

SUBMISSION:

Telecommunications Amendment Bill

**Presented to the Finance and Expenditure Select Committee
September 6 2006**

Bronwyn Howell
*Lecturer, Corporate Management,
Victoria Management School, Victoria University of Wellington; and
Research Associate, ISCR
bronwyn.howell@vuw.ac.nz*

BRONWYN HOWELL

**Lecturer, Corporate Management, Victoria
Management School, Victoria University of
Wellington**

**Research Associate, New Zealand Institute for the
Study of Competition and Regulation**

**Information and Communication Technology market
experience**

- 20 years as a practitioner
- 7 years as an academic
- one of only a few New Zealand academics researching and publishing in the peer-reviewed academic literature on the actual and relative performance of New Zealand telecommunications, Internet and broadband markets
- the only academic publishing extensively using New Zealand uptake and usage data

‘STOCKTAKE’ FINDINGS

New Zealand’s low exhibited broadband uptake rate is the consequence of a competition ‘problem’

Lack of competition in telecommunications markets has resulted in less investment and lower-quality products and services relative to other countries, thereby impeding uptake

Local Loop Unbundling (LLU) will ‘solve’ the competition ‘problem’, leading to higher investment, increased product quality and variety, with consequent increased broadband uptake

Policy target is for New Zealand to be in the top quartile of the OECD in broadband uptake per capita by 2015

‘STOCKTAKE’ METHODOLOGY I

Assumes

- broadband uptake is a proxy for economic growth potential in a ‘knowledge economy’
- pursuing increased broadband uptake is therefore a legitimate policy objective

Diagnoses competition and investment ‘problems’

- using an unscientific rank ordering process that leads to misleading, if not patently incorrect, conclusions about the reasons for New Zealand’s low broadband uptake
- using selective data analysis that ignores key contextual and international comparative elements of the dynamics of broadband markets
- that fails to identify or account for New Zealand’s OECD leadership in
 - internet uptake and usage across the period 1996-2006
 - broadband supply from 1999-2002

‘STOCKTAKE’ METHODOLOGY II

Proposes ‘solutions’ without subjecting either the conclusions or the proposed ‘solutions’ to a rigorous critique

- investment factualls and counterfactuals apparently based principally upon participant interviews
 - Telecom
 - competitors to Telecom
 - officials of policymaking bodies (e.g. OECD)
- no detailed cost-benefit analysis is undertaken
- ignores the large body of academic literature (both theoretical and empirical) on the effects of LLU policies on
 - broadband uptake
 - the amount, nature and timing of investment in technologically volatile environments

‘STOCKTAKE’ METHODOLOGY III

Consequently, the ‘Stocktake’

- makes an apparently clear-cut case for regulatory intervention that is
 - difficult to substantiate either theoretically or empirically when subjected to critical review
 - based upon flawed analysis and incorrect assumptions
- substantially understates the extent of the risks and uncertainties of the proposed regulations

DRIVERS OF BROADBAND UPTAKE

National demographics

- GDP per capita
- population density
- degree of urbanisation

Competition characteristics

- absolute and relative prices of consumer access and usage
- degree of inter-platform competition
 - competing infrastructures (ADSL, cable, wireless, satellite, etc.)
 - competitor market shares
- degree of intra-platform competition
 - including absolute and relative prices of unbundled elements

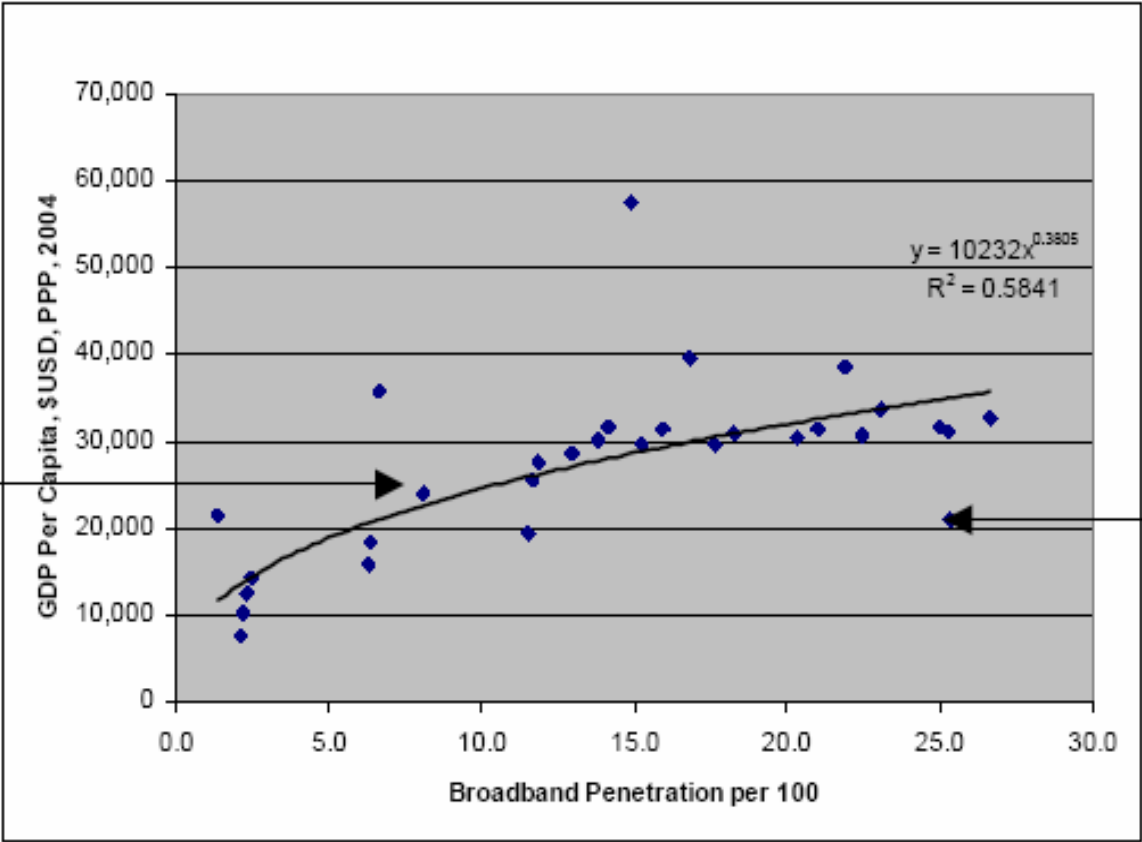
BROADBAND UPTAKE AND GDP: a complex interrelationship

