications providers that also must ride over the broadband networks to reach customers and therefore are dependent on access to those networks (Goldfarb and Kruger, 2009).

Moreover, the report notes that in rural areas limited demand and the high costs of rolling out broadband networks preclude private investment in the absence of government subsidy programs. There is a twin-edged problem of scale economies neither allowing affordable services, nor the subsidy of multiple providers because of the small markets. In comparison to urban dwellers, rural dwellers will always be disadvantaged in this sense. And it needs to be acknowledged that Broadband can be a very differentiated kind of media from a full citizenship perspective, depending on whether the access is provided to home premises, community centre or work or study location.

As the authors of the report argue, one of the principal complexities of designing a program to support privately owned infrastructure is that the private profit maximizing objectives of different providers will rarely match the public policy objectives. There are many supply-side and demand side factors, then, which make government policies to accelerate broadband take-up a very problematic policy object. Even on the demand-side there are fundamental computer access issues that several 'digital divide' studies have documented, showing constraints on internet access, such as this US one:

But many observers believe that the cost of a home computer – the customer premise equipment needed to gain access to broadband services – is a greater deterrent to households purchasing broadband access service. According to an October 2008 study by Connected Nation 74% of all U.S. households own home computers, but computer ownership levels are significantly lower for specific

demographic groups: 44% for households with annual income less than \$25,000, 44% for older households (65 or older), 51% for people with disabilities, 60% for households headed by adults with no college education, and 64% for African-American households. Some observers therefore have proposed that any broadband infrastructure package include a subsidy program for targeted populations to purchase household computers (p. 18).

As media industries evolve, including importantly the rollout of faster and higher bandwidth broadband and growing online news consumption, these issues will remain a high priority for national governments. The UK's regulator Ofcom has promised a 'flexible' 'private sector-led' interventionist policy role that offers the promise of meeting both competitive industry and 'customer' needs in for 'super-fast broadband' by:

- allowing wholesale pricing flexibility to enable returns appropriate to the considerable risks of building new networks, but constrained by the market in the interests of customers;
- ensuring that any regulatory pricing allows investors the opportunity to earn a rate of return that genuinely reflects the cost of deployment and the associated level of risk;
- minimising unnecessary inefficiencies in network design and build as a result of regulatory policies, while continuing to protect the consumer interest;
- supporting the use of new, more flexible wholesale services by BT to offer super-fast services to other service providers and consumers at competitive prices; and
- safeguarding the opportunity for further competition based on physical infrastructure, by facilitating fair opportunities for companies to synchronise their investments with BT's deployments, should reasonable demand arise, and encouraging network design that takes future potential competition into account (Ofcom, 2009).

Net Content Distribution

Many of the main features of both infrastructure and content provision will be shaped by these and other basic economic forces. In this regard, Napoli's 'forces of massification thesis' observes that some fundamental processes of audience media consumption, media economics and institutional arrangements all tend to compel new media technologies, and most notably the internet, to function in evolutionary ways similar to traditional media systems. Therefore audiences in internet contexts still seek out higher production budgeted content 'typically geared to mass appeal'. This tendency in itself works against the availability of a more diverse repertoire of content. As Napoli argues: 'it is somewhat telling that the typical television viewer, in an environment of channel abundance, regularly consumes only about 13 of the available channels – and that is roughly the same as the number of Web sites that the typical person visits

on a regular basis' (Napoli, 2008: 56).

Powerful economies of scale together with the key characteristics of 'public goods' (high fixed costs, low variable costs, nondepletability) is another force operating to make online media like traditional media, and to *distribute* media products made by traditional media outlets. The high risks that could be borne by traditional media corporations in originating new content, by virtue of their scale and market capitalisation is also working in the online world to the appeal of very large audiences. This is not to say there are not also exceptions working on the one-to-one and one-to-many model. However, it is now an empirically well-documented backstory to new media industries growth that concentration and conglomeration of large media corporations have been defensive mechanisms under capitalist organisation from the latter half of the 20th century (Murdock and Golding, 1977: 28).

