

NZCPR Research

NEW ZEALAND CENTRE FOR POLITICAL RESEARCH

29 SEPTEMBER 2007

UNBUNDLING AND SEPARATING NEW ZEALAND'S TELECOMMUNICATIONS MARKET CHALLENGES.

By Bronwyn Howell

Bronwyn Howell is Programme Director, Post-Experience Programmes at Victoria Management School, Victoria University of Wellington, Research Associate at ISCR and 2007 Visiting Research Scientist at the Networking Laboratory, Helsinki University of Technology. She has held management positions and undertaken research in the information technology, health and nonprofit sectors, and has a particular research interest in regulation and comparative industry performance in the information technology and telecommunications sectors. Recent articles on these subjects have been published in Communications and Strategies, Telecommunications Review, and Victoria University Law Review.

Last Wednesday marked the final blow of the hammer nailing down the Government's plan for the operational separation of Telecom into "at least three separate business units"¹ according to the plan announced by the Minister of Communications in May this year, rather than the alternative plan offered by Telecom whereby the company would be separated into two units with a view to the network company being possibly sold. The government has put great store by the separation plans and local loop unbundling (LLU), announced first in May 2006, as a means of promoting competition in telecommunications markets and the facilitation of efficient investment in telecommunications infrastructure and services.

¹ http://www.med.govt.nz/templates/MultipageDocumentTOC_30333.aspx

The May 2006 'Stocktake' bolstering the Government's action was predicated upon a Digital Strategy aspiration of a top-quartile position for New Zealand in the OECD rankings in the number of broadband connections per capita. New Zealand's low ranking was attributed to differences in the competition and regulatory regime because, compared to the top eight countries in the OECD in this metric, New Zealand had a lower proportion of broadband connections sold by competitors to the incumbent telecommunications company. Ironically, since 2004, following the increased access by competitors to Telecom's network via regulated bitstream services, New Zealand's rate of broadband uptake has been rapid (the third-fastest growth rate in the OECD in 2006 after Denmark and the Netherlands²), and the per-capita ranking has risen from 22nd to 21st – co-incidental with a **decrease** in the share of connections sold by Telecom's competitors (Figure 1). The highest market share of entrants was recorded in 2003, prior to the Telecommunications Commission's LLU inquiry.

Despite the much-vaunted claims that LLU and structural separation would lead to rapid availability of "faster, cheaper broadband", the reports backing up the Stocktake failed to produce any evidence that New Zealand prices were in fact high by OECD standards. Rather, it was demonstrated that New Zealand prices were lower than many of the countries ranking in the top quartile in broadband connections per capita³ – something I can attest to from my recent sabbatical in Finland, where, although there are some locations where cheaper prices are

² http://www.oecd.org/document/7/0,3343,en_2649_37441_38446855_1_1_1_37441,00.html

³ <http://www.med.govt.nz/upload/36790/broadband-divide.pdf>

available, the average prices of DSL connections are dearer than those in New Zealand⁴. Finland ranks 7th in the OECD in broadband connections per capita to New Zealand's 21st. That New Zealand broadband prices are low is not surprising, given that the bitstream products offered are sold by Telecom to competitors at regulated cost-based prices set by the Telecommunications Commission. The Commission sets the prices by benchmarking the costs of delivering equivalent services in equivalent OECD markets using the TSLRIC pricing rule, where costs are measured not at the level of investment made by Telecom in building its existing infrastructure, but at the cost of building a modern network at today's prices. As the cost of building a network is decreasing steadily as technology improves, the prices paid by Telecom's competitors ratchet down over time, even though Telecom's costs are largely fixed and sunk at higher historic levels, and therefore do not alter⁵. Telecom must match its competitors' prices to consumers to maintain its market presence.

The Stocktake reports also failed to produce any statistically significant evidence that service quality was (on average, and over the whole country) any less in New Zealand than in other OECD countries. Whilst other countries (especially in Asia) have access to very high-speed fibre-optic connections in selected locations, when comparing the nationwide availability and quality of services, it is far from clear that New Zealand consumers are on average poorly-served. Table

⁴ Using the Finnish regulatory agency Ficora statistics to the end of 2006, the average price of a 2Mbps connection was over 40 euro (\$NZ80) per month.

http://www.ficora.fi/attachments/suomi_R_Y/5pL40nqnE/Files/CurrentFile/ViVi_MK_2007engl_01.pdf
Equivalent New Zealand 'fair use' packages are available at \$60 per month in a bundle with a calling plan or \$70 without. Metered packages begin at \$NZ30 – these are very rare in Finland for fixed line services (although they are routine for mobile and wireless broadband services). Although the average monthly consumption in Finland is unknown, Ficora analysts believe it is unlikely to be very different from the New Zealand average of 3GB per month per subscriber

http://www.ihug.co.nz/products/broadband/bband4_detail.html

⁵ Ficora does not prescribe any specific pricing rule to be used in regulating wholesale prices – it simply seeks evidence that the prices charged are cost-based. Hence, bitstream prices to competitors can be based upon other pricing rules, including historic cost.