Two-way causality

- but GDP per capita is a good predictor of technology uptake
 - telephones
 - television
 - computers
 - internet
 - broadband

New Zealand's broadband uptake consistent with GDP per capita

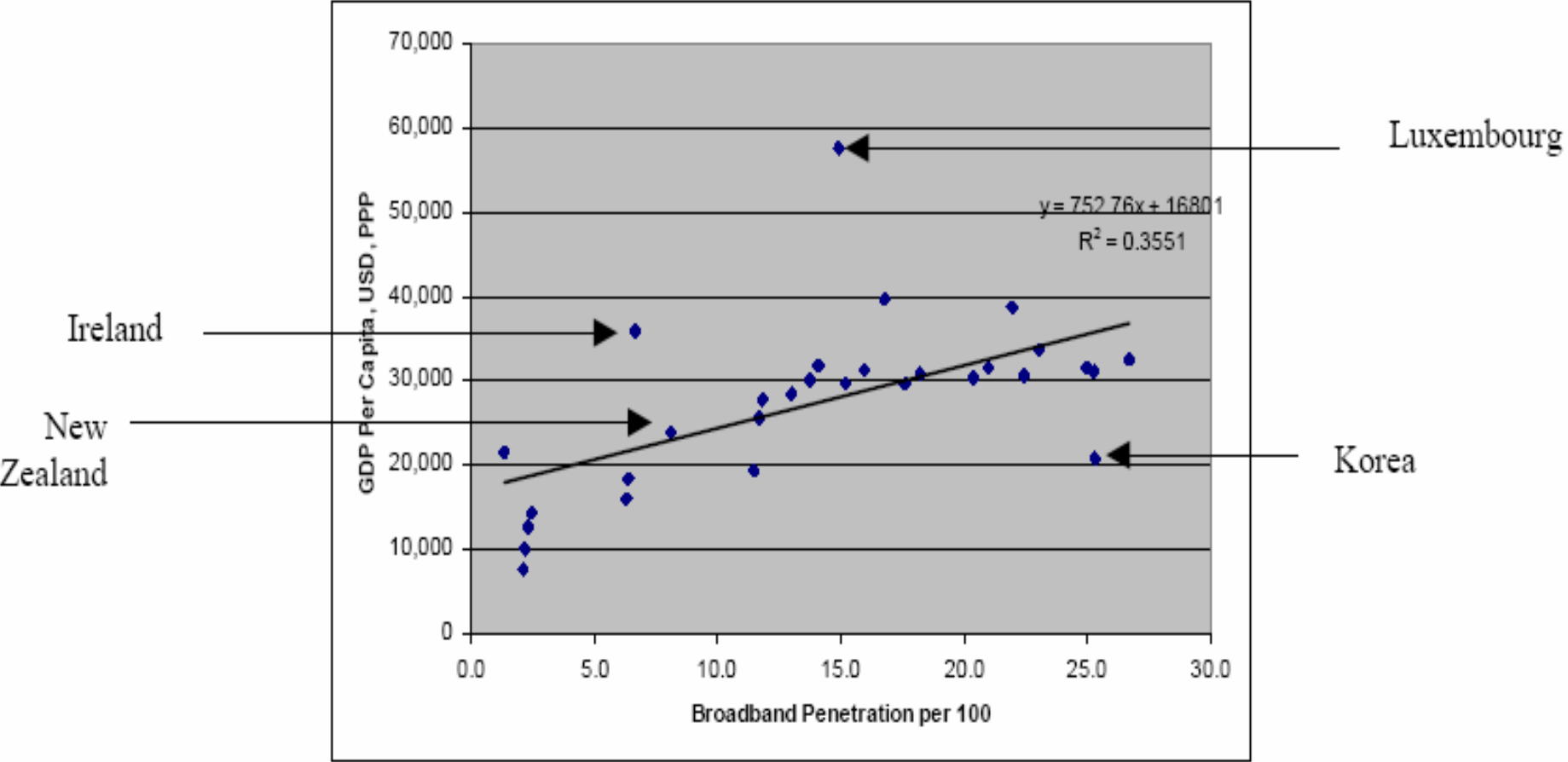
OECD BROADBAND PER CAPITA AND GDP PER CAPITA, DECEMBER 2005



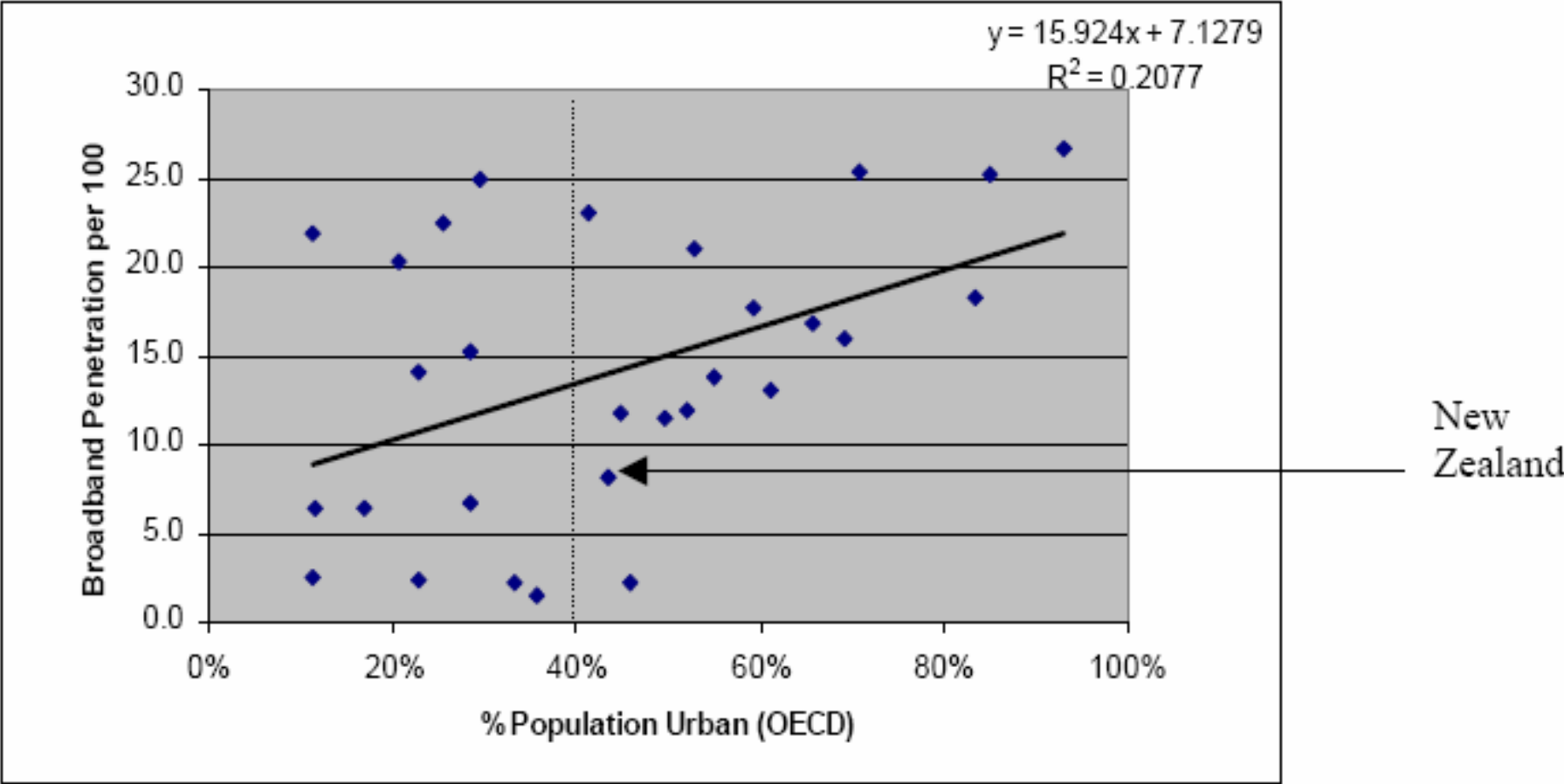
New Zealand

Korea

