

**Regulation of Telecommunications:
The lessons learned over the last 25 years
and their application in a broadband world.**

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New Zealand has been described as “the laboratory of the world because of its long and distinguished record in introducing world-leading social and economic policy”.¹ If a laboratory is a place of experimentation then the description is well applied to New Zealand’s approach to telecommunications regulation, which has gone through four distinct phases in 21 years, starting with “testing the limits of non-regulation”, and culminating with the structural separation of the incumbent.

I want in this paper to outline that journey, describing the four phases of regulation and the reasons for the changes that were made to the policy settings. I will then draw some conclusions on the lessons learnt, as we enter a new world of ubiquitous fast broadband.

This will be of necessity at a very high level – covering 24 years in 40 minutes – so I will focus on explaining the nature of the regime, and the reasons given for each change of policy.

TESTING THE LIMITS OF NON-REGULATION 1987 – 2001

The elements of light-handed regulation

Our journey begins in 1987, when the telecommunications department of the NZ Post Office was being prepared for privatisation. Policy makers were on one hand concerned that generic competition law may not be sufficient to deliver effective and workable competition in markets with natural monopoly characteristics, but on the other hand were concerned that “*industry specific regulation, and the establishment of a supervisory regulatory agent, which have been the solutions adopted overseas, have evident disadvantages*”²

In particular, officials were concerned that the Commerce Act “*may not provide satisfactory solutions to all competition issues in telecommunications*”, recognising that, as a consequence of “*the apparent natural monopoly characteristics of much of the network (especially local telephony)*”, Telecom’s dominance would continue after deregulation .

The regulatory setting ultimately adopted was one which did not involve industry specific regulation. Instead it relied primarily on the Commerce Act. Its supporters described it as

¹ Lesson’s from the World’s Economic Laboratory, the New Zealand Institute, 21 June 2006.

² Report of Officials Co-ordinating Committee on Implementation and Telecommunications Deregulation, 1988.

“light-handed regulation”; its detractors as “testing the limits of non-regulation”, or more colourfully “the telecommunications swamp in the shaky isles”.

The components of the policy are set out in a Government Policy Statement of December 1991:

- no statutory or regulatory barriers to competitive entry into telecommunications markets
- primary reliance on the operations of the Commerce Act to maintain conditions of effective competition
- information disclosure obligations, and
- a Government threat to consider the introduction of other statutory measures or regulation “*if it proves necessary*”.³

Telecom’s privatisation undertakings

Surprisingly, missing from this list is any mention of the critical factor that led the Government to embark on what was a unique policy for telecommunications - to create an unregulated privatised vertically integrated telecommunications network. In order to ensure “*that Telecom does not take undue advantage of its dominance to prevent the emergence of new entrants in network services*”, and to “*limit its potential to act anti-competitively*”, officials requested, and Telecom provided, a series of undertakings to “*assist in establishing greater transparency with respect to fairness of Telecom’s market behaviour*”.

Telecom undertook to operate each of its businesses as separate subsidiaries, each with their own Board, and with clearly defined performance objectives and responsibilities. In particular, it said, “*subsidiaries will not be permitted to discriminate unfairly between customers by giving any form of preferential treatment to other Telecom companies – they will deal with each other, and with competitors, on a total arms length basis*”. These undertakings, said Telecom’s CEO, “*will help make it possible for potential competitors to make realistic judgments about participating in the deregulated telecommunications market.*”⁴

The arms length rules were designed to minimise the ability of Telecom to cross subsidise its operations:

“By having subsidiaries operate at arms length as separate profit centres, the ability to cross subsidise is minimised... The ability to cross subsidise is reduced because it will be identifiable in audited accounts. Cross subsidisation should be highlighted by a misalignment of revenue and expenditures... We believe that this mechanism which applies throughout the New Zealand business community, will be a satisfactory safeguard against cross subsidisation”.⁵

³ Government Policy Statement, 1991.

⁴ Telecom supports Government Telecommunications Deregulation Plans, media release, 16 June 1988.

⁵ Stewart C Goodin: Telecom’s Response to Deregulation, paper prepared for industry briefings on interconnection, p6.