1 shows that at the end of 2006, New Zealand scored a middle-of-the-table OECD ranking in the percentage of homes passed by ADSL (95%), and exceeded (with 50%) the OECD average number of households (35%) capable of receiving ADSL at speeds of 2Mbps and faster. Tellingly, New Zealand outranks Finland in both these statistics – a fact confirmed in the statistics showing that the majority of broadband connections sold in New Zealand are capable of speeds of 2Mbps or faster⁶, whereas only 27% sold in Finland meet this standard⁷. Moreover, the United Kingdom, whose policies have provided the template for the New Zealand regulations, exhibits a very poor performance in the availability of higher-speed connections, with only 10% of households capable of subscribing.

By other ranking measures, New Zealand was also found in the Stocktake to be investing less per capita in its networks than some (but not all) other countries. However, the case is less clear when considering investment per access line or investment as a percentage of revenue (Figure 2). This point is crucial when considering the emphasis upon separation and LLU being necessary in New Zealand to stimulate additional investment in the sector. LLU was seen as essential principally because it was deemed to constitute regulatory ‘best practice’, due to the large number of OECD countries that had adopted it⁸ [whilst supporting LLU, the OECD has never endorsed separation as regulatory best practice: separation is seen as simply one of two different strategic views of the future of the telecommunications industry, which “will lead firms down very different investment and managerial paths. It is too early to say which of the two visions will prove dominant in the industry”⁹]. The Stocktake link to increased investment was backed by assurances from OECD officials that investment by both incumbents and entrants had

⁶ <http://www.stats.govt.nz/products-and-services/media-releases/internet-service-provider-survey/internet-service-provider-survey-mar07-mr.htm>

⁷ <http://www.ficora.fi/attachments/englanti/5pmNkXaXg/Files/CurrentFile/MarketReview12007.pdf>

⁸ Most EU countries have done so because it was mandatory under EU Directives rather than as a matter of discretionary policy for the countries concerned.

⁹ OECD Communications Outlook 2007 at p 19. Available on <http://www.oecd.org>

increased after the introduction of unbundling. These claims were not supported by any empirical evidence, and have subsequently been shown to be highly contentious¹⁰. The UK statistics in Table 1 suggest that substantial investment is required in that market to raise access to higher-speed ADSL networks to the levels already enjoyed in New Zealand prior to the introduction of LLU and separation.

Whilst the policies adopted in New Zealand may be instrumental in encouraging investment by new entrants in equipment that ‘bolts on’ to the Telecom network, the real issue facing the New Zealand telecommunications market, and all others in the OECD, is how to encourage investment in the next generation of internet access technologies that will supplant the current copper-based ADSL broadband networks. As Point Topic’s Dr Katja Mueller starkly states, “ADSL is becoming a dead-end technology”¹¹. The future is in fibre. Yet, with the LLU and separation policies, New Zealand policy-makers have ‘bet the farm’ on the country’s broadband future being ADSL-based, with new investment coming predominantly from Telecom’s competitors.

ADSL replacement networks (fibre to the kerb and fibre to the home) are most unlikely to be funded by a plethora of competitors who sink their investments as bolt-ons to the incumbent’s copper networks, as fibre results in their investments in copper becoming stranded. The size of the investment required for fibre networks means that only a very small number of firms in even the biggest markets (and possibly only one in a market as small as New Zealand) will be able to

¹⁰ For a summary see Gruber, H. (2007) *European sector regulation and investment incentives for broadband communication networks*. Available on <http://ssrn.com/abstract=976887>. and Crandall, R. & Sidak, G. (2007) *Is mandatory unbundling the key to increasing broadband penetration in Mexico? A survey of international evidence*. Available on <http://ssrn.com/abstract=996065>.

¹¹ Mueller, K. (2007) *Fast is not fast enough. The spatiality of UK broadband services reassessed*. London, United Kingdom: Point Topic; at p 2

justify the business case for such an investment¹². The costs of co-ordinating all of the competitors to collectively build a successor network will be prohibitively large, leading to long delays in the progression to new networks, which become more pronounced the larger the number of entrants becomes.