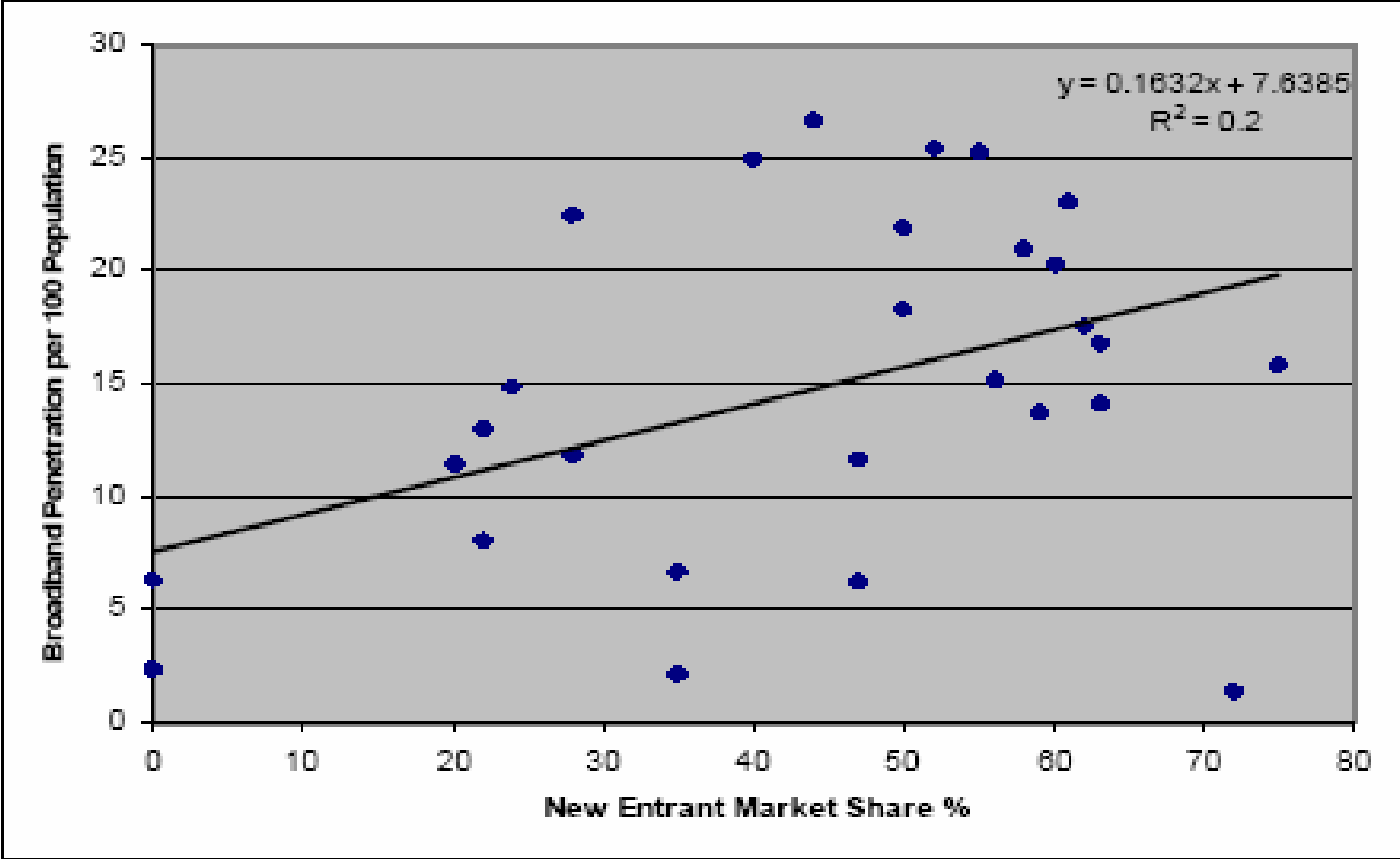
BROADBAND UPTAKE PER CAPITA AND GDP PER CAPITA – LINEAR RELATIONSHIP



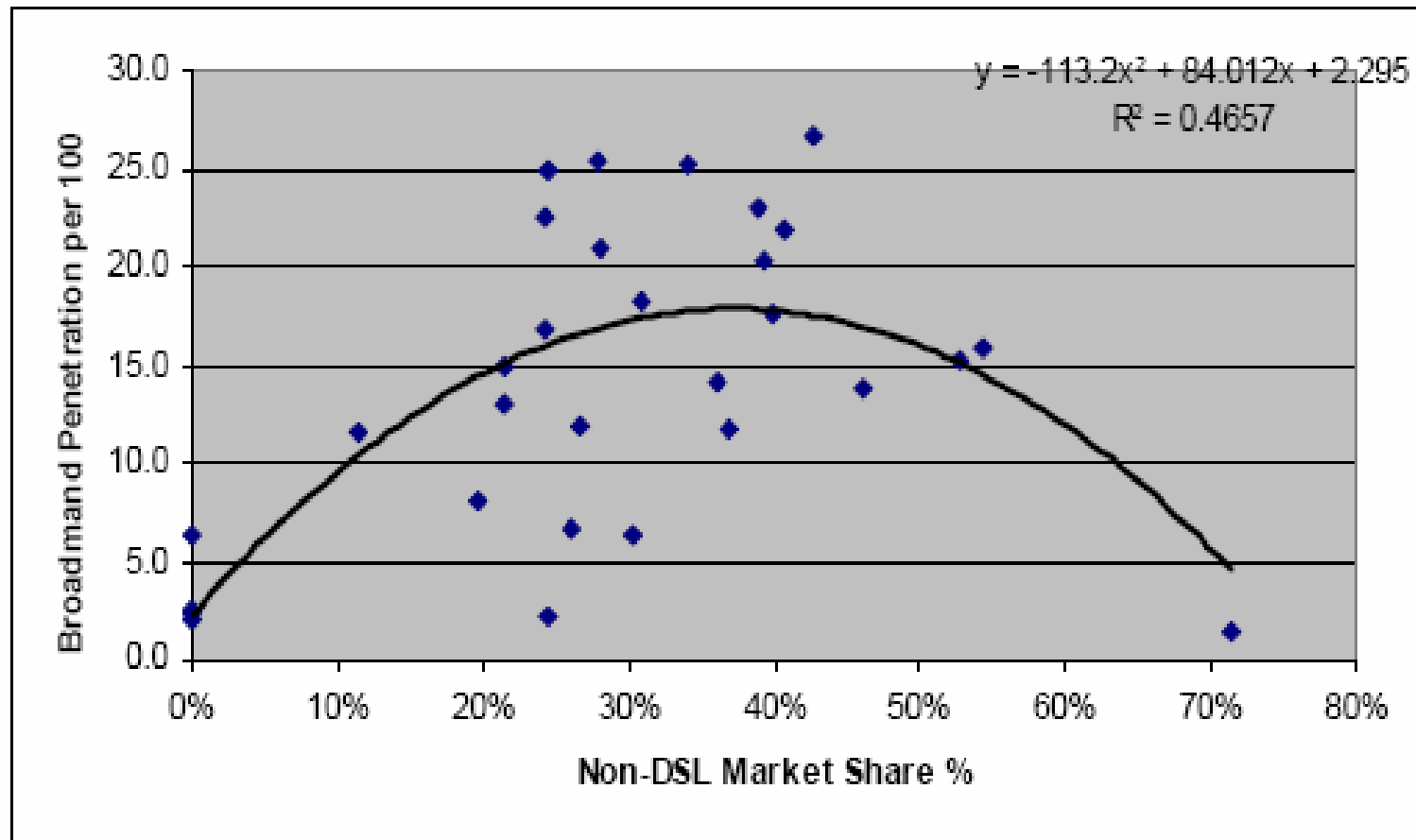
BROADBAND UPTAKE AND URBANISATION