Further, Telecom undertook to provide interconnection “on a fair and reasonable basis”⁶ and in good faith⁷. Interconnection would be negotiated at the highest level to ensure negotiations were treated with the utmost care and responsibility.⁸

The Minister of Communications stated that “*Telecom has given me an unequivocal assurance that it will facilitate the emergence of a competitive market, and that it will provide interconnection on fair and reasonable terms.*”⁹

These undertakings were the foundation of the decision not to impose industry specific regulation when Telecom’s monopoly was removed. A DTI Briefing Note to the Select Committee, gives as one of the reasons for not adopting industry specific regulation “*the public assurances sought by and given to the Government by Telecom that it will not act in an anticompetitive manner.*”¹⁰

Commission’s assessment of light-handed regulation

These difficulties led the Commerce Commission to conduct an enquiry into telecommunications markets, which the Court ruled subsequently was beyond the Commission’s powers. In its 1992 report, the Commission concluded that the information disclosure regulations were of virtually no assistance in removing obstacles to the development of competition in telecommunications. It acknowledged that the Commerce Act might be of some help, but it was of a protracted, expensive and uncertain kind. The Commission concluded that the regime was not one of light-handed regulation but one where Telecom was the de facto regulator – “*Telecom makes the rules and other parties in the industry, by and large, play by them.*”¹¹

The death knell of light-handed regulation: the Telecom/Clear interconnection dispute

The Telecom /Clear interconnection dispute revealed just how unsuited the Commerce Act was to deliver “*conditions of effective competition*”. While Clear was unsuccessful at first instance and ultimately in the Privy Council, it is often forgotten that it prevailed in the Court of Appeal.

The dispute related to the terms on which Telecom was prepared to allow Clear to interconnect with its network. Telecom had first offered Clear interconnection on a charging basis equivalent to a PABX customer. After Clear had issued proceedings, and sought interim relief, Telecom amended its offer to what in New Zealand became known as the Baumol-

⁶ Letter Telecom to Minister of Commerce, 6 July 1989.

⁷ “We are committed to working together in good faith with any customer seeking interconnection”. Ibid

⁸ Ibid

⁹ Implementing Telecommunications Deregulation, media release, Hon Richard Prebble 16 June 1998, p4.

¹⁰ Briefing note for Select Committee on Commerce and Marketing – Telecommunications Amendment Bill: Competition issues: Commerce Act 1986.

¹¹ Commerce Commission, Report on Telecommunications, 1992

Willig Rule, but generally known as the Efficient Component Pricing Rule, or ECPR, based on the principle that

*“..where a firm supplies components or intermediate goods to another firm...and this process entails some sacrifice of profit by the supplier firm ...the supplier firm must be permitted to price the article in question at a level sufficient to compensate it for the profit it is forced to sacrifice because of its supply to another firm”.*¹²

Clear argued that this approach *“offends common sense; it requires Clear to underwrite Telecom’s current profits and level of operating efficiency”*¹³. A key argument was that the Baumol –Willig Rule would lock in existing monopoly profits. The Court at first instance did not disagree (*“It is plain, logically, this must be so”*¹⁴) but found no section 36 breach on the basis Telecom did not impose this pricing formula for one of the purposes proscribed by the section. Monopoly pricing was of course not prohibited by the Commerce Act.

The Court of Appeal did not agree. Finding for Clear, it stated *that “it would amount to allowing a new entry into a market on condition only that the competitor indemnify the monopolist against any loss of custom...it seems to me that a substantial purpose of the monopolist in laying down such a condition is to restrict competition so as to preserve its own position as far as possible”.*¹⁵

Clear’s victory only served to show how unsuited s36 was as a means of ensuring effective competition in telecommunications markets. The Court stated *“the parties must return to the negotiations. It is unprofitable to reflect upon the economic efficiency of the process by which they reached this point. The Court clearly has no jurisdiction to direct the negotiations or terms for interconnection”.*¹⁶

Telecom did not however “return to the negotiations”. It went instead to London.