It begs the question, then, of who, if not Telecom, will invest in leading-edge fibre networks in New Zealand. If any private investment is to ensue, the regulatory environment must be conducive to earning a fair return on the capital committed, especially given the risks inherent in the deployment of new technologies. The current policies appear to be pushing the incentives to invest in the opposite direction. Telecom stated in May that the government's separation proposals are inconsistent with its incentives to invest more than \$500 million of the \$1.5 billion it estimates is required for the network envisaged by the government in the Digital Strategy¹³. The threat of withholding investment, leading to the creation of a missing market for funding, was made credible with Telecom's concomitant announcement that it would return \$1.1 billion of the proceeds from the sale of Yellow Pages to shareholders¹⁴. This is in stark contrast to the commitment made by Telecom following the 2003 LLU inquiry to fully fund the next-generation network.

Experiences from United Kingdom are also instructive as we consider the likely shape of the New Zealand telecommunications market under LLU and separation. In the UK, the effects of "alternative operators overspending on LLU" are already being cited as an impediment to investment in fibre networks. The "dozen or so" entrants utilising unbundling to invest in BT

¹² Ford, G., Koutsky, T., & Spiwak, L. (2007). Competition after unbundling: entry, industry structure and convergence. *Federal Communications Law Journal* 59(2):331-367. Available on <http://ssrn.com/abstract=985109>

¹³ <http://www.med.govt.nz/upload/45925/11.pdf>

¹⁴ http://www.telecom.co.nz/binaries/q3_07_presentation.pdf,

Openreach exchanges “stand to lose out if a new optical fibre network is deployed and it is this group which has the least interest or incentives for a nationwide deployment of optical fibre”¹⁵, whilst BT Openreach, whose “competition is paralysed”, is following a “low-risk strategy that is synonymous with a strategy of no investment”¹⁶.

The UK environment, therefore, does not imbue confidence in the longer-term outcomes for the New Zealand market. Ironically, New Zealanders may stand to lose out twice. Not only are delays in building new networks likely to deprive broadband users of timely introduction of super-fast broadband, but a substantial amount of the investment in the ADSL bolt-ons, that will be complicit in delays in building the new networks and stranded if bypass does eventually occur, is likely to be underwritten by the taxpayer. To date, the only company reported to be openly committed to investing in every Telecom exchange to be unbundled is Orcon/Kordia. The 100% state-owned vertically integrated ISP/infrastructure company stands to be one of the principal beneficiaries of government-imposed LLU and compulsory separation of Telecom¹⁷.

So how have these policies come to have so much popular support in the New Zealand environment, despite the very real long-term risks to sector development? The answer to this question appears to lie in the way in which the pursuit of particular positions in the OECD rankings has come to dominate policy agendas.

Telecommunications markets are highly complex systems, influenced by a vast range of economic, geographic and demographic factors. They are also seen to have a special role in the development of an ‘information economy’. As the world’s most sophisticated economies, the

¹⁵ Mueller (2007) *Supra* at p 7.

¹⁶ *Ibid* at p 9.

¹⁷ <http://www.stuff.co.nz/4196742a28.html>

OECD countries are seen to be at the leading edge in the development of the new order, so if there are any 'tricks of the trade' that will enable countries to enhance their prospects in an information economy, they are likely to be found in the OECD. However, it is very difficult to assess who is performing 'best' in such a complex environment. Hence it is difficult to determine which (if any) policy interventions are having a marked effect, compared to all of the other factors related to other variations in underlying economic, geographic or demographic circumstances which may be influencing the outcome.

In the face of complexity, it becomes very easy to latch onto a few isolated statistics, such as the number of broadband connections per capita, the cheapest access prices, or the fastest services, to determine 'winners' and to justify analysis and emulation of the winners' policies. Such simple proxies are also easy to turn into political slogans. The risk of simplification of a complex set of interactions into the pursuit of a few proxies is that pursuit of the proxies comes to override the pursuit of the real objective – improving the lot of a country relative to what might have occurred without the policy or under alternative policies, trading off the costs and benefits in both the short- and the long-run.

"Faster, cheaper broadband" and "top quartile in the OECD in broadband uptake per capita" are simple messages for politicians to use to sell their policies (good or bad) to voters. And the current policies may even result in these outcomes in the short-term. By adopting LLU and separation, our politicians and policy-makers appear to be responding to calls for short-term gains (from Telecom's competitors as well as from consumers). But the longer-term effects upon the New Zealand economy may be profound, if "faster, cheaper ADSL" is the best broadband network that we can hope for over the medium-to-longer term horizon. In short, it is the job of policy-makers to unpack and understand the underlying complexities, and their responsibility to ensure that all the relevant costs, benefits and risks, in both the short- and the long-term, of the policies they propose are balanced off against each other so that, irrespective of the eventual OECD rank achieved, the policies result in real improvements in the country's wellbeing compared to the counterfactual of no change.

