

PUBLIC



Report on ACCC's Findings on the LCS and WLR Exemptions

Report to Gilbert + Tobin

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Acronyms and Abbreviations

ACCC	Australian Competition and Consumer Commission
DSLAM	Digital subscriber line access multiplexer
FAD	Final access determination
FLSM	Fixed line services model
LCS	Local carriage service
LSS	Line sharing service
LTIE	Long-term interests of end-users
NBN	National broadband network
PSTN	Public switched telephone network
RAB	Regulatory asset base
ULLS	Unconditioned local loop service
WACC	Weighted average cost of capital
WLR	Wholesale line rental

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1 Introduction and Summary

This report has been prepared by Aleksandr Sundakov, Executive Director of Castalia Strategic Advisors Pty Ltd. I have almost 30 years' experience in advising on competition and regulatory and policy issues across a range of infrastructure industries. My curriculum vitae is attached to this report at Appendix A.

I have read, understood and have complied with the Federal Court's guidelines for expert witnesses (Federal Court practice note CM7, dated 4 June 2013). The opinions set out in this report are based on my experience and training, as set out in my curriculum vitae.

I have been engaged by Gilbert + Tobin on behalf of Telstra to comment on the findings made by the Australian Competition and Consumer Commission (ACCC) in two recent reports.¹ The combined effect of the ACCC's findings in these two reports is to:

- Remove the exemption (CBD Exemption) from the regulation of Telstra's fixed line copper services for local carriage service (LCS) and wholesale line rental (WLR) services supplied in central business district (CBD) areas
- Extend the price terms for LCS and WLR services in the existing 2011 final access determinations (FADs) would be extended to services supplied in CBD areas from 1 August 2014.

Specifically, I have been asked to consider two key questions arising out of the ACCC's findings in these two reports:

- Does estimated cost of service, using a utility pricing model, provide a useful approximation of pricing outcomes from a workably competitive market?
- In assessing the degree of competition, how should pricing evidence be evaluated relative to evidence on market structure?

In summary, I find that:

- In networks which have high sunk costs, utility pricing models provide weak indications of pricing outcomes from a workably competitive market. Regulated prices derived from such cost-of-service models cannot be legitimately used as a proxy for competitive market prices
- Both pricing and market structure evidence can be used to assess the presence of market power. In circumstances where the effects of market structure are unclear—e.g. it is difficult to infer the extent of competition when there are few current market participants—literature suggests that competitive price benchmarks may be a better guide. However, when there is no reliable measure of competitive price, and the market structure consists of numerous participants, including evidence of recent entry, market structure is a better indication of the presence of market power
- For a pricing benchmark to be a reliable indicator of market power, it needs to be derived from observed evidence in competitive settings or, at the very least, from pricing models that capture competitive market conduct. Since provision of WLR and LCS services by Telstra is a substitute for the provision of voice-

¹ ACCC "Fixed Services Review: Inquiry into varying the WLR, LCS, ULLS and LSS final access determinations" Final Report, June 2014 and Australian Competition and Consumer Commission "Public Inquiry into the Fixed Line Services Declarations" Final Report, April 2014.

based services by DSLAM-based competitors, pricing behaviour and service offerings of such competitors provide a more useful pricing benchmark than the cost of service model

- I observe that no DSLAM-based competitors—despite a large number of such competitors in the CBD areas and despite the relatively low level of investment required to voice-enable DSLAMs—offer voice only wholesale services. Since the ULLS price has been continuously regulated in all service areas even while WLR and LCS were exempted in some ESAs, the lack of competitive offerings is a strong indication that the price charged by Telstra for such wholesale services in exempted areas was below the level that would induce competitive entry
- The ACCC observes that the WLR and LCS prices in exempted areas were above the price derived from the Telstra cost of service model. I observe that in the exempted areas, with [REDACTED] DSLAM-based competitors on average, above-market pricing of wholesale services by Telstra should have induced profitable entry by those competitors. The most obvious conclusion from this apparent contradiction is that the pricing model does not reflect the outcomes of a workably competitive market, particularly the margin between ULLS and WLR/LCS that would prevail in such a market
- The gap between market pricing and prices that result from utility cost-of-service models is not surprising. This is particularly the case where a cost-of-service model has to estimate prices for multiple services utilising common assets. In such situations, accounting cost allocation rules are inevitably approximations of the underlying economic concepts. In a workably competitive market, a firm supplying multiple layers of access through services that may compete with each other would be unlikely to set prices so as just to recover the average cost per service
- Overall, the disparity between the observed pricing for WLR/LCS in the formerly exempted areas and the results of the model tell us more about the limitations of the model than about the market.

The rest of this report is set out as follows:

- Section 2 provides background on the ACCC's regulation of Telstra's LCS and WLR services
- Section 3 explains why utility pricing models are weak indicators of market prices in workably competitive markets with high sunk costs
- Section 4 explains why I consider market structure evidence to be a stronger indicator for the degree of competition than pricing evidence

2 Background on the Regulation of LCS and WLR Services

Although the ACCC regulates LCS and WLR services nationally, the ACCC has recognised since 2002 that strong competition in CBD areas justified an exemption for LCS and WLR services in CBD areas.² When the ACCC originally granted the CBD

² ACCC "Future scope of the Local Carriage Service" Final Decision, July 2002

Exemption, the ACCC considered that it satisfied the three LTIE criteria for an exemption; namely, that it would:³

- **Promote competition**—the exemption encouraged greater use of alternative infrastructure and services, benefiting end-users through increasing the diversity of services available. In addition, the existing substitute services available (such as local PSTN originating access and ULLS) effectively constrained Telstra’s pricing of LCS
- **Encourage economically efficient use of and investment in carriage services infrastructure**—the absence of the exemption served to reduce efficient investment associated with other declared services, notably ULLS and PSTN originating and terminating access.
- **Promote any-to-any connectivity for carriage services involving communication between end-users**—the exemption would not affect any-to-any connectivity.

In 2013, the ACCC first raised the issue of the continuing role of the CBD Exemption as part of its declaration inquiry. After industry consultation, the ACCC re-declared WLR and LCS. The ACCC also decided to remove the CBD Exemption (despite Telstra’s submissions), citing as reasons that:⁴

- Pricing evidence suggested that Telstra was setting above-cost prices for WLR services (\$31.77 per month for business lines and \$27.60 per month for residential lines, above the national regulated price of \$22.84 per month)
- The substitute services available were insufficient for customers that demand voice-only services
- Removing the CBD Exemption would promote competition for retail services and would increase the efficient use of the network
- Maintaining the CBD Exemption could lead access seekers to make inefficient investments in copper-based exchange equipment (such as DSLAMs) due to the higher commercial price of WLR services in these areas.⁵

The ACCC amended the existing 2011 FADs to extend the existing price and non-price terms and conditions to apply to LCS and WLR services supplied in CBD areas.⁶ The ACCC’s considered that it was a reasonable estimate to use given that the more up to date information provided by Telstra has not been fully reviewed and subject to industry consultation.

The ACCC has indicated that new FADs will be released in mid-2015. Feeding into these new FADs, the ACCC is currently consulting on price and non-price terms for these FADs—with submissions on the price terms consultation due on 3 October 2014.

³ ACCC “Future scope of the Local Carriage Service” Final Decision, July 2002, Section 3.4

⁴ ACCC “Public Inquiry into the Fixed Line Services Declarations” Final Report, April 2014

⁵ ACCC “Public Inquiry into the Fixed Line Services Declarations” Final Report, April 2014, Section 5.2.1.2.

⁶ These became effective on 1 August 2014. See: ACCC “Fixed Services Review: Inquiry into varying the WLR, LCS, ULLS and LSS final access determinations” Final Report, June 2014.

3 Modelled Network Cost of Service is a Poor Proxy for Competitive Market Prices

The key evidence underpinning the ACCC conclusions with respect to the LCS and WLR services is the observation that prices in exempted areas were higher than the regulated prices outside the CBDs. Regulated prices were calculated using the building blocks cost-of-service model of Telstra's copper network, which combined elements of the previous TSLRIC model and the new Regulatory Asset Base fixed on July 2011. The introduction of that model saw no change in the ULLS price, but a material reduction in the LCS and WLR prices compared to the previous retail-minus prices.

