



**NEW ZEALAND INSTITUTE FOR THE STUDY
OF COMPETITION AND REGULATION INC.**

THE ANTIPODEAN APPROACH: GOVERNMENT-FUNDED ULTRAFAST BROADBAND NETWORKS

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Secured and Universal Broadband Access*
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**Bronwyn Howell
General Manager**

<http://www.iscr.org.nz>; bronwyn.howell@vuw.ac.nz

CORPORATE MEMBERS

Contact Energy

Fonterra Co-Operative Dairy Group Limited

MainPower Trust

Meridian Energy

Powerco

Telecom Corporation of New Zealand Ltd

Victoria University of Wellington

Westpac Institutional Bank

THE BRIEF

Choice of network

Role of incumbent carrier

Choice of competition policy



CHOICE OF NETWORK

Technology

Australia – G-PON fibre to 93% of Australian customers; balance by wireless and satellite (cost up to A\$43 billion)

New Zealand – G-PON fibre to 70% of NZ customers (cost NZ\$1.35 billion); separate Rural Broadband Initiative (any technology, including wireless, satellite) covering all schools and 252,000 households (15%) (cost NZ\$400 million)

Institutions

structurally separate Layer 1&2; Layer 3 firms

Layer 1&2

Australia – NBNCo – 100% government-owned - \$43 billion

New Zealand – public-private partnerships – Chorus (70% market share) and three others (electricity lines companies, municipality)

open, non-discriminatory access

Timeframe – by 2018



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ROLE OF INCUMBENT CARRIER

A little history

(with apologies to TS Eliot and Henry II)

“Will someone not rid me of this troublesome telco?”



POLICY DIRECTION

Government investment response reverses 30+ years of both countries being at the forefront of telecommunications privatisation, market liberalisation, pursuit of increased competition



AUSTRALIA

Telstra corporatisation 1988

Three-tranche privatisation (1997-2006)

Industry-specific regulation

AUSTEL (1988-97); ACCC & ACA (post 1997)

access regulation 1997

local loop unbundling 1999

accounting separation of Telstra

Ethos: classic OECD regulation – pursuit of competition
paramount



NEW ZEALAND

World leader in telecommunications deregulation (1987), corporatisation (Telecom NZ 1987) and privatisation (1990)

‘Light-handed’ regulation based on Commerce Act and contractual undertakings (1990-2001)

Re-regulation beginning 2001

- interconnection, resale (regulated 2001/effective from 2002)

- bitstream unbundling (2004/2005)

- local loop unbundling (2006/2008)

- functional separation (2007/2008)

Ethos – initial pursuit of efficiency, giving way to pursuit of a more competitive market and ‘best-practice’ regulation



SHARED PHILOSOPHICAL DIMENSIONS

Strong egalitarian principles

- rural connectivity a strategic imperative
- price equalisation
 - rural vs urban
 - unmetered local calling (but per-call charge in Australia)

Government financing historically targeted rural equality

- Project Probe, Broadband Challenge Fund (NZ)
- funds reserved from Telstra sales (Australia): Networking the Nation (A\$250 million 1997); Social Bonus package (A\$1 billion 1999)



2007-8 'SEA CHANGE' - AUSTRALIA

Impasse between Telstra, Government re 'cabinetisation' investment

FTTN becomes a Labour Party 2007 election promise

Tenders sought 2008 – none met specifications

7 April 2009 Government announces it will establish NBN Co to build FTTH network

- stated objective is 'nation-building'
- cost up to A\$43 billion
- serving between 90% and 93% of Australian population
- terms agreed to A\$9 billion 'buyout' of Telstra assets (Feb 2011)
- A\$800 million deal with Optus to migrate HFC customers to NBN Co (June 2011)



2007-8 'SEA CHANGE' – NEW ZEALAND

April 2007

- (Labour-led) Government mandates functional separation of Telecom (next step in aggressive re-regulation following the 2005 election)
- Telecom responds by saying it will invest only \$500 million of estimated \$1.5 billion required to build nationwide 'cabinetised' FTTN network
 - credible threat – returns \$1 billion of proceeds of directory business sale to shareholders

December 2007

- (Labour-led) Government and Telecom enter undertakings for FTTN network offering 20+Mbps broadband to all communities with more than 500 lines by end of 2011 – investment problem apparently resolved

2008 election

- (opposition) National Party promises NZ\$1.5 billion for nationwide FTTH network to be constructed under PPPs to enable a 'step-change in economic performance' 'in line with our competitors (wins election)



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GOVERNMENT HAS RESUMED FULL STRATEGIC CONTROL OF INDUSTRY

Australia

- principal fixed-line network operator now 100% government-owned
- competing fixed-line network operators ‘bought out’
 - without recourse to competition law mergers examination
- Government (i.e. taxpayers) now bears all financial, technological and demand risks of network ownership