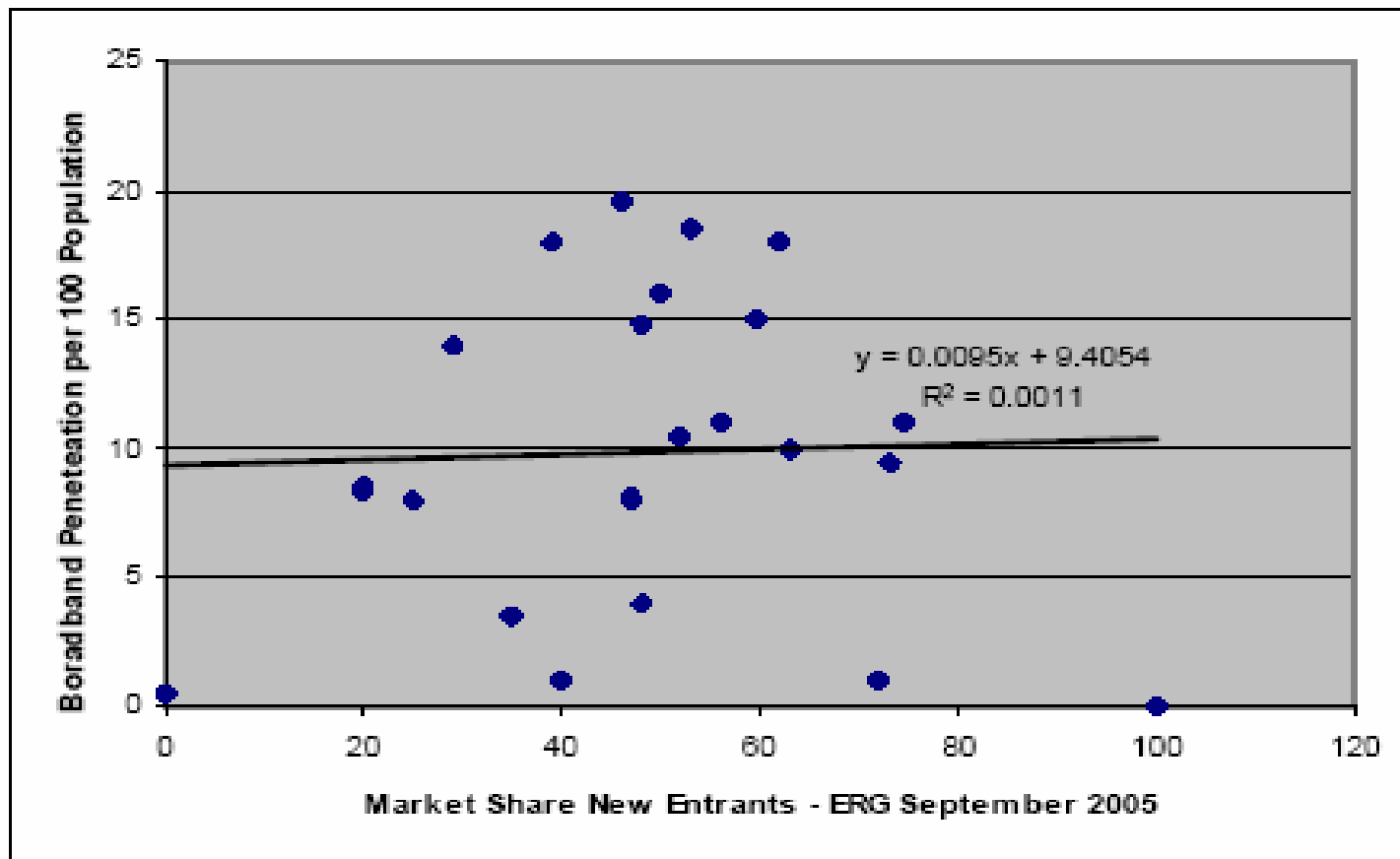
NEW ENTRANT MARKET SHARE AND BROADBAND UPTAKE – OECD DATA



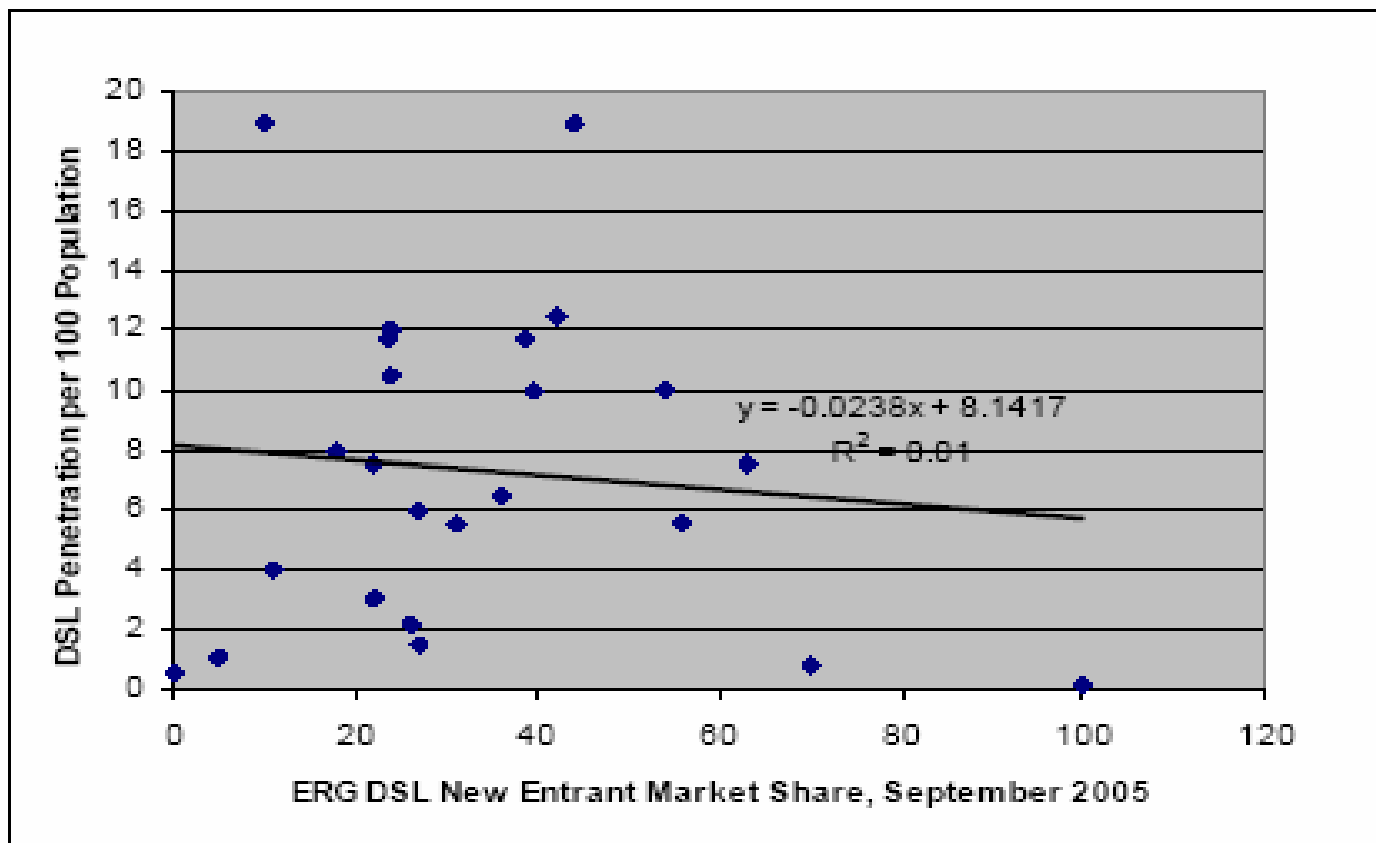
THE EFFECT OF PLATFORM COMPETITION (OECD)