The Privy Council noted that New Zealand’s approach to interconnection was unique:

*“So far it has been discovered, in all other countries where private competition has been introduced into a public telephone system...would-be competitors have been given statutory rights to interconnect with the public system, the terms on which such rights are to be granted being settled in default of agreement by a statutory body. New Zealand has taken a different course.”*¹⁷

It reversed the Court of Appeal. It also disagreed with the High Court. It concluded that anticompetitive purpose had been established. It found, contrary to both New Zealand Courts, that there had been no use of a dominant position - section 36 did not operate to exclude monopoly rents, a hypothetical supplier in a perfectly contestable market would price this way, and there was a price regulation process in the Act (Part IV), which the

¹² *Clear Communications Ltd v Telecom Corporation of New Zealand Ltd* (1993) 5 TCLR 166. (H.C.)

¹³ *Ibid* 207

¹⁴ *Ibid* 212

¹⁵ *Clear Communications Ltd v Telecom Corporation of New Zealand Ltd* (1993)5 TCLR 413, at 416 per Cooke P. (C.A.)

¹⁶ *Ibid* 442

¹⁷ *Telecom Corporation of New Zealand Ltd v Clear Communications Ltd* [1995] 1 NZLR 385 at 390 (P.C.)

Government should invoke if it was concerned about the issue of monopoly rents – *“What policy the Government adopts is of no concern of the courts”*.¹⁸

It is interesting, 17 years later, to reflect on the tremendous damage that decision caused to the development of competition in telecommunications in New Zealand. Central to the Court of Appeal’s decision was the effect of Telecom’s proposed pricing on the ability of the new entrant to compete effectively in a market where it had to compensate the incumbent for its loss of business. It rightly concluded this would prevent or deter its ability to compete. It was also mindful of Government policy which was, as stated, that primary reliance was placed on the Commerce Act *“to maintain conditions of effective competition”*¹⁹, and the application of part IV was highly unlikely.

The Privy Council specifically ignored Government policy, suggesting heavy handed price regulation (as then prevailed in the UK) should be applied:

“...It is irrelevant to the court’s function to take into account Government policy. The Government can either adopt the policy of leaving Clear’s competition to compete out Telecom’s monopoly rents (if any) or activate the Part IV machinery which is available”.²⁰

It is not surprising the decision was described as *“the death knell of light-handed regulation”*.²¹

The decision made the threshold for Commerce Act intervention in telecommunications so high as to render it all but nugatory. In the period from March 1994 to November 1996, the Commission received 99 Commerce Act complaints, 86 of which related to Telecom. Only one proceeded to investigation.

The Government’s Response

The Government did reconsider the policy following the Privy Council decision. After a comprehensive review by the Ministry of Commerce and Treasury, officials acknowledged the deficiencies of the light-handed regime, but said they had *“not yet developed options for addressing the issues of cost, delay, uncertainty and inadequate remedies to the point where we can be confident that they would yield better overall efficiency and user benefit.”*²²

Ultimately, Government’s response was to issue a press release stating that the government had formed the opinion that the Baumol-Willig Rule *“had the potential to lessen competition”*, and that it *“would be concerned to see the Baumol-Willig Rule being applied in future”*. It also said that *“the Government expects owners of natural monopoly facilities to provide interconnection at terms that are reasonable and economically efficient”*, and

¹⁸ Ibid 408

¹⁹ *Clear Communications Ltd v Telecom Corporation of New Zealand Ltd*, supra n. 12.

²⁰ *Telecom Corporation of New Zealand Ltd v Clear Communications Ltd* supra n.17.

²¹ M Brooker, “Ruling undermines government policy”, *Dominion*, 5 November 1994

²² “Regulation of Access to Vertically-Integrated Natural Monopolies”. A Discussion Paper; Ministry of Commerce/The Treasury, Wellington, August 1995.