Furthermore, there is an evident pattern of web searchers who tend to not go beyond the first page of links, thus constraining the potential interaction. Similarly, the prominence of the hugely popular content aggregators such as YouTube, MySpace, Hulu, Joost and their ilk have been achieved on the back of their ability to 'confine the vastness and complexity of the Web into a simpler and more manageable framework' (Napoli, 2008: 61). Clustering around a relatively small number of content options is a mirror to the traditional media 'power law' of distribution of audience attention (and/or the amount spent), with '20% of available content attracting 80% of the audience'. This pattern is being replicated in online spaces, and the presence of traditional media underlines the similarity of traditional media institutional arrangements. And very importantly for the shape and organization of online media, 'this clustering of audiences also continues to be associated with patterns in advertiser behaviour that are consistent with the massification effects of audience measurement'.

This means that 'established audience measurement systems naturally favour sites that attract large audiences (in the perception of advertisers)' and consequentially, explains why the 'most popular websites attract a share of online advertising dollars that exceeds their share of the online audience...and creates important economic disincentives for serving narrower, more specialized audiences online' (p. 62). The recurring patterning in legacy and new media organisation points to systemic failures in the economics of content provision.

Content Delivered Over Broadband Networks

The role of the former monopoly telco in Australia, Telstra Corporation, is the source of on-going controversy in Australia. Beyond questions regarding the ability of the dominant telecommunications giant

to exploit structural advantages in the roll-out of the NBN, and the leveraging of economies of scale in the customer access network, there have also been specific concerns raised in relation to its control of content. Telstra Corporation owns 50% of the dominant pay TV provider, Foxtel (and the other half 25% owned by News Corporation and 25% by Consolidated Media Holdings). Given this television content distribution network (based mostly on a hybrid fibre coaxial network along the eastern seaboard of Australia) it was small wonder that Telstra would move to establish an exclusive IPTV content arrangement with Foxtel. In the proposal (which is being assessed by the Australian Competition and Consumer Commission, the Federal government agency responsible for administering competition policy under the Trade Practices Act), Telstra's Internet Service Provider 'Bigpond', will have the exclusive rights to distribute Foxtel's pay TV service. In return Foxtel's customer base will have exclusive access to unmetered content with the Bigpond ISP. This is the kind of attractive content offer that may well lure rival subscribers to join up to the Bigpond/Foxtel IPTV service. It is reported that Telstra's telco rivals are furious and have protested to the regulator (Kruger, 2010).

This kind of anti-competitive market power abuse can be seen in other content arrangements too. Foxtel has an arrangement with Microsoft to offer another web TV service to people who have an Xbox console, which has internet connectivity (Kruger, 2010). There are other examples of exclusive access and content packages available for subscribers to specialized IPTV services via Telstra's T-Box (with access to Bigpond's content, YouTube, a movie service and Australia's Free-to-Air terrestrial TV channels), Fetch TV and TiVo and several ISPs in Australia (Optus, iiNet, TPG). Sony's PlayStation also has internet connectivity for access to video content. The content that is offered to audiences, then, is strictly a matter determined by the terms and conditions of the rights packages. It has been reported that people outside of the Telstra Bigpond/Foxtel tent will not have access to the sports broadcast rights that Foxtel holds exclusively (Kruger, 2010). Sport content is often seen as a critical driver of subscription television, and internet delivered content with rights to key sporting events will be at a distinct advantage over their rivals.

Another important factor in these emerging infrastructure and content arrangements, is a requirement of the new NBN legislation pushed by the Australian Government that should Telstra Corporation not agree to structural separation of its wholesale and retail businesses, the Government will force it to divest itself of its 50% ownership of the Foxtel business, including the HFC network. This situation appears to have been averted in the wake of the financial Head of Agreement with Telstra.

However, it is this interplay of commercial decision-making and government negotiation, which will have longer-term consequences for the content that becomes available to audiences. Imminent competition in the IPTV market is also influencing these commercial manoeuvres. The context of offering TV-like services is that 'IPTV requires that NBN offer a managed wholesale video service and that retail distributors

construct a video distribution platform' (McKinsey/KPMG: 158). In practice it will mean that for NBN Co. to facilitate IPTV will require the NBN to support IPTV multicast and have network intelligence features, and Quality of Service capacities. The content delivered will be a matter determined by the retail service providers using the NBN Co. The McKinsey/KPMG NBN Implementation Report commissioned by the Government acknowledges the impact of video market structure and content bottlenecks. The authors of the report argue:

The structure of the Australian television industry will make it challenging for new entrants to achieve scale with new video services, even with the NBN. While a market will exist for an NBN wholesale video service without changes to the current regulatory framework, it is unlikely that a new pay television provider will invest in a full-featured IPTV platform until current content agreements expire or are renegotiated (McKinsey/KPMG:165).