How much reliance should the ACCC base on the observed difference between market prices in the formerly exempted ESAs and the prices derived from a cost of service model? Setting aside the obvious possibility of model error, there are a number of reasons why even a perfectly implemented building blocks model should not be expected to produce results that reflect the outcomes of a workably competitive market:

- Regulated utilities and companies in competitive markets operate in fundamentally different risk environments. A utility building blocks model estimates prices on the basis of the revenue requirement of an investor secure in a monopoly setting and operating under an implicit "regulatory contract". On average over time, such prices will differ from prices set by dynamic choices shaping market entry and market shares of multiple competitors. Equally importantly, even if regulated and competitive market prices converged over the long-term, a snapshot of regulated prices is a particularly poor proxy for competitive market outcomes
- Utility pricing models price individual services through cost allocation assumptions, such that in total the revenue requirement covers all costs. In a workably competitive market, there is no reason to expect that multi-product firms using common assets to produce a number of component products would—or should—set prices to reflect the average cost of producing that component.

I discuss these concepts in detail below.

3.1 Modelled utility prices and competitive market price are derived from fundamentally different incentives and risk allocations

Utility pricing models are applied in circumstances where there are barriers to effective competition, such that regulation is required to prevent the exercise of monopoly power. A feature of utility regulation models is that the regulated business is required to provide access at a price no higher than the cost of supply, and in return the pricing model provides the business with a reasonable opportunity to recover its costs – more specifically, utility pricing models are designed so that investors can expect to recover the return on and of capital invested in the business, plus cover the reasonably efficient operating costs.

In short, utility regulation models are designed to provide for financial capital maintenance under an implicit regulatory contract. These models are not designed to capture all of the dynamics of a competitive market.

Further, the allowed return in regulatory determinations is conventionally set to equal the estimated weighted average cost of capital (WACC). WACC measures the opportunity cost of capital, and hence represents the least return that investors would accept before

preferring to invest elsewhere, given the systematic risks of the business. Since regulated utilities are typically regulated because they are monopolies (or near monopolies), such systematic risks are assumed to be relatively low. In other words, the variability of returns faced by investors in regulated utilities tends to be relatively low, compared to the variability of returns for investors in competitive firms.

Average cost over time

A key principle of utility pricing is “financial capital maintenance”. In essence, the “regulatory contract” guarantees that investors will have a reasonable opportunity to recover the money committed to the Regulatory Asset Base, including the opportunity cost of that money. The *quid pro quo* under the “regulatory contract” is that business will provide access at a price no higher than is required to recover that cost.

It is obvious that “financial capital maintenance” does not replicate competitive market risks. In competitive markets, investors have no guarantees that their capital will be preserved. Hence, they face much higher variability of return and, as a result, higher opportunity cost of capital than investors in regulated utilities. There are three sources of variability in competitive markets that typically do not exist in regulated monopoly settings:

- Changes in market share due to actions by competitors
- Changes in costs of new entrants that could result in stranding of sunk capital, and
- Changes in the overall market demand. While regulated firms are exposed to the overall demand variability within a regulatory period, they are usually (under standard regulatory pricing models) protected from the effects of changes in demand over the medium term.

In addition, investors in competitive markets incur operating costs that do not exist in monopoly settings. These include costs associated with customer churn, such as marketing.

For regulated monopolies, the flip side of being protected from demand and variability on the downside is that they are prevented from taking advantage of any upside. A competitive firm, by contrast, stands to benefit from the upside. If demand increases over the medium term or if new entrant costs rise, a competitive firm will be able to supply at prices that are above the level required to recover its sunk costs.

On average, with economies of scale, one would expect that the modelled life-time cost of a monopoly should be lower than the static costs of multiple competing firms serving the same customer base. It is precisely this expectation that leads to the “central planning” fallacy that single production units are more efficient. I observe echoes of the same thinking in the common criticism of deregulation of the electricity market: that competition has resulted in a significant increase in marketing and managerial costs in the sector.

Of course, in reality, the benefits of competition are dynamic. Competing firms innovate and over time increase consumer welfare. However, when comparing market outcomes to modelled monopoly costs it is easy to fall into the trap of misinterpreting the apparently lower modelled costs as providing useful information about the state of the market. They do not.

Short-term differences

In addition to the likely average life-time differences between modelled monopoly costs and market outcomes, there is an even bigger risk of misinterpreting short-term divergences between market prices and modelled prices. Since all that we observe are contemporaneous market prices and current model outputs, it is extremely important to be aware that short-term economic forces affect market and utility prices in different ways. In fact, the direction of change is almost exactly opposite. At its simplest, in a competitive market, a fall in demand would normally lead to a fall in prices, all other things being equal. In a competitive market, firms have to respond to changing demand conditions and are not guaranteed any level of revenue. By contrast, a regulated monopoly targets a given level of revenue. In a regulated utility, a fall in demand leads to a rise in prices at the next price reset, as this is precisely what is required for financial capital maintenance.

A more subtle—but numerically significant effect—results from the regular adjustments applied to the cost of capital. By adjusting WACC at regular intervals to reflect market conditions, the regulator changes the cash flows of the regulated business: income increases when the opportunity cost of capital rises and falls as it falls. The effect of this is to maintain the value of the assets invested in the business: again, financial capital maintenance. If the regulated WACC is set correctly by a regulator, the value of the firm shouldn't change over the business cycle or due to structural changes in the opportunity cost of capital. In other words, an increase in the cash flow associated with a higher WACC should not increase the underlying value of the assets as long as it just compensates for the higher opportunity cost of capital.

In a competitive market, the relationship between changes in the cost of capital and changes in prices could significantly differ from the way a regulatory model works. In the regulatory world, the relationship is direct. In a competitive market, an equally direct relationship would only exist under the most extreme assumptions. If there are no sunk costs, so that there is constant requirement for new investment, market prices would indeed adjust in line with changes in the cost of capital: as the opportunity cost of capital rises, new investment becomes more expensive, and hence prices need to increase to enable such investment. Similarly, if the opportunity cost of capital falls, prices would decline.

However, if a significant proportion of costs are sunk, changes in competitive market prices are likely to be de-linked from changes in the opportunity cost of capital. This relates in part to the timing of regulatory WACC resets, which is essentially artificial and is not linked to the actual financing practice and obligations of a competitive firm, and in part to the potential for regulatory error in setting the WACC.

Following the global financial crisis (GFC), the cost of capital as measured by the Capital Asset Pricing Model (CAPM) typically applied by regulators has steadily declined. The flight to safety and loose monetary policies had driven short-term risk free rates down, while the models typically continue to apply long term market risk premium. In this context, we can consider two possibilities. One possibility is that the CAPM estimates of the declines in the cost of capital were correct. In a utility pricing model, such declines in WACC are applied to the entire RAB, leading to a material fall in average cost, and hence a decline in prices. In workably competitive markets with significant sunk costs, the effects of the declines in the cost of capital on prices are likely to be more muted. In the extreme, in a mature market with little new investment, there may be no short-term effect on prices.

The second possibility is that the CAPM estimates of the declines in the cost of capital were wrong. During the aftermath of the GFC, significant evidence was presented to various regulators that the actual cost of capital may have risen in the short-term: while the cost of debt appeared to decline, access to debt on reasonable terms was curtailed for a period of time; stock markets exhibited high volatility for a while, indicating that market risk premium was sharply diverging from the long term average. Given the possibility of error in CAPM estimate—which rises during periods of market disequilibria—the divergence between utility model and market prices is likely to be material.

To some extent, financial capital maintenance explains why returns of regulated firms are usually seen as generous in times of economic downturn. Financial capital maintenance typically ensures that regulated returns are relatively higher in those periods when compared to the returns of unregulated firms, whose share values may be collapsing. However, in times of booming economic conditions, the returns of regulated firms are relatively lower, although this is less commented upon.

Relationship between modelled utility prices and market prices

Regulators typically wish monopoly utility prices to cover reasonably efficient costs and to provide normal returns to the owners of capital: the kind of outcomes we would expect to see in workably competitive markets. So, how do we reconcile these regulatory outcomes with the arguments presented above that utility pricing models do not represent pricing that would be observed in workably competitive markets? The answer lies in being clear about the differences in risk allocation.