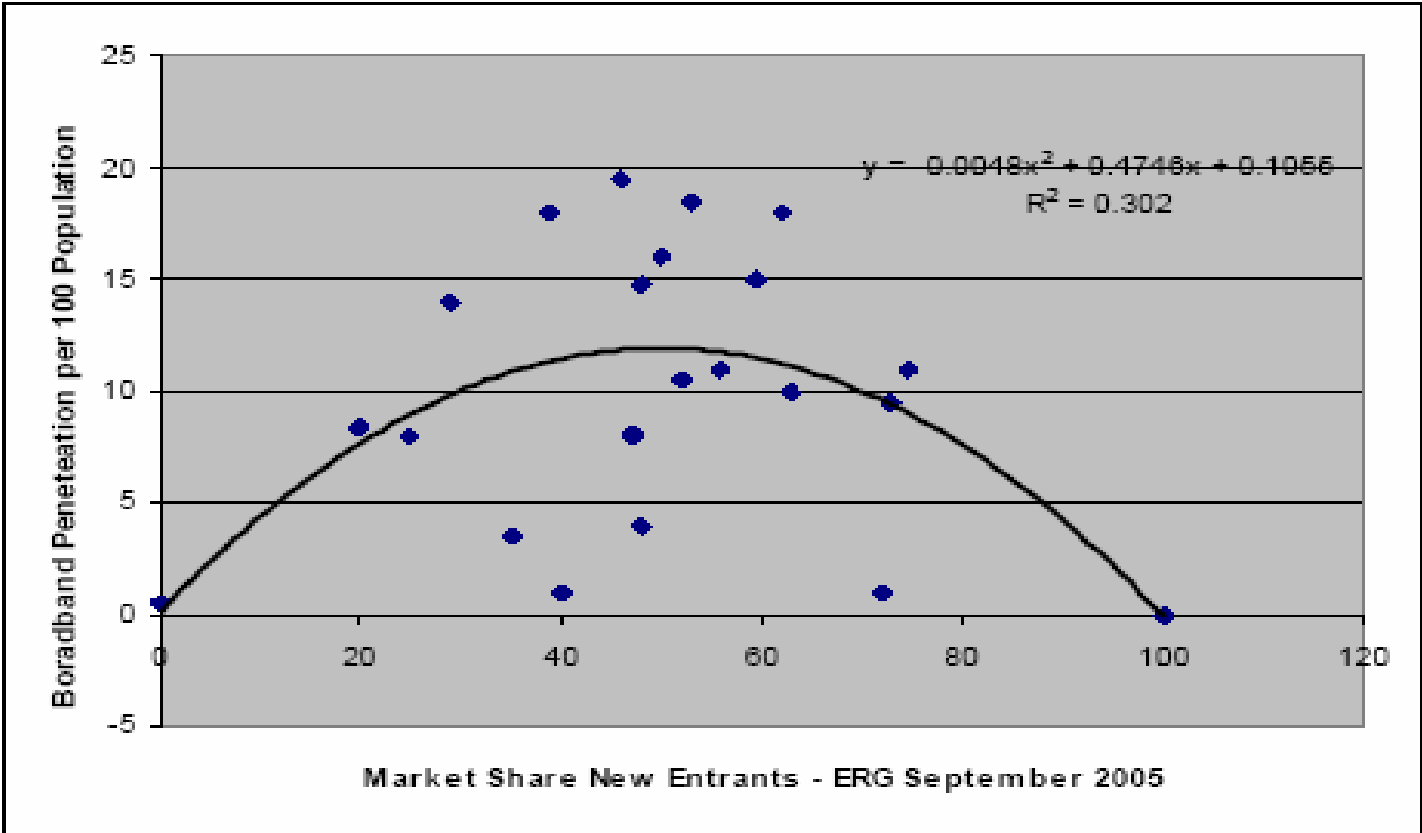
'COMPELLING' EU 'EVIDENCE' OF UNBUNDLING AND BROADBAND UPTAKE I



'COMPELLING' EU 'EVIDENCE' OF UNBUNDLING AND BROADBAND UPTAKE II



EU MARKET SHARE – QUADRATIC RELATIONSHIP



THE MULTIVARIATE ANALYSES

Geography, inter-platform competition significant

But little evidence that intra-platform competition (LLU) has any significant effect

- rather, it depends on the type of unbundling
 - the more arduous the obligations upon the incumbent, the less likely that there will be a positive effect (Wallsten, 2006)
 - here may be a small, initial transitory effect, but it dissipates (Denni and Gruber, 2005)
 - sub-loop unbundling and virtual co-location generally negatively correlated; co-mingling sometimes positively correlated “
- “regulations that can reduce returns to investment (more extensive unbundling) or increase costs to entrants (allowing incumbents to insist on off-site co-location) reduce broadband investment ... market rules that keep costs low but allow firms to earn returns on investment are good for broadband growth” (Wallsten, 2006)

PRICE MATTERS

Dial-up prices affect broadband uptake (Chaudhuri and Flamm, 2005)

- the ‘Kiwi Share’ – free local calling
 - very low cost dial-up access
 - ratios of 3:1 across time
- universal service obligations

Data caps in the NZ case are not related to access

- Southern Cross Cable monopoly
- unbundling impotent in respect of data caps

The price of unbundled elements affects investment incentives

NZ INTERNET FACTS

NZ a world leader in Internet use per capita (ITU, 2005)

- hours per month per Internet user

Top quartile OECD performer in

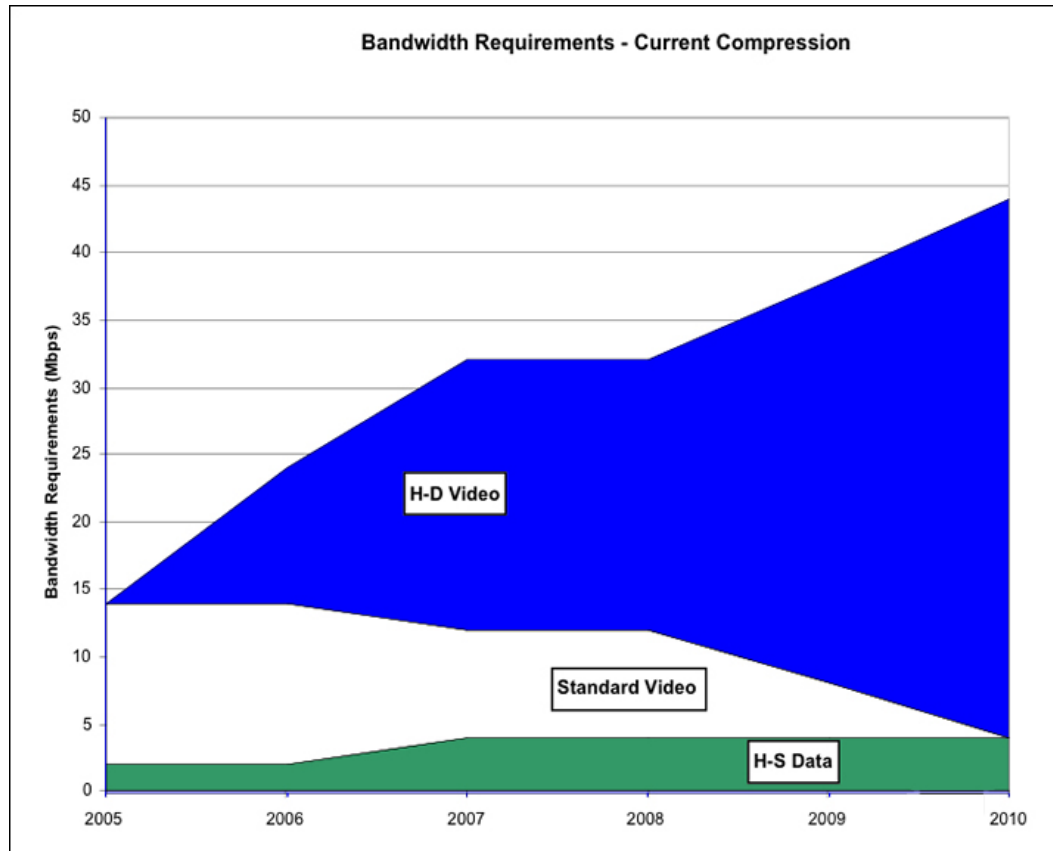
- secure servers
- transactions per secure servers
- routed autonomous systems
- number of routed IP addresses