New Zealand

- Government (via Crown Fibre Holdings) has assumed full responsibility for technical specification and regulation of future fixed line networks
- but financial, technological, demand risks shared between taxpayers and private sector partners



FORMER INCUMBENTS

Reduced to being (largely unregulated) Layer 3 retail operators (in respect of fixed line fibre operations)

Telstra

- faces ongoing regulation with regard to copper operations until NBNCo networks become operational
- but has a A\$9 billion war-chest to fight in mobile markets

Telecom

- freed from (almost all) regulatory burdens
- albeit the separated Chorus retains all obligations and regulation in relation to copper networks and some fibre areas

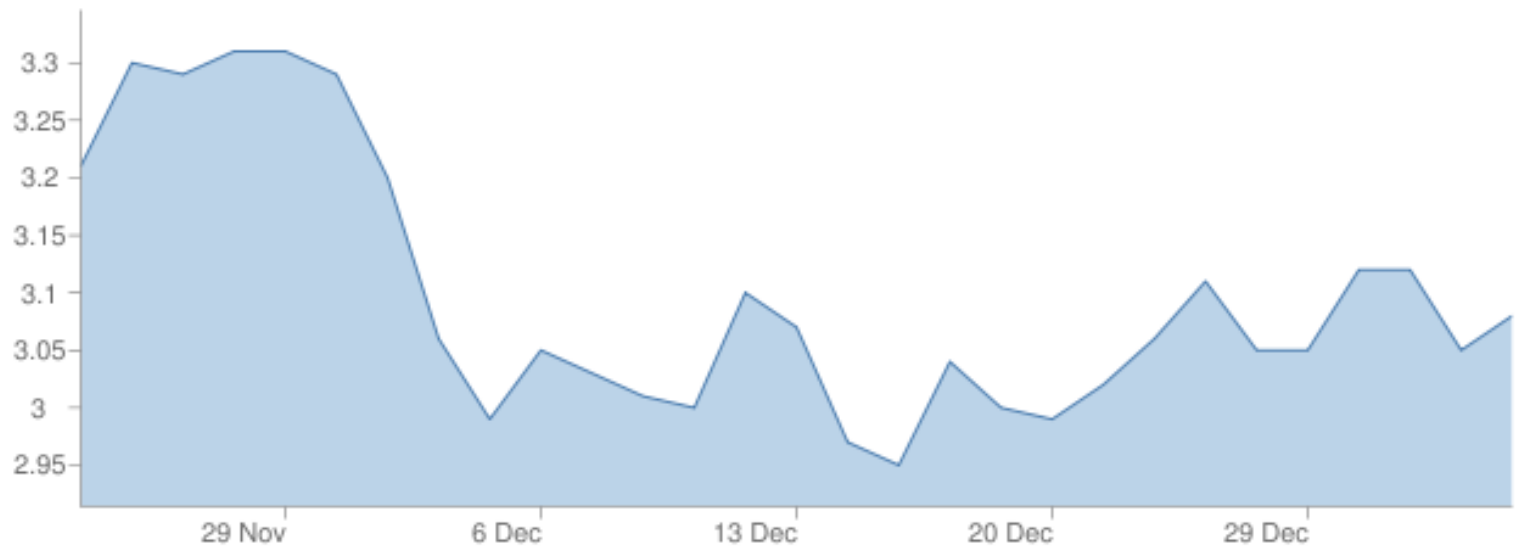


THE MARKET'S VIEW

Telecom



Chorus



BUT WHAT OF COMPETITION POLICY?

Regulatory policy orthodoxy

- objective is long term infrastructure competition
- access regulation/ladder of investment is path to infrastructure competition
- structural separation militates against nonprice discrimination
 - but problematic if infrastructure competition already exists

Fibre NGNs

- fibre is 'frontier' broadband technology (copper, HFC 'legacy')
- may become dominant in the future (GPT dominance)
- but in the present, is government investment to
 - hasten infrastructure competition?
 - hasten fibre's acquisition of dominance?



AUSTRALIAN POSITION

Unequivocal – ‘fibre is a new nationwide natural monopoly’

- despite extant infrastructure competition, highly urban popn

There will only be one fixed line network

- fibre directly replaces copper
- subsidised network effectively eliminates competitive network investment
- monopoly ameliorated by structural separation, regulated access to Layer 1 & 2 products

Rapid substitution assured

- copper ripped up when fibre laid

But major risks from wireless competition

- Telstra has \$9 billion ‘war chest’ and no fixed network to spend it on



NEW ZEALAND POSITION

Stated objective is to accelerate the uptake of fibre connections (Crown Fibre Holdings)

BUT ????????