The authors suggest that the existing structural characteristics of the Australian television market are likely to have a determinate impact on the future provision of commercially developed video content. They note that free-to-air television is in a relatively strong position in the Australian market for reasons of a historically privileged regulatory treatment, including in relation to sports rights under the anti-siphoning laws. The Foxtel (Austar) monopoly dominates key rights but its relatively late introduction in Australia has slowed and limited its take-up rate.

Their argument is that even though new service providers on the NBN will offer a triple-play suite of voice, data and video services, this will ultimately hit barriers to wider take-up because of the scale of existing dominate players. The authors of the report conclude:

The free-to-air networks broadcast most preferred video content in Australia. Without carrying free-to-air networks, a distributor is not likely to gain the subscribers necessary to achieve profitability with a full scale television platform. Content drives consolidation within the Australian television industry. Foxtel acquires a majority of the content distributed on pay television platforms in Australia (Ibid).

The upshot is that IPTV television over the NBN will resemble the existing market.

'Rights to distribute content on the Internet are already being consolidated in the same way as terrestrial. As a result, the NBN wholesale video service will most likely benefit the existing providers'.

In other words, scale is critical when it comes to the ability of distributors to negotiate preferable programming costs. These kinds of services could be based on advertising, advertising and subscription, various pay-per-view, content aggregation and publishing consortia models. It's not difficult to agree with the authors when they state:

Without access to content, minimal incentive exists for an international or domestic provider to enter the market. Unless the content obstacles change, it is not likely that the NBN will enable another full-scale pay television platform like Foxtel or Austar to enter the market (Ibid).

In the US context there is a longer and more established history of commercial service provision of IPTV, VoD and/or interactive styled, internet or cable system delivered programming. Telco provided video services have arisen in competition to cable services, and the content available is determined in standard, market-based ways according to programming package arrangements between the usual corporate players. The models are already with us. One very well known one is AT&T U-verse, which provides a premium IPTV service to parts of the US. U-verse offers more than 110 HD channels, full digital recording, interface customisation, extensive VoD, access to games and data, with continuous improvements expected in the future. U-verse currently serves more than 1 million subscribers (AT&T, 2008). This kind of model is basically reproducing the tiered programming ('basic', 'premium' etc.) seen in the cable industry.

Hulu is another highly popular IPTV service which is attracting large audiences for, mostly, US TV programming. The Hulu online service began in 2007 and describes the content it offers in the following way:

Hulu brings together a large selection of videos from over 200 leading content companies, including FOX, NBC Universal, ABC, ABC Family, Biography, Lionsgate, Endemol, MGM, MTV Networks, National Geographic, Digital Rights Group, Paramount, PBS, Sony Pictures Television, Warner Bros. and more... (<http://www.hulu.com/about>)

Hulu is majority owned by NBC Universal (itself owned by General Electric), News Corporation, The Walt Disney Company and Providence Equity Partners. The Hulu website says 'Hulu is free and legal through an advertising supported model'. Their very wide-ranging content offerings are made possible by virtue of rights acquisition alliances related to their corporate ownership. It is mainstream, high-rated, and expensive to produce content. Their content is multi-sourced from broadcast networks, cable networks, movie studios and web only content providers.

Broadband Markets and Citizenship

In the West the information society idea is underpinned by the traditions of representative liberal democracy and capitalism. While information and communications have increased in significance within these economic systems, capitalist priorities and pressures remain, and these market criteria decisively influence innovation and informational developments (Dwyer, 2010).

A key concern in the future is how a right to intervene in communications/cultural markets will be sustained

in the face of cultural, politico-economic and technological pressures that are occurring on an unprecedented international scale. Increasingly, national debates for media regulation are conducted within a wider global context of the increasing prominence of international economic organisations, corporations, and free trade agreements. Existing rules for citizenship are being migrated to online media in only piecemeal ways.