The application of a utility pricing model does replicate a kind of competitive outcome, just not the outcome of on-going competition. Rather, such models should be seen as replicating competition “for the market” rather than “in the market”. Utility regulatory approach should result in a life-time return to investors that is consistent with a competitive procurement of a long-term supply contract. However, once the contract is in place, there is a fundamental transformation of risk. For the duration of such a hypothetical contract, the service provider is protected from the stranding of their capital. A utility pricing model transfers much of the risk for the duration of the implicit “regulatory contract” to consumers (although the precise allocations can vary, depending on the design of the regulatory contract). A competitive market tends to allocate the majority of those risks to producers. This fundamental difference ensures that at any particular time utility pricing models may have nothing to do with what a competitive market would produce.

3.2 Cost Allocation

We generally expect that in a workably competitive market there will be no cross subsidies between different services provided by a firm. If cross-subsidies existed, new entrants would compete to supply just those ‘over-recovering’ services—reducing the ability of the incumbent to subsidise the ‘under-recovering’ services. This logic is behind the general expectation that prices for each service would tend to reflect the costs of that service.

However, this broad conclusion should not be confused with an expectation that in a workably competitive market prices would tend to reflect the average cost of each service. In fact, in a workably competitive market, efficient prices could be anywhere between incremental and stand-alone costs of providing various services. If a multi-product firm competes mainly with single product firms, prices would tend towards the stand-alone cost. Such stand-alone costs may differ substantially from the average costs of a multi-product firm.

Pricing at or below the long-run stand-alone cost benchmark will ensure that a firm does not lose customers to an efficient new entrant providing the separable service. Pricing at long run stand-alone cost enables suppliers to recover both the fixed and variable costs of providing a particular service, including a return on their capital and depreciation to replace assets at the end of their useful life.

In considering WLR/LCS pricing, we can simplify the analysis by regarding Telstra as a multi-product firm with two key products: ULLS and WLR/LCS. Telstra's competitors in abstract can be viewed as single product firms, able to produce WLR/LCS. Both Telstra and its competitors produce WLR/LCS as a value-add to unbundled local loop.

In such a setting, in a workably competitive market, WLR/LCS prices would tend towards the stand-alone cost of producing those services, on top of the average cost of the unbundled local loop, which is common to both Telstra and its competitors. The stand-alone cost of WLR/LCS is likely to be higher than the average cost allocated to it in the model. In fact, market outcomes and cost modelling of DSLAM-based competitors confirm this.

Product bundles

The ACCC considers a separate market for voice-only LCS and WLR products. Telstra has made a number of submissions contesting this narrow market definition.⁷ These submissions present evidence of consumer switching between stand-alone voice products and bundled products which suggests a broader market definition may be appropriate. However, even if we use this narrow market definition, it is still necessary to interpret observed prices given the reality that the majority of customers purchase data and voice bundles. Telstra has previously submitted to the ACCC that customers often require bundled 'whole of business' deals,⁸ and the ACCC has recognised this point.⁹

Given the demand for bundled products and some degree of substitution between bundles and voice-only products, in a workably competitive market I would expect that prices of components of such bundles would reflect not just the static costs of production, but dynamics incentives that suppliers wish to provide to the market.

Such incentive-driven pricing is common-place in workably competitive markets. For example, banking customers can access services from their providers by visiting a bank branch, through an ATM or on-line. As banks introduced new electronic platforms, they needed to encourage customers to move towards lower cost electronic methods. However, customer habits are sticky, and many customers prefer to interact with a human being. To encourage the shift, bank service fees tend to be structured in such a way as to discourage the use of teller services and encourage the use of electronic banking. In doing this, banks may over-recover the costs of providing a declining service and under-recover the costs of a growing service, while overall earning competitive returns.

⁷ See Telstra "Fixed Line Services Review – Response to the Commission's Draft Report on the Declaration Inquiry", 14 February 2014, section 4, Telstra "Submission in Response to the Local Services Review", April 2006, and Telstra "Submission in Response to ACCC Discussion Paper Entitled 'Local Services Review 2005'", 5 May 2006. These submissions present evidence which suggests a broader market definition may be appropriate—see Telstra "Fixed Line Services Review – Response to the Commission's Draft Report on the Declaration Inquiry", 14 February 2014, Section 6 of Appendix 2.

⁸ See Telstra "Fixed Line Services Review – Response to the Commission's Draft Report on the Declaration Inquiry", 14 February 2014, section 3.1.

⁹ "The ACCC recognises that corporate and government end-users with national operations often prefer a 'whole of business' solution from a single retail service provider." See ACCC "Public Inquiry into the Fixed Line Services Declarations" Final Report, April 2014, section 3.1.1.3.

In a dynamically evolving telecommunications market, suppliers may legitimately wish to incentivise customers to move toward modern infrastructure such as VoIP. In that case, we would observe relative prices between the conventional voice services and the services that enable VoIP being set with the view to incentivise the transition, rather than simply as a cost recovery mechanism.

Given that firms in dynamically competitive markets set prices as much to drive market development incentives as to recover immediate costs, it would be an error to derive any inferences about market power from the observed discrepancies between prices modelled on the basis of an allocation of average costs and market prices.

3.3 Conclusion

Individual service prices derived from the building blocks cost-of-service model represent a calculation based on the revenue requirement of a regulated utility set to ensure the maintenance of the total financial capital on average across all service lines. There is no inherent reason to expect that such calculation would reflect prices that would prevail in a workably competitive market.

4 Choice between Price Benchmarks and Structural Evidence

Economic literature identifies both price benchmarks and structural evidence as possible tools for measuring market power:

- **Price benchmarks**, which measure the extent of divergence between observed prices and the prices that would be expected to prevail in a workably competitive market
- **Market structure measures**, which look for the existence of the features of a competitive market, such as low concentration of market shares, high number of entrants and high customer churn.

The literature generally concludes that pricing benchmarks may generally be more reliable evidence of market power than market structure evidence. However, this conclusion relies on having reliable proxies for competitive market prices and on the fact that in many real world markets, where there may be a few competitors present, it is difficult to draw strong inferences about competition from structural evidence.

Where robust price information is unavailable and market structure evidence is compelling, the academic literature suggests that market structure evidence is preferable in determining whether a market is competitive. This section describes the literature on pricing benchmarks and structural evidence of market power.

Overall, in comparing the quality of the proxy evidence available to the ACCC—price comparison based on utility pricing model that does not reflect competitive market conditions vs. evidence of high number of DSLAM based competitors in CBDs (an average of [REDACTED] access seekers), a high number of fibre-based competitors in those areas (an average of 8) and low cost of entry—it is clear that in this case structural evidence is likely to be more robust than pricing benchmarks.

4.1 Pricing benchmarks

Pricing benchmarks explain the exercise of market power as the divergence between actual outcomes and theoretical competitive outcomes—measured through prices.¹⁰

Pricing benchmarks have a long pedigree in economics and have remained the dominant theory in assessing competition.¹¹¹² The Lerner index, the most prominent pricing benchmark, defines the degree of monopoly as the difference between the firm's price and its marginal cost at the profit-maximizing rate of output. For the Lerner index, a bigger wedge between price and marginal cost means greater monopoly power.¹³ Pricing benchmarks such as the Lerner index have been described as the “standard definition [of market power]”¹⁴ and “the best-known measure of monopoly power”.¹⁵

Despite their theoretical attractiveness, the use of pricing benchmarks in practice has been limited. This is due to the difficulty of constructing robust pricing models or in finding sound comparator competitive markets, and the preference to use a number of indicators rather than to “enthron[e] any single quantitative measure”.¹⁶ Using them in practice is difficult because pricing benchmarks require numerous assumptions to construct a hypothetical efficient competitive price, which compounds the potential for errors in the hypothetical price. These numerous assumptions include: perceptions of risk, alternative investment opportunities, hurdle rates of return and required pay-back periods, entry and exit strategies, cost of customer acquisition and so on. While all of these elements can be estimated, each estimate adds to the margin of error in determining what a competitive price might be. Similar views have been expressed by the Australian Competition Tribunal (ACT), which in *Chime Communications Pty Ltd* remarked that pricing evidence “is rarely used in practice because of the difficulty of establishing the marginal cost of a good”.¹⁷

Another approach to price benchmarking is to compare the market in question to a similar market that is regarded as competitive.¹⁸ Using this approach, if we know that Market A is competitive and Market A is similar to Market B, then if prices are similar between Market A and B, one can infer that Market B is also likely to be competitive. While this approach has merit, it relies on the existence of a comparable market and robust evidence that that market is itself competitive. Hausman and Sidak¹⁹ use this

¹⁰ Lerner, Abba P. “The Concept of Monopoly and the Measurement of Monopoly.” *Review of Economic Studies* 1 (1934): 157-75

¹¹ Amoroso, Luigi. “La Curva Statica di Offerta.” *Giornale degli Economisti* 45 (1930): 1-26; translated as “The Static Supply Curve.” In *International Economic Papers*, vol. 4, edited by Alan T. Peacock, Wolfgang F. Stolper, Ralph Turvey, and Elizabeth Henderson, 39-65. London: Macmillan, 1954.