*“owners and potential competitors to negotiate in good faith to arrive at commercial solutions in a timely manner”.*²³

I think the best description of the general response to this outcome was that of the late Andrew Makin, then CEO of Clear:

*“We saw a horse coming over the horizon and we thought it was Wyatt Earp bringing some law to the town. Lo and behold, today we find it was Don Quixote”.*²⁴

As I commented at the time, *“Don Quixote was inspired by lofty but unrealistic ideals. He is an apt personification of New Zealand’s version of light-handed regulation.”*²⁵

The Undertakings in action

The question must be asked: what happened to those undertakings given by Telecom. How could, for instance, Baumol –Willig pricing be consistent with an undertaking to provide interconnection on fair and reasonable terms?

When Telecom gave the undertakings, it stressed that *“these promises are not merely lip service. We understand that they are firmly binding upon us in terms of the provisions of the Fair Trading Act. Customers, watchdog groups and the like will have ample opportunity to test us on this score if the promises are not honoured”.*²⁶

But when Clear issued proceedings against Telecom for breach of its undertakings, Telecom’s defence was that *“the 8 June 1988 letter provided advice of intended restructuring and other matters to Telecom’s then shareholders, and did not and was not intended to provide legally enforceable entitlements to any other person.”*²⁷

Moreover, the separate subsidiaries were amalgamated into a single company, and as a result the fundamental transparency, arms length trading, and non-discrimination obligations simply evaporated.

The threat of regulatory intervention

The threat of regulatory intervention *“if it proves necessary”* was another of the components of the light-handed regime, set out in the 1991 Policy Statement, which proved to be without substance. Concerns expressed by the new entrants about Telecom’s conduct fell on deaf ears; in fact entrants were subject to criticism by the Minister of Communications, who described their complaints as *“a policy of shared misery”*, and said that entrants had *“whinged every day since they first got here...Even the boy who cried wolf didn’t get to cry wolf this much before they started ignoring him”.*

²³ Government signals future directions for regulation of telecommunications, electricity and gas, Press Release, 26 June 1996.

²⁴ “Government Backs away from Telecom fight”, National Business Review, 28 June 1996

²⁵ Patterson, Light-handed Regulation in New Zealand ten years on, Competition & Consumer Law Journal 1998. p134

²⁶ Letter, Telecom to Treasury, 5 May 1989, p12.

²⁷ *Telecom Corporation of New Zealand Ltd v Clear Communications Ltd* CP251/98 Wellington registry.

The result was a regime in which all of the elements had fallen apart – the undertakings were ignored, the Commerce Act was a dead letter, and the Government was deaf to legitimate concerns raised by entrants. How then did the entrants fare in this environment?

Competitors come and go

Even in this inhospitable environment, competition came. In 1991 Clear Communications entered the market, and by 1996 had an estimated 20% market share of the domestic tolls market. Bell South entered in 1993 to offer a competing mobile service to Telecom, and in the same year Saturn Communications was established providing telephone and cable TV services. But the stumbling block to real competition was difficulty in negotiating reasonable interconnection agreements. The Telecom/Clear interconnection dispute ran for over six years, with a cost in legal fees of around \$8 million.

Bell South faced its own difficulties in negotiating interconnection, and estimated that the cost of entry into the NZ telecommunications market was at least \$250 million.

Saturn, for its part, faced pocket pricing from the incumbent as it rolled out its cable network.

All were gone by or shortly after the end of the decade. Clear Communications and Saturn were both acquired by Telstra, Bell South by Vodafone.

The turning of the tide

The tide began to turn against the light-handed regulatory approach in 1998 in relation not to telecommunications, but electricity which had followed a similar pattern of no specific sector regulation, information disclosure regulations and reliance on the Commerce Act. In 1995 the Government had issued a policy statement which had warned of the possibility of separating line businesses from competitive activities such as generation and energy retailing. In 1998 the Government concluded that constraints on the distribution natural monopolies were weak, that barriers to retail competition were high and that the light-handed regime had been ineffectual in delivering competitive outcomes in the electricity retail market. The result was the introduction and passing of the Electricity Industry Reform Act of 1998, resulting in the mandatory separation of the monopoly distribution business from the contestable retail and power generation business.