Capitalism is colonising the online media space and there is commodification of information at a time when transnational corporate capitalism is a dominant form. It is not that surprising, then, that the information society will embed capitalist imperatives and information will be developed for predominantly *private*, not public ends.

The dominant capitalist (or consumerist) models reward and favours the commodification of information and the corporatisation of information production. Information, therefore, will be produced mostly for private, rather than public use. The marketising nature of consumer capitalism frames how rights are defined, and social goals are achieved. Murdock and Golding have argued that markets address people as consumers rather than citizens, presenting the freedom to choose between competing products as the central freedom of the modern world. So the problem is that within a market society, citizen's rights are narrowed to a set of economic rights (Murdock and Golding, 1989). Burgelman (1997; 2000) considers the dominant policy discourse of leaving the development of communications to market forces is as problematic as it is unsustainable, and by Mansell (1999) as being unable to provide unfettered access to new communications spaces.

Concluding Comments

In my view many of these developments point to a significant narrowing of citizen's rights, at the precise time when the communications media sector is becoming the ground on which debates on labour, education and democracy are potentially given oxygen. And it is also at a time when communication policy must be considered as part of the framework from within which social policy itself arises (Burgelman, 2000). Since communications policy increasingly underpins social policy, the tendency is for the dominant rhetoric to focus on economic (or more accurately consumer) rights, and civil, social and political rights tend to fall outside its scope. In other words, the dominant policy rhetorics, including those connected with media convergence, falls short of considering all aspects of what citizenship means within the information society. As Croteau and Hoynes have argued, 'because the media are important contributors to these educative, deliberative, and integrative processes, conceptualizing media simply through the language of consumption is inadequate...by focusing on the ways in which media are linked to the question of

citizenship, we can see that the market model is far too narrow...it neglects the cultural and political significance of the media' (Croteau and Hoynes, 2006: 30).

Neoliberalism, at the very least, has very visibly failed at a populist ideological level in the so-called 'global financial crisis', giving renewed legitimacy to calls for an interventionist policies by governments in the interests of all citizens. Such intervention can be in very practical ways with long-term consequences, as the role of public service broadcasting has provided ample evidence of in 80 plus years.

Broadband policies are in the mainstream but the US and Australian approaches exhibit both parallel and divergent responses. At the level of infrastructure, the ARRA is about implementing civic or community-focused policies that can be seen as strongly focused on digital divides and *access* in unserved and underserved locations. On the other hand, the Australian Government's stimulatory measures are arguably a more overt discourse concerned with nation-building and a putting in place a *national* broadband system that breaks up the existing market arrangements away from the former monopoly provider. In effect, it's finally implementing a competition framework that was begun several decades ago. In both countries, the content/applications that will ride over the top of this infrastructure will be mostly more of the same. That is, in terms of mainstream distributed video content, the same proprietary, branded, licensed popular programming choices and forms that are currently provided by large content distribution corporations in the legacy media world. Ironically, any media citizenship rules that in the past have attempted to positively mitigate or correct these market liberal tendencies (for access to local content, diversity of content and ownership) are likely to be a threatened species as new media is looking more and more like old media. Citizenship will not be well-served.

Media businesses are closely implicated in the performance of neoliberal ideologies and in determining the direction, scope and pace of new media audience engagement. The ongoing contest between proprietary media content and more participatory structures of social networking and user created content provision is clearly an ongoing battleground. Access to 'super-fast' broadband is at the top of the policy agenda of those nation states that express a desire to participate in the 21st century information society and economies. As an archetypical example of media convergence, broadband infrastructures and applications are now seeing formerly disparate categories of content delivered to a variety of fixed domestic and mobile screen devices. Such diversification of convergence processes will need to be taken into account in future constructions of the universal service provision, for nations which regard themselves as participants in inclusive, globally connected, information societies.

At stake in these new media policy and regulatory debates are the capacities for digital media cultures for shaping a well-informed citizenry. Analysis of the citizenship building implications of the introduction of new infrastructures, and the content to be delivered over them, needs to be more critically assessed in ongoing

policy development and law reform processes.

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