¹² Lerner (1934).

¹³ Elzinga, Kenneth G.; Mills, David E. “The Lerner Index of Monopoly Power: Origins and Uses” *American Economic Review* 101 (2011): 558-564, p 558.

¹⁴ Thomas, Christopher R; Shugart II, William F (eds) “The Oxford Handbook in Managerial Economics”; Chapter 5 Market Power: How does it arise? How is it measured? section II.A.

¹⁵ Elzinga, Kenneth G.; Mills, David E (2011).

¹⁶ See Elzinga, Kenneth G.; Mills, David E (2011), p 561 and Huschelrath, Kai “Competition Policy Analysis: An Integrated Approach” Mannheim (Germany): Centre for European Economic Research, 2009 p 175.

¹⁷ Para 49 of Application by Chime Communications Pty Ltd (No 2) [2009] ACompT 2 (27 May 2009); <http://www.austlii.edu.au/au/cases/cth/ACompT/2009/2.html>, citing L A Sullivan and W S Grimes, *The Law of Antitrust* (2000) 59 and Areeda, P E, Solow, J L and Hovenkamp, H, *Antitrust Law* (3rd ed, 2007) at 115 – 119.

¹⁸ Hausman, Jerry A.; Sidak, J Gregory. “Evaluating market power using competitive benchmark prices instead of the Herfindahl-Hirschman index” *Antitrust Law Journal* 74(2) (2007): 387-407.

¹⁹ Hausman, Jerry A.; Sidak, J Gregory. (2007).

approach to argue that Vodafone and O2 were not exercising significant market power in the Irish telecommunications industry because the prices in Ireland were lower than the United Kingdom. In reaching this conclusion, however, Hausman and Sidak recognise the difficulty in applying the competitive benchmark approach in practice, noting that adjustment would need to be made for differences in quality, cost and currency between the market in question and the comparator,²⁰ and that the suitability of a given benchmark will depend on individual circumstances.²¹

4.2 Market structure evidence

Market structure evidence does not involve an inquiry into prices but instead measures competition by the features of a competitive environment, such as concentration of market shares, number of entrants and customer churn. Despite having less theoretical appeal than pricing benchmarks in some circumstances, market structure evidence is more prominent in the practice of competition law. This is largely due to the difficulty of estimating competitive prices in practice.

One of the longest-used and most prominent tools of market structure analysis is the Herfindahl-Hirschman index (HHI).²² The HHI analyses concentration in the market for a particular good or service and draws conclusions as to the degree of competition in the market based on its concentration. It is also often considered alongside other structural features of the market, such as barriers to entry and customer churn.²³ Use of market structure evidence such as the HHI is widespread throughout the world, including in the United States, the European Union, Australia and New Zealand.²⁴

The focus on the competitive features of the market environment does not involve an inquiry into pricing—accordingly, market structure analysis does not suffer from the same critique as pricing benchmarks. However, this alternative focus brings with it its own difficulties—namely, that the difficulty of estimating a competitive price is replaced with the difficulty in defining the relevant market²⁵ and distinguishing situations where market concentration may be misleading, for other reasons are competitive.²⁶

What market structure evidence appears not to be criticised on is its usefulness in predicting that *low* market concentration is likely to entail an *absence* of market power. Accordingly, in situations where there is low market concentration, market structure evidence can be a useful predictor of the extent of competition.

4.3 Application to present facts

ACCC's current approach is to prefer to use a pricing benchmark over market structure evidence to assess Telstra's market power. ACCC's pricing benchmark involves modelling Telstra's costs of supplying LCS and WLR services, and inferring from a

²⁰ Hausman, Jerry A.; Sidak, J Gregory. (2007), p 388.

²¹ Hausman, Jerry A.; Sidak, J Gregory. (2007), p 389.

²² Hirschman, Albert O. "National Power and the Structure of Foreign Trade" London: University of California Press, 1945 Ch. 7.

²³ Hausman, Jerry A.; Sidak, J Gregory. (2007), p 388.

²⁴ Hausman and Sidak (2007): The United States, the European Union, Australia, New Zealand and many other countries' merger guidelines "typically follow the framework of market definition followed by calculation of market shares along with a summary measure of market concentration—typically the Herfindahl-Hirschman index".

²⁵ Recognised originally by Lerner (1934) at p 166.

²⁶ See Hausman and Sidak (2007), p 389: Vodafone and O2 had a combined market share of approximately 94 percent of the Irish mobile market, and using the HHI indicated a "highly concentrated" market, although prices were lower than the United Kingdom which was widely considered to be competitive.

difference between its costs and the unregulated CBD price that Telstra is exercising market power. If there was sufficient confidence that such modelling was a reliable representation of a workably competitive market, using this pricing benchmark would be an appropriate measure of competition, supported by the academic literature. However, as the previous section shows, the ACCC should have very little confidence that its model is a reasonable and realistic representation of a workably competitive market.

A more realistic estimate of competitive pricing benchmark would be to model prices that would induce DSLAM-based competitors to offer voice-only wholesale services in competition with Telstra. I have previously submitted such modelling to the ACCC²⁷. In that report, I developed a financial model setting out a business case for a hypothetical DSLAM-based new entrant to provide competing WLR and LCS services. Our analysis indicated that competitive WLR prices would be [REDACTED]. While our calculations should obviously be scrutinised and refined, I want to emphasise that the approach of estimating the cost and likely prices of DSLAM-based competitors comes much closer to the kind of price benchmarking that the literature supports than the inferences derived from the utility pricing model.

4.4 Price relativity between ULLS and WLR/LCS

In interpreting various conflicting pieces of information before it, a critical question that the ACCC should ask—but does not appear to address in its reports—is whether the price relativity between ULLS and WLR/LCS derived from the utility pricing model is consistent with efficient market outcomes. Instead of interpreting the divergence in WLR/LCS prices in exempted areas from the modelled prices as evidence of market power, the ACCC could perhaps more validly interpret such divergence as casting doubt on the price relativity derived from the model.

Previously exempted CBD areas with a large number of DSLAM-based entrants provide a natural experiment for an estimate of a margin that is required between ULLS and WLR/LCS services. Since competitors can easily voice-enable their DSLAMs, they would be willing to supply competing voice-only wholesale services if Telstra's charges created a sufficiently large margin between ULLS and those services. Lack of supply by Telstra's infrastructure-based competitors suggests that the margin that Telstra charges is not sufficient to induce a competitive response. This would be consistent with Telstra taking a limit pricing approach. It would also indicate that the margin between ULLS and WLR/LCS observed in the CBDs is the minimum consistent with a workably competitive market.

Given a fairly mechanical average cost allocation underpinning the Telstra pricing model, the ACCC should have greater confidence in revealed market outcomes from markets with a large number of DSLAM-based competitors than in the calculations of the model.

5 Conclusion

Utility pricing models are designed to estimate the cost of service of a monopoly provider in a setting where risk allocation differs drastically from the risk allocation that would be expected in a workably competitive market. As a result, prices derived from such models cannot be reliably used as competitive market benchmarks.