This immediately led to calls for a similar approach to be taken in telecommunications. In August 1998 the Treasurer acknowledged that the current regime may be *“a less than ideal environment for an open competition to work”* acknowledging that *“new players are finding it too difficult to break into the local market and expand due to Telecom’s size and dominance, and the current legislation offers little comfort. This needs to be addressed.”*²⁸

²⁸ Right Hon. Winston Peters, Fair Competition makes Consumer a Winner, media release, 4 August 1998.

A Ministry of Commerce/Treasury review of telecommunications in 30 July 1998 recommended that officials undertake further review in relation to a number of telecommunications related issues including interconnections and measures to prevent discriminatory pricing.

A report by Paul Budde on telecommunications in New Zealand claimed that *“progress in competition has been faster in Europe in 10 months than in New Zealand in 10 years.”*²⁹

A report by Todd Telecommunications Consortium, commissioned by Clear, concluded Telecom’s local service generated large monopoly profits, and that there was a significant element of monopoly profit in interconnection.³⁰ This led to unprecedented media coverage, including editorials in major newspapers, suggesting the time was right to review the existing policy.

The Fletcher Enquiry

In this context, the Labour Party in its 1999 election manifesto promised a new inquiry into the telecommunications regulatory framework. This policy was implemented in the form of the Fletcher inquiry in 2000.

The terms of reference stated that the Government’s objective *“for telecommunications is to ensure that the regulatory environment delivers cost-efficient, timely and innovative telecommunications services on an on-going, fair and equitable basis to all existing and potential users”*.³¹ Under its terms of reference, the Inquiry was required to assess the extent to which the current regime met the Government’s objectives, and if it did not do so to make recommendations for any amendments to the policy and regulatory framework in order to achieve that objective.

THE TELECOMMUNICATIONS ACT 2001

That Fletcher Inquiry led to the introduction of industry specific regulation in the form of the Telecommunications Act 2001. It created the role of the Telecommunications Commissioner, and introduced a formal and transparent process for establishing whether or not a service should be regulated. There was an expectation that parties would negotiate access agreements for regulated services, but application could be made to the Commission for a Determination if they failed to reach agreement.

While the Fletcher Report noted that this approach *“would still see New Zealand at very much the light-handed end of the regulatory spectrum, arguably the lightest within the*

²⁹ The Telecommunications Market in New Zealand, 1999, www.budde.com

³⁰ New Zealand Telecommunications: The State of Competition, Todd Telecommunications Consortium, November 1998

³¹ Terms of Reference, Ministerial Inquiry into Telecommunications, 2000

OECD”,³² it represented a dramatic change in the regulatory settings from the “hands off” regime that had preceded it.

Not surprisingly, the initial focus of the new regime was to address the build-up in interconnection disputes.

The telecommunications landscape did begin to alter however, as some of the smaller player became more active, although compared to other OECD countries the level of competition remained limited.

In 2005 the Government commenced a review of the telecommunications sector. It focussed on the broadband market, and specifically broadband performance as a factor in economic performance. It was concerned that New Zealand’s position in the OECD broadband penetration figure remained at 23, and had not improved over the period since 2001.

The review also considered overall performance in the telecommunications sector, and concluded the sector was performing poorly, primarily because of a lack of effective competition. The arbitration regime was considered to be ineffective because it was expensive, and therefore beyond the reach of smaller operators. As a result the Telecommunications Act was significantly amended in 2006.

THE 2006 AMENDMENTS

The Commission was empowered to set the terms and conditions of the supply of regulated services on an industry-wide (rather than bi-lateral) basis, and unbundled local loop was introduced as a regulated service, together with a new unbundled bitstream service. New investigative and inquiry powers were granted, and enforcement options were increased. Operational and Accounting Separation was introduced.

The 2006 reforms, under which the industry operated until July this year, moved New Zealand from the light-handed end of the spectrum of OECD regulation into at least the main-stream, and arguably, with Operational Separation, towards the heavy handed end of the spectrum.