(TS Eliot again)

“between the conception and the action falls the shadow”



NEW ZEALAND POSITION (cont)

Infrastructure competition

- a foregone conclusion as no incentive exists for existing infrastructure entrants to be UFB partners
 - must forfeit retail customer base to participate
- where it exists already, aggressive short-term inter-platform competition will delay substitution to single national network
 - copper and fibre in 30% of market where Chorus is not UFB partner
 - fibre and fibre where non-UFB, non-Chorus fibre networks exist – Wellington, Christchurch

Yet LLU regulation remains on copper nationwide – why?

- ‘natural monopoly’ assumptions invalidate ‘ladder of investment’ for new entrants to become competing network operators
- low copper prices increase competitiveness, further delaying substitution (plus avoids stranding assets of unbundling entrants)
- but recent revisions have increased urban copper access prices, reducing copper competitive intensity
 - unbundling entrants very unhappy!



SEPARATION POSES ADDITIONAL PROBLEMS

Structural separation inhibits rapid, co-ordinated substitution (in NZ as copper remains, relative to Australia)

- retailers manage end-customer relationship (and hence customer technology choice and substitution timing)
- information/provisioning problems

Bundling implications (NZ example, but relevant in Australia)

- Chorus/UFBCos unable to initiate network and application bundles to induce purchase
- relying on retailers to initiate bundling
- yet many retailers own competing infrastructures (Vodafone, Telecom – mobile; TelstraGear – CATV)
 - so incentives to favour own infrastructures over fibre in bundles
 - especially where customers don't value fibre highly



REGULATORY DILEMMAS

Cross-network regulatory price arbitrage remains the most important 'lever' in determining copper-fibre substitution

BUT

NZ regulator can set copper terms, but can only enforce price and nonprice undertakings made between Crown Fibre Holdings and partners regarding fibre

Technology-based regulatory and policy 'silos'

Who has responsibility for setting objectives and balancing incentives in the **BROADBAND** market?



CONCLUSIONS

Antipodean nationwide government fibre network funding is a politically- (rather than economically-) motivated choice

- so may not provide a good model for other countries

They defy competition policy orthodoxy

- new fixed line monopolies are created
 - crowding out or disincentivising private sector investment where it is feasible; stranding assets of competitive entrants (both infrastructure and access)
- structural separation invalidates the pursuit of future infrastructure competition

They pose a new range of regulatory dilemmas

But they are already here

- first NZ connections laid in December 2010 (Whangarei)
- NBNC Co hailed its 4000th customer Jan 3 2012



REFERENCES (ISCR WEBSITE)

Evans & Hahn

Regulating Dynamic Markets

http://www.iscr.org.nz/f574,16477/16477_Regulating_dynamic_markets_510_v11_May_28_2010.pdf

Heatley & Howell

Price Discrimination and Structural Separation

http://www.iscr.org.nz/f555,17842/17842_Heatley_Price_Discrimination_.pdf

Regulatory Implications of Structural Separation

http://www.iscr.org.nz/f607,17391/17391_Heatley_Howell_Regulatory_Implications_Final_.pdf

Structural Separation and Prospects for Welfare-Enhancing Price Discrimination

http://www.iscr.org.nz/f580,16593/16593_Efficiency-raising_price_discrimination_with_postscript_.pdf

UFB2.0: Revised separation boundaries

http://www.iscr.org.nz/f594,16948/16948_Current_Comment_UFBI_2_0.pdf

Will Abolishing the TSO End Universal Service Pricing?

http://www.iscr.org.nz/f560,16057/16057_Abolishing_the_TSO_Compensation_25-Mar-10_v3_.pdf



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REFERENCES (ISCR WEBSITE) cont

Howell & Grimes

Feeding a Need for Speed

http://www.iscr.org.nz/f563,16240/16240_Feeding_a_Need_for_Speed_v4.pdf

Howell

Flat-Rare Tariffs & Competitive Entry

http://www.iscr.org.nz/f577,16530/16530_Tariff_Structure_and_Competitive_Entry_B_H.pdf

CityLink Case study

http://www.iscr.org.nz/f555,17832/17832_Howell_Models_for_dark_fibre_broadband_networks.pdf

Levin

Issues and Policies for Universal Service

http://www.iscr.org.nz/f605,17350/17350_Universal_Service_and_Net_Neutrality_in_Broadband_-_Final.pdf

Potgieter

Broadband Network Structure and natural Monopoly

http://www.iscr.org.nz/f555,17837/17837_Potgieter_Broadband_network_.pdf



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