The ACCC believes that it has to make a decision in the face of conflicting evidence between market structure and price-based measures of competition in the CBD areas.

²⁷ Expert report by Alexander Sundakov of 14 October 2011 on the "Inquiry into Varying the Exemption Provisions in the Final Access Determinations for the WLR, LCS and PSTN OA Services"

This dilemma does not exist. There is no conflicting evidence because the results of the cost-of-service model in this case do not represent a useful competitive market benchmark. The fact that the literature supports the use of cost modelling to assess the degree of market competition should not be confused with the exercise of constructing a utility cost-of-service model. The literature tells us to model specific costs of market entrants and participants in a relevant competitive market, not the average costs of a presumed monopoly.

The observed disparity between the modelled prices for WLR and LCS services and the prices observed in the CBD areas with a large number of DSLAM-based competitors is not a useful or reliable indicator of market power. Such disparity tells us more about the difficulty of modelling prices for multiple services than about the degree of competition in the relevant markets.

Moreover, even if there was some conflicting evidence, the balance of risks in a dynamic market is in misinterpreting the cost data rather than the market structure data. A focus on static costs could distort dynamic market development.

For example, to the extent that prices provide incentives, rather than just recovering average costs, a reduction in regulated prices for voice-only services could undermine the incentive for moving towards more efficient products and entrench an outdated service²⁸.

A reduction in wholesale prices of voice-only services will have a flow on effect on DSLAM-based competitors even if they do not provide such services at present. The effect of suppressing the price of the voice-only component will be to suppress the prices of the data-voice bundles provided by competitors.

The ACCC appears to have recognised this as a concern when originally granting the CBD Exemption in 2002. In its Final Decision, the ACCC accepted that, without the CBD Exemption, the availability of the LCS was acting as a disincentive for investment in ULLS-based services.²⁹ It is not clear why that conclusion would no longer apply.

²⁸ A good example of this can be observed with New Zealand's experience in the transition from dial-up to broadband internet. New Zealand is one of the few countries with free unlimited local calling—effectively giving users unlimited dial-up. As a result, by 2007, 45 percent of New Zealand's internet connections still used dial-up and as of October 2013, dial-up still represented 5 percent of New Zealand's internet connections. In contrast, by 2007 Australia's dial-up usage had declined to 26 percent and by December 2013 it had declined to a minimal 1.7 percent. Although a number of factors drove this result, dial-up having an artificial price advantage was likely a strong contributor to the lag in customers transitioning to broadband. We would expect to see a similar effect for LCS and WLR services in CBD areas as a result of the proposed removal of the CBD Exemption.

²⁹ See ACCC "Future scope of the Local Carriage Service" Final Decision, July 2002, section 6.5.

6 Declaration

I have has made all of the inquiries that I believe to be desirable and appropriate in the preparation of this report and no matters of significance that I regard as relevant have, to my knowledge, been withheld.

A handwritten signature in black ink, appearing to be 'AS' or 'A. S.', written in a cursive style.

Aleksandr Sundakov

10 October 2014

Appendix A: Curriculum Vitae

Alex Sundakov

Key Qualifications

Alex Sundakov is the Executive Director of Castalia Ltd, a specialist international consultancy on infrastructure regulation and competition policy issues. Mr. Sundakov is based in Sydney, and runs Castalia's Asia-Pacific practice. He is also a member of the New Zealand Government Infrastructure Advisory Board.

Prior to becoming a partner in Castalia, he was Director of the New Zealand Institute of Economic Research, New Zealand's premier economics think tank. Before that, he spent five years on the staff of the International Monetary Fund, and ten years with the New Zealand Treasury.

Mr. Sundakov has been called as an expert witness and has submitted expert evidence in the High Court of New Zealand, the New Zealand Commerce Commission, the Australian Consumer and Competition Commission and the Australian Competition Tribunal. He has appeared before regulatory and commercial arbitration hearings in a number of jurisdictions.

Mr. Sundakov was educated at the London School of Economics. During 1999-2002 he served as a Board member of the New Zealand Competition Law and Policy Institute.

Education

1989	London School of Economics (England), MSc. Economics
1984	Victoria University (New Zealand), BCA. Economics (Hons.)

Employment Record

From 2003	To Present
Employer	Castalia (Sydney)
Position Held and Description of Duties	Executive Director Responsible for co-managing the firm and providing overall strategic direction for projects. Specialises in competition policy, infrastructure regulation, PPP contract development
From 1997	To 2003
Employer	New Zealand Institute of Economic Research (New Zealand)
Position Held and Description of Duties	Chief Executive Responsible for managing the Institute and providing overall strategic direction for projects. Specialised in advice on competition and regulatory issues, public policy, and economic research and analysis
From 1992	To 1997
Employer	International Monetary Fund (Washington, DC)

Position Held and Description of Duties	Economist, then Resident Representative to Ukraine Responsible for maintaining the dialogue between the Government of Ukraine and its main creditors. Advised on public policy and public private partnerships. Advised on the role of the central bank, the relationship between monetary policy and banking supervision, and financial regulation
From 1984	To 1992
Employer	New Zealand Treasury (New Zealand)
Position Held and Description of Duties	Policy Manager Played a key role in New Zealand's far-reaching micro-economic reforms, including responsibility for development of the regulatory framework. Helped to develop New Zealand's competition law, the Commerce Act. Advised on health policy issues and health markets.

Relevant Experience

Competition Policy and Regulation

- **AER Expenditure Review Guidelines, Australia, 2013**—The Australian Energy Regulator (AER) was required by changes in legislation to develop guidelines for expenditure assessment of regulated businesses and as a first step in their published an issues paper which Castalia reviewed for a consortium of the five Victoria distribution businesses. Mr Sundakov directed the project that evaluated a number of best practice guidelines issued by regulators to identify their characteristics, evaluated the Issues Paper against those characteristics and carried out a gap analysis. Under Mr. Sundakov's guidance, the team suggested how the AER could best utilise economic benchmarking tools them and put forward evaluation criteria for their introduction.
- **IPART WACC Review, Australia, 2013**—The Independent Pricing and Regulatory Tribunal (IPART) announced a review of its methodology for calculating the Weighted Average Cost of Capital (WACC) for regulated businesses. The review was prompted by the historically low Risk Free Rate (RFR) on Government bonds since the Global Financial Crisis resulting in the estimated cost of equity as calculated by the Capital Asset Pricing Model (CAPM). Castalia reviewed IPART's Discussion Paper for Sydney Desalination Plant Ltd. Mr. Sundakov directed the project and proposed a new approach to the cost of equity by using the CAPM as a sense check on market observations of the total cost of equity. Mr. Sundakov also suggested changes to the calculation of the cost of debt to account for the costs and risks of re-financing.
- **Competition Effects of the Proposed Acquisition of Contact Energy's Gas Metering Assets, New Zealand 2012**— Castalia was approached by Vector to consider the competition effects of the proposed merger between the gas metering businesses owned by Vector and Contact. The proposed transaction would result in Vector owning approximately 75 percent of the gas meters in New Zealand. Mr. Sundakov directed the project and examined the nature of competition between the owners of gas metering assets and asked whether—given the features of competition in the relevant markets—the

proposed aggregation of meter asset ownership was likely to substantially lessen competition. The conclusion drawn was that the unique circumstances of gas meter asset ownership meant that the proposed acquisition would not have material effects on competition, despite a significant increase in market concentration.