Operational Separation has required Telecom’s network, wholesale and retail business units to be operated at arms length, and with the network business unit operation on a stand-alone basis. Discrimination between service providers and Telecom business units, or between service providers, is prohibited. While separation has proved an outstanding success in relation to the network business unit which was rebranded Chorus, it has proved far more challenging to Telecom Wholesale, which has been subject to two discrimination investigations. The first related to Loyalty Discounts and was settled with payment of \$1.6 million compensation. The second related to allegation that Telecom failed to provide the

³² Ministerial Inquiry into Telecommunications, Final Report, 23 September 2000

sub-loop extension service to other service providers when it provided an equivalent service to its own retail business unit. The Commission has announced that it intends to issue proceeding in this matter.

The Commission's new market monitoring powers has enabled it to collect market data and produce annual monitoring reports since 2006. These reports show over the past five years an increase in competition resulting in increased investment, greater choice, lower prices and better quality across the spectrum of telecommunications services in New Zealand.

We have seen local loop unbundling develop very strongly at first, and then at a slower pace as a consequence of the impact of cabinetisation on unbundlers' business plans. Currently more than 100 exchanges have been unbundled, and 8% of DSL broadband-enabled lines have services provided by an unbundled operator. And, in the OECD broadband penetration rankings, New Zealand has climbed from 22nd to 17th over that period, most recently passing Australia.

In mobile networks we have of course seen a third entrant and with regulated termination rates, an expectation that retail prices will fall, and voice volumes will increase.

INTO A BROADBAND WORLD: THE 2011 AMENDMENTS

The Telecommunications (TSO, Broadband, and other Matters) Amendment Act 2011 builds on the 2006 model, but replaces operational separation with structural separation, and relies on enforceable undertakings as the primary regulatory instrument for the fibre network. The Commission's role in monitoring and enforcing those undertakings will ensure that the benefits that the 2006 Amendments have delivered will not be lost as we move to the next stage in this fast-evolving industry.

The copper regime remains basically intact for a transitional period of three years, after which the regulated UCLL price will move from a de-averaged metro/ price to a nationally averaged price, and UBA will move from "retail minus" to a cost based price. The three year transitional period is designed to provide a reasonable period for those access seekers who have unbundled Telecom exchanges to obtain a return on their UCLL investments.³³

The fibre undertakings regime builds on the lessons learnt from the operational separation undertakings. The twin pillars of open access, non-discrimination (in relation to third party supply) and equivalence (in relation to self supply) are carried over into the fibre regime, and the definition of non-discrimination has been expanded (quote) in accordance with the interpretation applied by the Commission in relation to the Operational Separation Undertakings

The most significant feature of the 2011 Amendments is the structural separation of Telecom. Structural separation is the "nuclear option" of telecommunications regulation,

³³ "I consider that 3 years is a reasonable period for Access Seekers to obtain a return on UCLL investments and is, therefore, an appropriate transitional period." Office of the Minister for Communications and Information Technology, Regulatory issues arising from the Ultra-Fast Broadband Initiative, 13 December 2010 (regulatory issues Cabinet paper), page 11, paragraph 49c

and is what many commentators have concluded should have been done as part of the privatisation process 21 years ago. At a stroke it removes the economic incentives of a vertically integrated entity to discriminate in favour of its downstream business, to the disadvantage of its competitors in those downstream markets.

In this respect we are now in the middle of a step change – one the telco world will observe with interest.

LESSONS LEARNT

What are the lessons that we draw from this quick overview of the last 21 years?

Regulatory settings matter.

In the telecommunications industry, characterised at the time of privatisation by a vertically integrated monopoly competition could not develop by itself. Competition could only flourish if the regulatory settings were designed to promote competition.

This was clearly demonstrated by New Zealand’s experiment of “testing the boundaries of non-regulation”.³⁴

The 2001 Act introduced light- handed regulation which proved not to be robust enough to control Telecom’s market power. The gains in competition were little and slow. The negotiate/arbitrate model perpetuated both the incumbent’s negotiating advantage, and the adversarial nature of the telecommunications industry.

By comparison, the explosion of competition which followed the 2006 reforms demonstrates that that regime has succeeded for the benefit of all New Zealand consumers where the previous models had failed.

To be effective, the regulatory setting must change incumbent behaviour

I believe there were two major reasons for the success of the 2006 Amendments.