(measures of the sophistication of Internet infrastructure and use for commercial applications)

Speed and capacity requirements limited to a small number of residential applications (e.g. video)

THE APPLICATION BASE MATTERS

Growth in bandwidth use projected to be video-related



BROADBAND INVESTMENT HISTORY

New Zealand has been a world leader in broadband investment and innovation

Early adoption (First commercial offering 1996 - CityLink)

3rd in the OECD (after US, Canada) to offer a commercial ADSL platform

Multiple competing platforms (6)

Ethernet LAN, Satellite, DSL, Cable, Wireless, Mobile

Wide geographic coverage

Satellite, mobile, DSL near nationwide; wireless 19+ CBDs

DSL available to 95% of Telco customers

Only Belgium, Finland and Luxembourg have wider DSL availability than NZ

Note Canada 74%, US 84%; Australia 84%; Korea 90%, Iceland 92%

NZ, Belgium, Finland, Iceland, and Luxembourg were the first countries to have fully digital networks (1995) – NZ's DSL development very similar to these comparators

All five countries exhibit similar investment patterns to NZ for all years post 1995 per capita, per line and per dollar of revenue (at least halving investment once digitalisation complete) – in fact, NZ investment post 2000 in all 3 criteria exceeds that of all early digitisers except Iceland

WHICH METRIC?

Investment per capita

- bias against lower connection numbers in NZ as a consequence of high fixed cost/zero usage cost residential tariffs