- **Regulatory Due Diligence of NSW Ports, Australia 2012**—Port Botany and Port Kembla are the first port assets to be privatized by the New South Wales Government. The Government is auctioning 99 year-year leases that are expected to raise more than US\$2 billion. Castalia is engaged by a consortium bidding for these assets. Mr. Sundakov directed the project that provided regulatory advice on the current and likely future regulatory environment for a buyer of the ports, and identifying the key regulatory risks and opportunities with private ownership of the ports.
- **Price Regulation of Wholesale Copper Services in a Market Transitioning to Fibre, New Zealand, 2012**—The Commerce Commission (“the Commission”) is proposing to set prices for unbundled copper local loop service (UCLL) and unbundled bitstream access (UBA) using forward-looking cost benchmarks. Chorus, the largest local fibre company in New Zealand, is concerned that the Commission’s proposals impact on its investment incentives in the transition to fibre-to-the-home (FTTH). Mr. Sundakov is leading the Castalia team that reviewed the Commission’s benchmarking proposals and prepared a report covering: (i) Analysis of why tight pricing coordination between fibre and copper is necessary and the evidence from other countries; and (ii) How the Commission should adjust its benchmarks to reflect the transition to a fibre network
- **NSW Treasury submission to Senate Select Committee on Electricity Prices, Australia 2012**—NSW Treasury asked Castalia to prepare a submission to the Senate Select Committee on Electricity Prices. The purpose of the submission was to counter criticism that NSW Government ownership of the electricity distribution companies had been a major factor in recent large price rises. The submission also put forward the positive actions taken by the Government to reduce upward pressure on electricity prices. The submission addressed the myths surrounding Government ownership of the businesses—that they are simultaneously inefficient yet highly profitable with incentives to gold plate infrastructure and that payment of dividends to the Government increases prices that are set by an independent regulator
- **The Impact of Pivotal Events on Power Prices, New Zealand, 2012**—Castalia assisted the client in making a regulatory submission to New Zealand’s Energy Authority on the frequency and impacts of pivotal events; where the load cannot be met without a particular generator, so that generator has market power to set the price. Mr. Sundakov supervised the collation and analysis of data over a ten year period including half-hourly data load, price, generation and transmission data to identify pivotal situations at the national, island, regional and nodal level. This information was overlaid with prices to identify whether and how pivotal generators were using their market power to recover economic rents
- **Submission on the Definition of Local Supermarket Markets in Suburban Sydney, Australia, 2012**—Castalia assisted a large retailer in making a submission to the Australian Competition and Consumer

Commission (ACCC) in response to an issues paper identifying concerns surrounding the development of a new retail site in suburban Sydney. Mr. Sundakov oversaw the regression analysis on sales and promotions data to understand whether and how the impact of sales varied with distance from competitors and the production of the final report

- **Snowy Hydro Transmission Frameworks submission, Australia, 2012—**Castalia was engaged by Snowy Hydro, a major generation company, to draft a public policy report to be submitted to the AEMC's Transmission Frameworks Review. One of the options proposed by the AEMC is a radical change to the electricity market that would see generators able to pay for firm access to the transmission system and be compensated if transmission constraints reduced their generation. The Castalia report shows that the proposed solution is out of scale with the problems that it purports to solve—the co-optimisation of new generation and transmission investment. It also shows that the proposal will create incentives for generators and transmission businesses that are likely to lead to inefficient over building of the network
- **ElectraNet Regulatory Due Diligence, Australia, 2012—**Castalia was engaged by Hastings Fund Management to provide regulatory advice on the current and likely future regulatory environment affecting ElectraNet, an electricity transmission business operating in South Australia. As an existing shareholder, Hastings was evaluating the purchase of additional equity in the company. The analysis includes advice on the risks posed by the regulatory framework and the likely future ranges of regulated returns allowed by the regulator. Mr. Sundakov provided a due diligence report that analysed the regulatory framework providing context for the large number of reviews and rule change proposals applying to the sector
- **Transpower treatment of price variations, New Zealand, 2012—**Transpower, the New Zealand transmission system owner and operator is subject to a regulatory regime where expenditure on major capital projects is approved by the regulator—the Commerce Commission—prior to project commencement. At project completion the approved cost forecast is escalated and compared with actual costs to assess prudence. The principle is efficient risk allocation—that Transpower should not be exposed to the risk of cost escalation on these projects that it cannot control—that are changes in input prices. Castalia prepared a submission to the Commerce Commission on behalf of Transpower which analysed the performance of the escalation process against the objective of efficient risk management
- **Vertical Integration Study, Australia, 2012—**Castalia was engaged by Origin Energy, a major Australian energy business, to analyse the impacts of vertical integration in the National Electricity Market. The study involved developing new methodologies to assess the degree of vertical integration in the market and also analysis of Sydney Futures Exchange electricity derivative spread data to assess the impact of vertical integration on contract market liquidity. The study concluded that vertical integration was not of itself likely to result in market inefficiencies or misuse of market power
- **Economic Advice on Airport Regulation, Singapore, 2012—**The Civil Aviation Authority of Singapore (CAAS) recently appointed Castalia to its panel of external advisors. Mr. Sundakov is leading the Castalia team contracted to provide a range of services in a number of areas: (i) policy and

regulation, regulatory impact analysis, and analysis of infrastructure investment and capital financing; (ii) benchmarking, market studies and trend analysis; (iii) pricing and price regulation frameworks; and (iv) competition and enforcement, including access to facilities, investigations into allegations of anti-competitive agreements, abuse of dominance, and merger and acquisitions

- **Review of Proposed Changes to Dairy Industry Regulation, New Zealand, 2012**—The New Zealand Government planned to introduce a number of changes to the regulatory regime governing Fonterra—the co-operative that collects and processes more than 90 percent of dairy products in New Zealand. The regulatory changes were proposed for the Dairy Industry Restructuring Act (DIRA) and were required to enable changes to Fonterra’s capital structure to be implemented. The changes were also designed to increase competition in the market for dairy processing
- **Exemption Provisions for Regulation of Telecommunications Access, Australia, 2011**—Mr Sundakov examined competition between Telstra and DSLAM-based competitors for submission into the inquiry into varying the Exemption Provisions in the Final Access Determinations for the WLR, LCS and PSTN OA Services
- **NSW Liquor Store Acquisition, Australia, 2012**—In considering the application for the merger, the ACCC raised concerns about the reduction in competition in retail markets for the sale of liquor for on-site and off-site consumption. Castalia was commissioned by the supermarket to examine whether the stylised facts identified by the ACCC, as well as other available evidence, support the regulator’s approach to geographic market definition. Mr. Sundakov assisted Mr. Saadat in helping to critique the approach adopted by the ACCC
- **Investigation into Petrol Information Sharing Arrangements and Discount Schemes, Australia, 2012**—The ACCC was investigating how petroleum price information sharing arrangements and, separately, fuel savings offers have the potential to reduce price competition. A major supermarket chain received separate notices from the ACCC to furnish information and produce documents. For each notice Mr. Sundakov examined the theories of harm that the ACCC is likely to consider in its investigation, possible rationales for the timing of the investigation, and what the ACCC may be expecting to see in the information provided
- **The Impact of Wage Costs on Australian Port Competitiveness, Australia 2012**—Castalia was approached by the client to evaluate the extent to which port wage costs were impacting on Australian port competitiveness. This involved both benchmarking Australian wage costs and productivity internationally and looking at productivity changes within the sector over time. Mr. Sundakov supervised and assisted Mr. Cheong-Holdaway in designing the methodology, conducting the majority of the research and drafting the main report
- **Critique of Productivity Commission recommendation for ex post reviews of capital expenditure, Australia, 2012**—The Productivity Commission in a review of the electricity network regulatory framework recommended an ex post prudency review to ensure only efficient capital

expenditure was added to the regulatory asset base. Castalia was engaged by Jemena, a major Australian electricity and gas network company, to critique the recommendations. Mr. Sundakov found that contrary to the Productivity Commission's findings, the theoretical and empirical evidence for the need for such a review was at best weak and would have a chilling effect on network investment with damaging consequences for reliability and service standards