The first was the separation (on a stand-alone arms length basis) of Telecom’s network business, Chorus. Parties who had previously been regarded as competitors who were also customers to a small extent were now simply customers, treated equally with Chorus’ Telecom customer.

The second was the industry wide processes which were adopted as part of the development by the Commission of Standard Terms Determinations setting price and non price terms for regulated services. This led to a cultural change, breaking down to a large degree (but not entirely) the entrenched adversarial mentality of the previous 15 years, and substituting a “consensus” approach to regulatory issues.

³⁴ Noam, Komatsuzaki and Conn, Telecommunications in the Pacific Basin – an Evolutionary Approach, Oxford University Press, 1994, p438

In addition to these cultural changes, there is no doubt that the application of the more proactive powers, which were bestowed on the Telecommunications Commissioner by the 2006 amendments, created a climate where the incumbent knew that questionable conduct would be quickly examined, and resulted in more vigorous focus on compliance than had previously been the case.

Incumbent undertakings must be subject to robust monitoring and be enforceable.

We have seen the use of undertakings at different stages of New Zealand's regulatory journey.

There were Telecom's privatisation undertakings of 1989 and 1990, which were not incorporated into legislation, and were simply abandoned with no adverse consequences to Telecom when they no longer suited its commercial objectives.

This relaxed approach is to be contrasted with the very prescriptive undertakings imposed by the 2006 amendments, with enforceable milestones, robust information gathering powers granted to the Commission, and significant penalties for breach. As a result, Telecom has surpassed its investment undertakings.

The success of this model led to it being adopted as the regulatory instrument for the fibre roll out, coupled again with the Commission's information disclosure and enforcement powers.

Competition stimulates investment, and regulation which promotes competition leads to greater, not less investment.

Although incumbents in all jurisdictions have, during regulatory processes, made the investment boycott threat – if you regulate we will cease investment- the reality is that the incumbent is forced to invest (often unwillingly) in response to competitive pressure. A regulatory regime which promotes competition stimulates investment.

This phenomenon is, I think well demonstrated in this slide showing Telecom's investment between March 1988 and March 2010 – a dramatic fall in investment after privatisation under a 'light-handed' regulatory setting, a spike in investment following the introduction of industry specific regulation in 2001, and a dramatic increase since the 2006 amendments came into effect.

ARE WE THERE YET?

The regulatory journey has been a long one, and as is the case with all long journeys, I can hear the passengers in the back seat saying "are we there yet?" I believe we are.

It is impossible to underestimate the impact of structural separation – it really is a game changer. The entire history of telecommunications has been predicated on finding ways to

minimise the adverse effects on competition of vertical integration, where the network owner must supply input services to parties who are competitors of its downstream business; inputs which those parties cannot obtain from any other source. The practices which raise concerns are almost endless – the classic deny, delay, degrade strategy, the margin squeeze, price and non-price discrimination, loyalty discounts and so on.

Operational separation does not remove the vertical integration – it seeks instead to mitigate its effect through complex arms length and non-discrimination rules. Our experience is that no matter how tightly you design the separation model, if there is an economic incentive to prefer the integrated but separated downstream entity, a way will be found to do so.

What is absolutely without doubt is that “incentives matter” Telecom’s operation separation did not prevent discriminatory behaviour (although it did mean there were consequences) because the economic incentives to discriminate remained, and proved too powerful to resist.

Structural separation removes the economic incentive to engage in the type of discriminatory behaviour described above. There is no integrated downstream business to benefit. Structural separation, by removing the incentives, will, in my view, remove the problem. Chorus or the LFCs have no economic incentive to deal with Retail Service Providers in any anti-competitive way, as they are prohibited from participating in that line of business.

So I think we are there. In our laboratory we have experimented with no regulation, light-handed regulation, main-stream regulation, operational separation, and finally arrived at structural separation. It’s taken us 21 years, but I believe structural separation will prove to be an outstanding success, for consumers, for Chorus, for Telecom 2, and for the shareholders of both companies. In other words, I believe we have reached our destination.