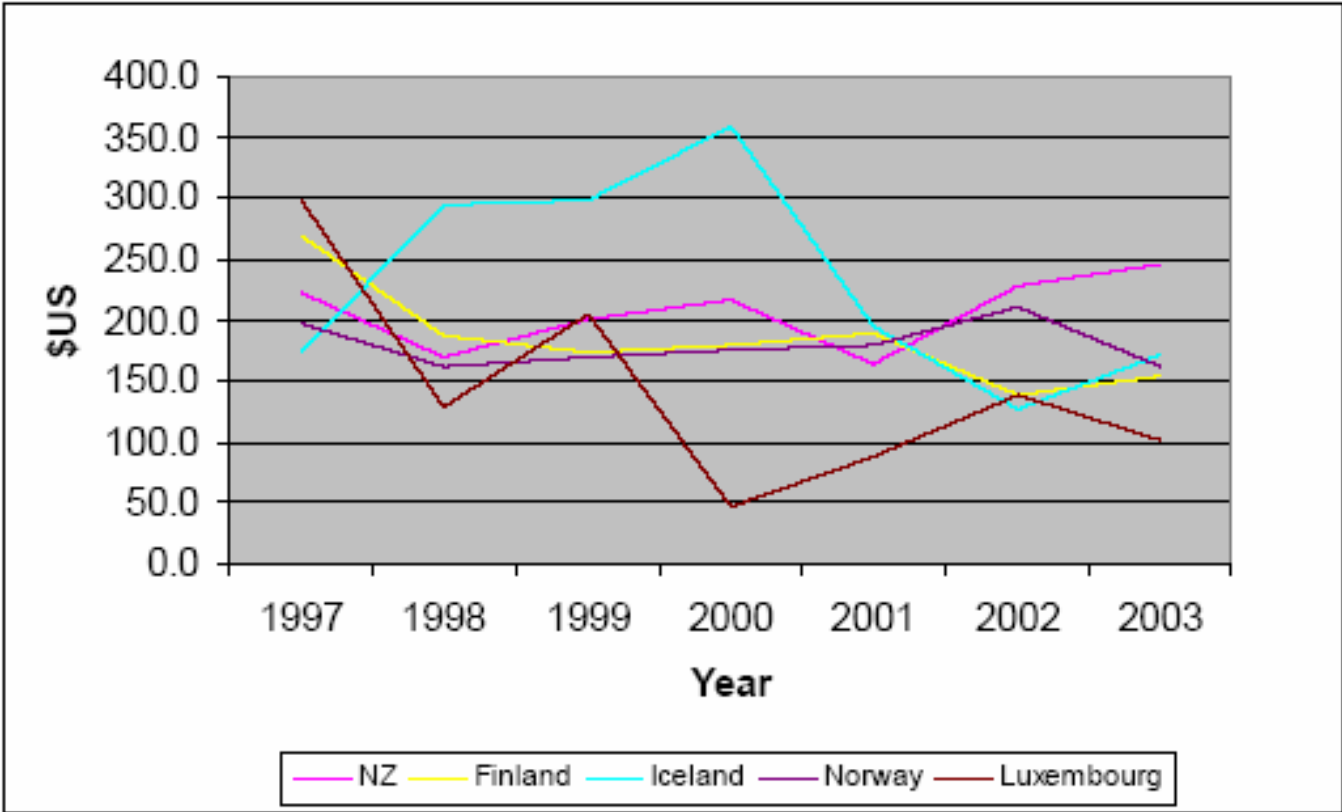
Investment per access channel better

Was NZ out of line 1997-2002

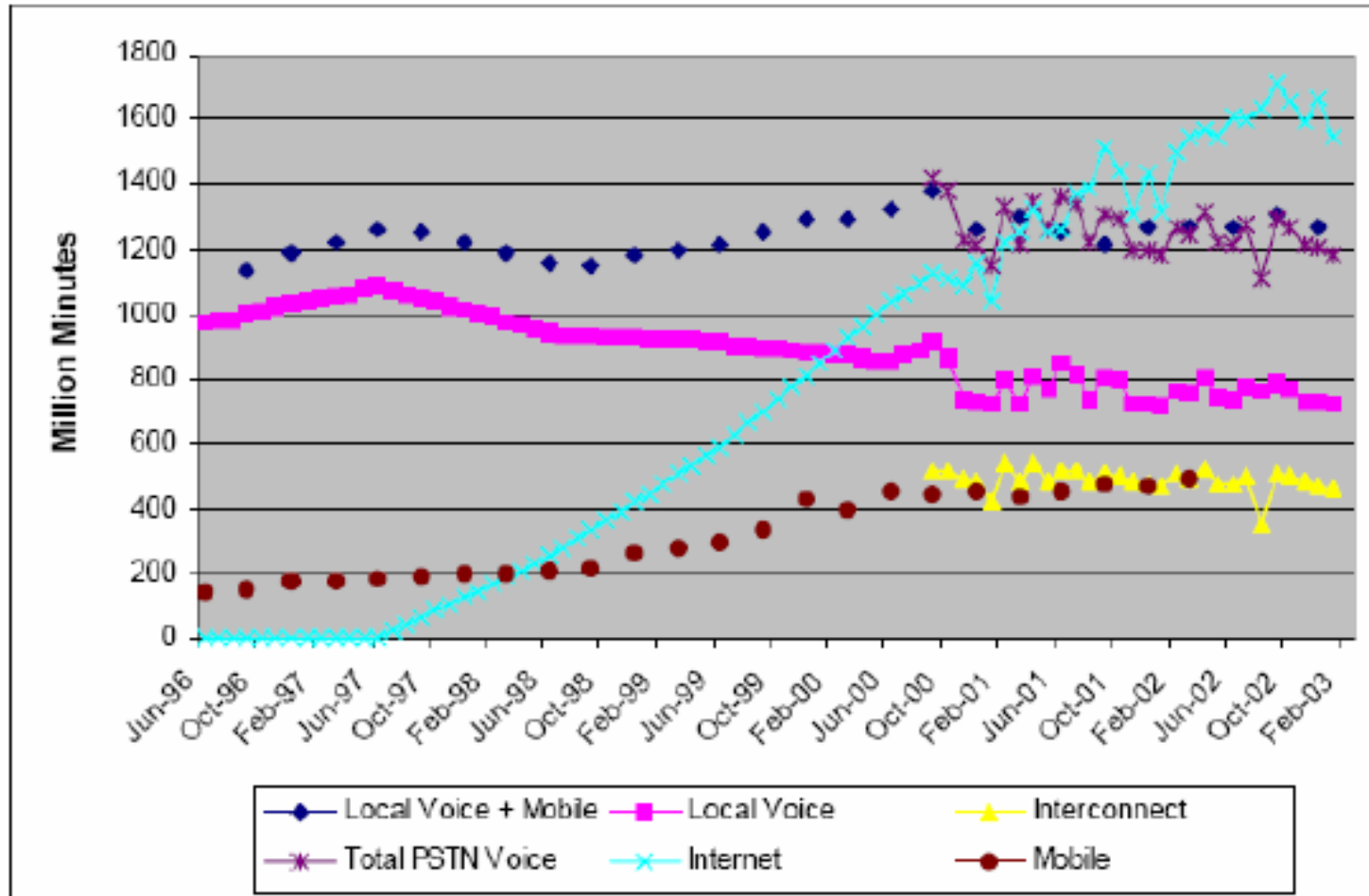
- or did the rest of the OECD 'overinvest' during the 'dot.com' boom?

NZ NOT VERY DIFFERENT TO OTHER EARLY DIGITISERS

Investment per access channel



DESPITE VERY HIGH DIAL-UP USAGE



‘KIWI SHARE’ PROVIDED STRONG ADSL INVESTMENT, PRICING INCENTIVES TO TELECOM

A plausible explanation for

- early ADSL rollout
- high quality service offerings
- low access prices
 - with data usage determined by Southern Cross charges

No compelling evidence of an investment ‘problem’ pre 2002

- OECD-leading supply-side profile achieved using light-handed regulation
- subsequent investment activity might be plausibly explained by changes in regulatory environment
 - increased regulatory uncertainty for both incumbents and entrants

INTERNATIONAL INVESTMENT EVIDENCE

Unbundling at prices below cost chills investment (US – Hazlett, 2005)

Free real options for new entrants (Crandall, Ingraham and Singer, 2003)

Incentives for incumbents to delay investment if options relating to uncertain new technologies not fairly priced (Crandall and Hausmann, 2003)

EU data

- ERG claims investment increasing
- but empirical data do not support this contention
 - Renda, 2006 – real investment in EU substantially less than in Asia and Americas
- investment occurring in telcos at expense of inter-platform investment (the ‘counterfactual’ investment occurring in Asia and Americas)

INVESTMENT INCENTIVES MATTER

Different effects of LLU on investment relating to cost-cutting and quality-enhancing investments

(Vareda, 2005)

- no effect on cost-reducing investments
- but lowers incentives for quality-enhancing investments

Consistent with reduced investment incentives w.r.t. ADSL and NGN infrastructures

CONCLUSION

Many facts, risks not addressed in the ‘Stocktake’

**These factors were influential in the
Telecommunications Commissioner’s
recommendations in 2003**

**Theoretical and empirical evidence in the
intervening time further confirm the risks
associated with unbundling on new technology
platforms**

- there is no consensus in the academic/regulatory arena about the efficacy of LLU on emerging technologies
- a preference in the EU, USA to move away from ex ante regulation towards ex post competition law in governing these emerging markets

Inter-platform competition is the desired outcome

**HOW DO THE NZ PROPOSALS FIT
WITH THIS INTERNATIONAL TREND?**