- **Commerce Commission Gas Price Reset 2012 to 2017, New Zealand, 2012**—Castalia was engaged by Vector, a major New Zealand gas and electricity distributor to comment on the Commerce Commission draft decision for the 2013-2017 price path for gas pipeline businesses. Castalia identified a number of possible improvements to the way that future costs and revenues were modeled by the Commission. Castalia also recommended a sliding scale approach to regulatory incentives for efficient capital expenditure that would allow companies to make higher returns in exchange for greater accuracy of expenditure forecasts
- **Regulatory Advisor for Sydney Desalination Plant Refinancing, Australia, 2012**—Castalia was engaged by a bidder in this privatisation to provide regulatory advice on the current and future regulatory environment and issues for a buyer of the plant. The analysis includes advice on the regulatory risks and mitigation strategies as well as identifying potential opportunities for increased value for the bidder that arises from the regulatory framework. Castalia's client was the successful bidder
- **Regulatory Submission on behalf of NSW Treasury, Australia, 2012**—Castalia was engaged by NSW Treasury to prepare a submission to the Australian Energy Markets Commission on a possible rule change that would materially reduce the regulatory allowances for the cost of debt for Government owned transmission and distribution businesses. The Castalia submission showed that on a risk adjusted basis borrowing costs were similar and that reducing debt allowances would result in a subsidy from taxpayers to electricity customers
- **Impacts of Regulatory Incentives to Improve Efficiency and Service Quality, New Zealand, 2012**—The Commerce Commission was finalizing the input methodologies that will define the price-quality path for electricity distribution businesses and gas pipelines in New Zealand. Vector, an electricity distributor, engaged Castalia to evaluate the available evidence on how the model of price-quality regulation being implemented by the Commission can create appropriate incentives for regulated suppliers to improve performance
- **IPART submission on financeability issues for regulatory determinations, Australia, 2012**—Castalia was engaged by the Sydney Desalination Plant to prepare a submission to the regulator of the plant in response to an issues paper on financeability. The Castalia submission detailed the different circumstances in which a regulator might make adjustments to price paths to ensure that their decisions could be financed. Castalia also outlined why such decisions should be based on a nominal regulatory capital structure and not the actual capital structure to avoid the moral hazard of businesses creating unsustainable capital structures and relying on regulatory support to remain solvent

- **NSW Electricity Privatisation, Australia 2010**—Assistance and preparation of expert reports for ACCC clearance of bid combinations by one of the bidders for the NSW electricity assets
- **Wine Processing Merger, Australia 2010**—Assistance in gaining a clearance for the merger of two wine processing companies, affecting processing in Victoria and South Australia
- **AMP/AXA Merger, New Zealand 2010**—Prepared expert reports on behalf of NAB regarding the competition effects of the proposed AMP/AXA merger in the New Zealand market
- **Telecommunications Access Pricing, Australia 2010**—Expert witness for Telstra in an access dispute between PIPE Ltd and Telstra to Telstra's duct infrastructure. Assessed the competitive effects of Telstra's pricing methodology
- **National Competition Council, Australia 2009**—Expert witness on behalf of the NCC before the Australian Competition Tribunal regarding access to iron ore rail infrastructure in the Pilbara region of Western Australia. Mr. Sundakov's evidence was substantially quoted in the judgment
- **Merger of Ports of Littleton and Otago 2009**—Advised on competition policy implications of the proposed merger of two main container terminals in the South Island of New Zealand
- **Merger of Power Utilities, New Zealand 2008**—Advised on regulatory and competition policy strategy for the proposed merger of two medium sized electricity distribution utilities in New Zealand
- **Competition Commission of Singapore Credit Cards Case, Singapore 2006**—Led a team which studied the Singapore market to determine whether the Multilateral Exchange Fee (MIF) agreement between banks participating in credit card schemes was being used for anti-competitive purposes.
- **Merger of Port Companies, New Zealand 2006**—Facilitated negotiations between Ports of Auckland and Port of Tauranga for a proposed merger, performed economic analysis of the benefits and the detriments of a proposed merger between the two ports in order to secure all the necessary government, regulatory, and shareholder approvals for the merger
- **Competition Effects of Physiotherapy Contracts, New Zealand 2005**—Advised the Accident Compensation Corporation on anti-trust issues. Reviewed the economic consequences of exclusive contracts that the ACC wanted to sign with groups of physiotherapists
- **Competition Advice for Wharf Facility Dispute, New Zealand 2004**—Advised Pacific Ferries Limited on competition issues in a dispute with ARTNL and another ferry operator to gain adequate access to wharf facilities to operate a Waihiki Island vehicle ferry
- **Advice on Increased Contestability in the Kiwifruit Industry, New Zealand 2004**—Advised one of the largest kiwifruit supply companies on further deregulation of the industry. Export of kiwifruit from New Zealand is undertaken under a single desk regime. This project included advising on how to open more of the value chain to contestability within the limits of single desk exports

- **Alleged Anti-Competitive Conduct in Electricity Transmission and Distribution Services, New Zealand 2004**—Expert witness on behalf of Transpower in litigation on allegations that it was abusing its market power. Provided expert evidence against the case brought by Todd Energy that Transpower and the distribution company Powerco had acted anti-competitively in refusing to charge a Todd Energy facility as though it was connected directly to the transmission grid
- **Competition Analysis for Targeted Pricing in Electricity, New Zealand 2004**—Expert witness on behalf of Unison in a judicial review of a decision by the Commerce Commission, New Zealand’s anti-trust authority. Provided economic analysis and expert evidence on implementation of targeted price thresholds for electricity lines companies
- **Clearance Application under the Commerce Act, New Zealand 2004**—Assisted dairy cooperative Fonterra in obtaining Commerce Commission clearance for a possible acquisition of National Foods Ltd. Assessed the market and provided economic analysis and advice on competition issues under the Commerce Act, New Zealand’s competition law
- **Gasfield Divestment and Contracting for Output, New Zealand 2003**—Genesis wished to sell its equity stake in the Kupe gas field and contract with new owners to take the entire supply from the field. Mr. Sundakov led the analysis of the competitive effects of the proposed transaction, and found that it would not increase Genesis’ market power
- **Ophthalmology Exclusionary Conduct Prosecution, New Zealand 2003**—Retained by the Commerce Commission (New Zealand’s antitrust authority) to provide expert advice on the economic aspects of the behaviour of the Ophthalmologic Society of New Zealand and to provide an economic opinion on relevant market definition and whether the Society’s behaviour had the effect of lessening competition in a market. Mr. Sundakov gave expert evidence to the High Court, and was cross-examined on it
- **Sanitarium Predatory Pricing Allegation, New Zealand 2003**—Reviewed the issues involved in the Commerce Commission (New Zealand’s antitrust authority) investigation of allegations that the Sanitarium Food Company (Sanitarium) may have engaged in anti-competitive behaviour in breach of the Commerce Act
- **Competition between Credit Card Issuers and Acquirers, New Zealand 2002**—The Reserve Bank of New Zealand wanted to promote a sound and efficient financial system. Mr. Sundakov led a study to determine what is meant by efficiency in the banking system, and how this can be observed and achieved through competition. This study included an in-depth analysis of competition in credit card provision, rates of interest and other associated charges. It took into account the New Zealand banking environment and competition policy, as well as related policy on multilateral interchange fees in Australia
- **Competition Advice on Supermarkets Merger, New Zealand 2002**—Provided advice on competition issues in a proposed supermarkets merger. This included evaluating price competition models, defining and quantifying the market

- **Power Station Divestment by International Investor Regulatory Clearance, New Zealand 2002**—A conglomerate energy company was selling out of the electricity generation market and required a report on the effect of the sale of its last significant generation plant to one of the four major incumbent generators. The report was provided to the competition regulator, the Commerce Commission, and the sale was eventually authorised
- **Advice to Vodafone, New Zealand 2002**—Advised on an application to the Commerce Commission regarding competition effects of recovering the costs of the Telecommunications Service Obligation in New Zealand. Appearance before the Commerce Commission
- **Advice to Telecom, New Zealand 2001**—Advised on a complaint against the company alleging misuse of dominant position in the pricing of internet access. Independent report to competition authorities
- **Expert Witness on behalf of Southern Cross Ltd, New Zealand 2001**—Provided expert advice in a High Court case appealing the refusal of competition authorities to grant consent to Southern Cross merger with Aetna
- **Advice to Livestock Improvement Corporation, New Zealand 2001**—Advised on competition issues regarding pricing and access to intellectual property
- **Competition in the Market for Retailing Electricity, New Zealand 2001**—Advised an anti-trust inquiry into the proposed merger of two major electricity retailers. Analysis of vertical integration of retailers and generators
- **Dairy Industry Co-operative Mergers, 2000–2001**—Provided advice on a series of dairy co-operative mergers, leading to the formation of Fonterra, one of the world’s largest agricultural co-operative accounting for 20 percent of New Zealand exports
- **Generation Company Acquisition Regulatory Clearance, New Zealand 1999**—TransAlta proposed to purchase Contact (a large privately owned generating company) but required a clearance from the national anti-trust authority (Commerce Commission). We developed a commentary on the competitive effects of the acquisition, showing no creation of market dominance. The result was a successful application; the acquisition was cleared by the Commerce Commission
- **Gas Sector Acquisitions, New Zealand 1999**—Advised Shell Ltd on the regulatory and competition issues involved in the acquisition of a number of key New Zealand gas assets. Presentations on behalf of the company to the Government on resolution of regulatory obstacles to the transaction
- **Anti-trust and Regulatory Review 1991**—Led the Treasury’s input to a review of the Commerce Act, New Zealand’s law on anti-trust and utility regulation. Included consideration of the appropriate limits on mergers and restrictive trade practices, as well as regulation of telecommunications interconnection and common carriage provisions for electricity transmission and distribution companies