The questions we must be asking of our telecommunications policy-makers therefore are:

- have they given due consideration to whether New Zealand, with its existing policies, really has performed poorly compared to its OECD counterparts, given all of the other factors that affect its ability to deliver in the proxy rankings being pursued?
- can they be certain that the chosen policies really are responsible for the relative positions observed in the proxy rankings?; and
- can they be certain that there are not substantial differences in the underlying economic, demographic and geographic circumstances of New Zealand that mean these policies may not deliver the same results in New Zealand as they have elsewhere?

As the preceding discussion and the accompanying article¹⁸ shows, the ranking metrics chosen for pursuit in New Zealand telecommunications policy are highly contingent upon the nature of the statistics themselves, and may be quite misleading if not interpreted in light of the complexity that underlies them. If such policies are to become part of the political agenda, we deserve to see evidence that our policy-makers are fully cognisant of the underlying complexities when forming their policies and making their recommendations. It is questionable whether the analysis backing the most recent regulatory moves can be said to adequately meet this test. The risks of getting it wrong are very high for the long-term achievement of a vibrant information economy in New Zealand.

¹⁸ Howell, B. (2007). *Defiling the rank: how useful are the OECD league tables?*

Figure 1

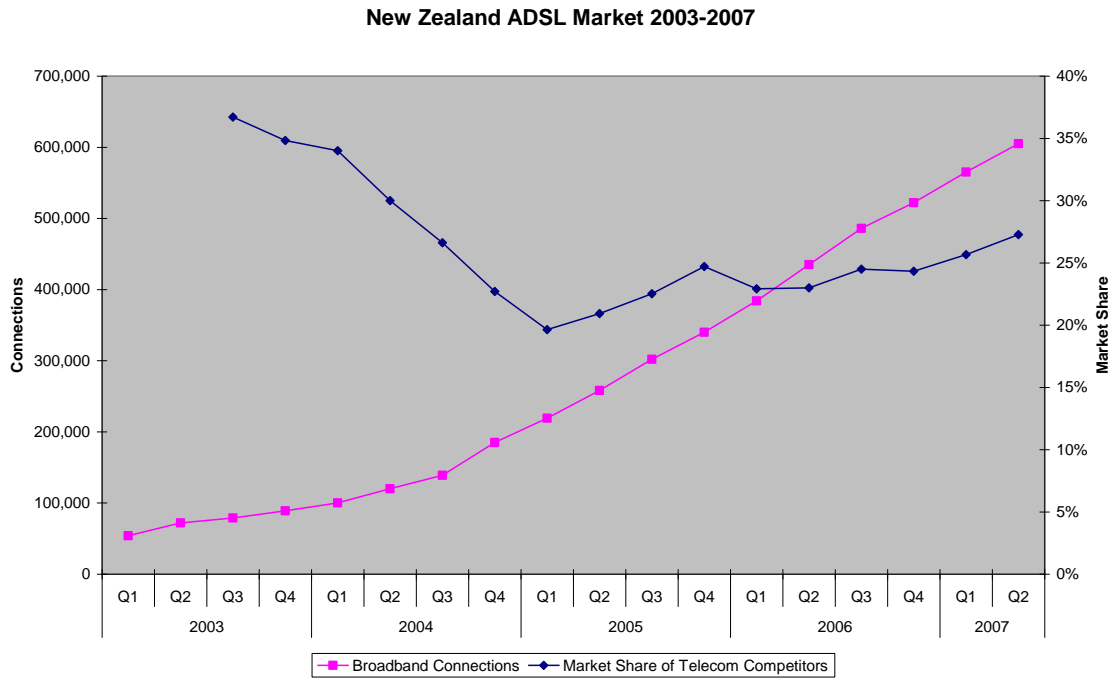


Figure 2: Investment as a Percentage of Revenues: NZ, OECD and Selected Countries

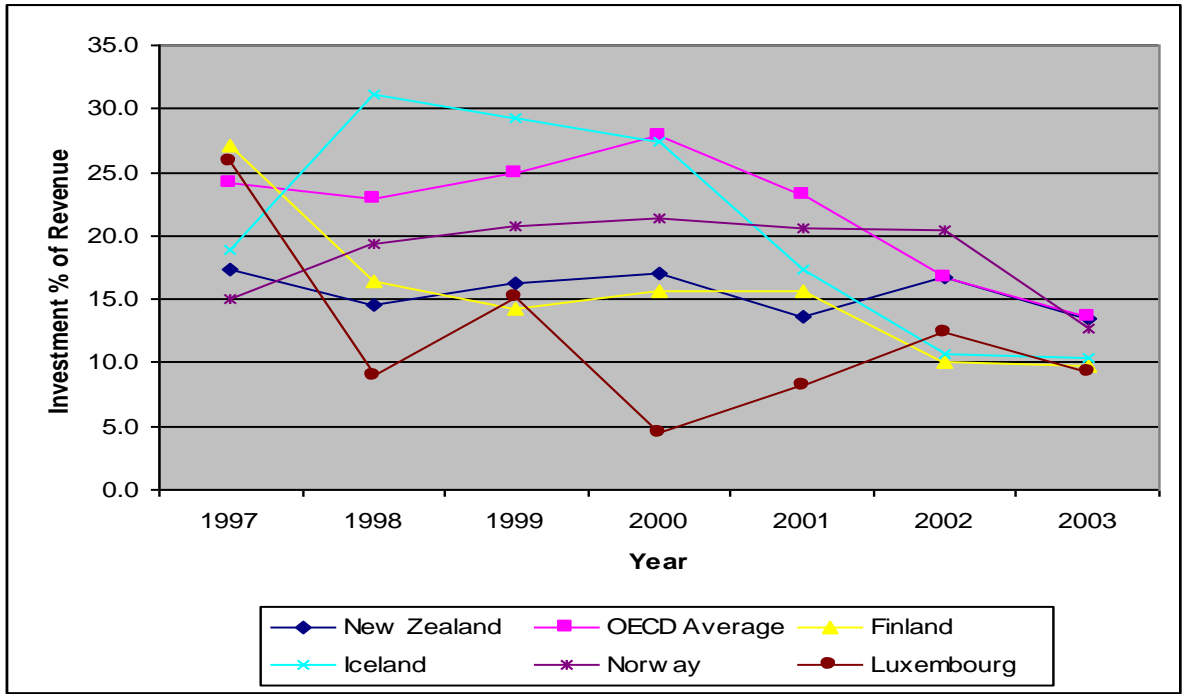


Table 1. % of Homes Passed by Broadband Technology. End-2006.

OECD Country	Households	% of ADSL Homes Passed	% of ADSL2+ Homes Passed	% Cable Homes Passed	% FTTx Homes Passed
Belgium	4,439,652	100.00	<i>67.00</i>	60.14	45.00
Denmark	2,509,000	100.00	65.00	<i>60.00</i>	5.98
Germany	39,375,000	100.00	55.00	44.95	14.98
Iceland	117,000	100.00	85.00	25.00	40.00
Japan	48,207,000	100.00	?	20.74	79.00
Luxembourg	186,000	100.00	0.00	34.00	0.00
Poland	13,201,000	100.00	0.00	41.66	0.00
South Korea	15,778,000	100.00	?	70.00	73.87
Switzerland	3,082,000	100.00	65.00	59.28	4.87
Austria	3,450,000	99.70	48.41	28.12	0.29
United Kingdom	25,104,000	99.70	10.00	62.00	0.00
Netherlands	7,041,000	99.00	57.00	98.00	2.84
USA	114,504,000	99.00	?	95.00	6.99
Mexico	25,648,000	97.00	0.00	75.00	0.00
France	25,194,000	<i>96.40</i>	<i>50.00</i>	34.14	0.42
Norway	2,043,000	96.00	60.00	44.05	3.43
New Zealand	1,535,000	95.00	50.00	15.00	0.33
Spain	14,736,000	94.00	52.00	34.04	0.07
Sweden	4,380,000	93.50	?	39.95	13.70
Italy	22,786,000	93.00	<i>45.00</i>	0.00	7.02
Portugal	3,568,000	<i>92.60</i>	10.00	81.19	0.00
Australia	7,775,000	91.00	57.00	33.44	0.12
Finland	2,399,000	<i>90.40</i>	<i>22.90</i>	<i>32.00</i>	0.17
Ireland	1,211,000	88.44	7.00	70.80	1.65
Hungary	3,951,000	87.50	20.00	32.90	0.03
Canada	12,499,000	<i>85.00</i>	?	84.01	?
Slovakia	2,421,000	85.00	0.00	20.65	0.00
Czech Republic	3,828,000	82.00	40.00	34.48	0.26
Greece	3,640,000	?	2.00	0.00	0.00
Turkey	15,498,000	?	0.00	<i>10.00</i>	0.00
Total/ Average	430,105,652	95.15	34.73	44.69	10.38

Source: Point Topic. Note: *Italic figures are estimates or date to end-2005. ? = no data available.*