Infrastructure Access Pricing and Regulation

- **Mobil Exploration and Development Inc., Sucursal Argentina and Mobil Argentina S.A. v. Argentina (ICSID Case. No. ARB/04/16)**

2013—(Advisor) Castalia was retained by the tribunal at the International Centre for Settlement of Investment Disputes, as economic and financial expert in this arbitration. Subsidiaries of ExxonMobil had explored, produced, and market gas in Argentina. ExxonMobil alleged that Argentina unfairly treated its investments following the economic crisis of 2001, breaching the US-Argentina Bilateral Investment Treaty. Mr. Sundakov advised on an approach to developing an estimate for gas prices that would have prevailed but-for the government action

- **Due Diligence of NSW Ports, Australia 2012**—Port Botany and Port Kembla are the first port assets to be privatized by the New South Wales Government. The Government was auctioning 99 year-year leases that are expected to raise more than US\$2 billion. Castalia was engaged by a consortium bidding for these assets. Mr. Sundakov directed the project that provided advice on the possible future pricing strategy, taking into account the future regulatory environment for a buyer of the ports, and identifying the key regulatory risks and opportunities with private ownership of the ports
- **Vertical Integration Study, Australia, 2012**—Castalia was engaged by Origin Energy, a major Australian energy business, to analyse the impacts of vertical integration in the National Electricity Market. The study involved developing new methodologies to assess the degree of vertical integration in the market and also analysis of Sydney Futures Exchange electricity derivative spread data to assess the impact of vertical integration on contract market liquidity and prices
- **The Impact of Pivotal Events on Power Prices, New Zealand, 2012**—Castalia was commissioned to undertake analysis of the effects of the frequency of pivotal events on electricity prices. Mr. Sundakov led the review of half-hourly load, price, generation and transmission data over ten year period to identify pivotal situations at the national, island, regional and nodal level. This information was overlaid with prices to identify whether and how pivotal generators were using their market power
- **Treatment of price variations, New Zealand, 2012**—Transpower, the New Zealand transmission system owner and operator is subject to a regulatory regime where expenditure on major capital projects is approved by the regulator—the Commerce Commission—prior to project commencement. At project completion the approved cost forecast is escalated and compared with actual costs to assess prudence. The principle is efficient risk allocation—that Transpower should not be exposed to the risk of cost escalation on these projects that it cannot control—that are changes in input prices. Castalia prepared a submission to the Commerce Commission on behalf of Transpower which analysed the performance of the escalation process against the objective of efficient risk management
- **Integrated Public Transport Ticketing, New Zealand 2010**—Advised a provider of integrated ticketing systems on access pricing and competitive neutrality issues
- **Christchurch Airport Pricing Strategy 2010**—Advised Christchurch International Airport on its pricing strategy, including international benchmarking and the application of a cost-of-service model

- **Rio Tinto and SouthPort, New Zealand 2010**—Acted as an expert witness on behalf of Rio Tinto in commercial arbitration over port access charges for its New Zealand aluminium smelter
- **Civil Aviation Authority of Singapore 2009**—Development of competition and access code for the Changi Airport in Singapore. Under the recently promulgated regulatory regime, CAAS is responsible for regulating airport pricing and for promoting competition in the provision of aeronautical and non-aeronautical services. Mr Sundakov was asked to provide economics and policy analysis to the legal team drafting the Code
- **Airport Pricing, New Zealand 2008**—Airlines operating in New Zealand negotiate collectively with each airport over facilities and charges. Castalia was asked to assist in developing submissions to the airports. Mr. Sundakov advised on how the airports, although unregulated, should be encouraged to adopt the pricing principles used by the New Zealand Commerce Commission in regulating other infrastructure services
- **Auckland Airport Judicial Review, 2007**—Air New Zealand had challenged the prices set by the privately operated Auckland International Airport (AIA) through a judicial review. Russell McVeagh, AIA’s legal advisors, engaged Mr. Sundakov as economic expert. Mr. Sundakov converted the legal concept of a “professionally tenable” approach to pricing into an economic test. He then applied that test to AIA’s pricing, as well as the individual inputs of the pricing methodology. His work focused on: single till versus dual till pricing, the weighted average cost of capital (WACC), the asset valuation approach, and allocation of common costs
- **Review of Infrastructure Sectors in Nauru 2008**—AusAid commissioned Castalia to review the issues facing the infrastructure sectors in Nauru as an input into negotiations with the Government of Nauru on a 5 year support program. Mr. Sundakov led the Castalia team
- **Tonga Electricity Commission 2008–Ongoing**—Mr. Sundakov leads a team which provides on-going advice to the Tonga Electricity Commission. During 2008, Castalia undertook a review of the non-fuel part of the electricity tariff
- **Reform of Electricity Distribution Regulation, New Zealand 2008**—Mr. Sundakov led a team which prepared influential submissions on the reform of regulation for electricity distribution companies in New Zealand. As a result of this work, the new legislation exempts consumer owned distribution utilities from regulation, and introduces greater accountability for the regulation of investor owned utilities
- **Indonesia Geothermal Power Development Strategy 2006–2007**—The Government of Indonesia wants to make better use of its renewable energy resources. Castalia was engaged to assist in developing a strategy for private investment in geothermal power generation. Mr. Sundakov led a team that identified 74 technically viable geothermal power generation sites, with a total potential of 7,000 to 8,000 MW. The team’s analysis showed that of these around 1,500 to 2,000 MW were commercially viable without any carbon credit benefit, while a further 2,000 MW would be commercially viable if they could capture the benefit of carbon emissions are prevailing world prices (using Clean Development Mechanism (CDM) CER trading. Mr. Sundakov

developed a policy and regulatory regime to encourage private investment in the geothermal resource. He also advised on the advantages of multi-lateral backed carbon reduction funds over simple CDM-CER trading, taking into account the better terms and up-front financing available

- **Public Transport Procurement Review, New Zealand** 2006–2007—(Economic Adviser) For Stagecoach NZ, developed an improvement regime for government procurement of public transport services. Recommended inclusion of Euro 4 standards for buses to control emissions, and other mechanisms to increase the attractiveness of public transport over cars and so reduce total transport-related emissions
- **Gas Industry Development of Co-Regulatory Regime, New Zealand** 2005—Led a team developing a comprehensive regulatory regime for the gas processing, transport, distribution and retail, including pricing, market arrangements and customer-switching protocols. Under an innovative co-regulatory system the regime was developed by the gas industry itself, and will be proposed to the Government for review, after which the government may adopt the recommendations, or instead impose a conventional independent regulator on the industry
- **Developed Options for Increasing Access to Electricity in Rural Areas, Indonesia** 2005—The Government of Indonesia has set a 90 percent electrification target by 2020. Existing models for increasing access to electricity are not having the impact needed to meet the government's target. Mr. Sundakov was retained by the World Bank to develop innovative business models that could rapidly increase the rate of electrification in rural areas. These models were developed based on a comprehensive review of the existing models (including PLN, cooperatives, private providers and captive generation), the legal and regulatory framework and the available financing vehicles, as well as international experience. These models will be presented to government officials during a workshop in August
- **Explanatory Notes on Key Topics in the Regulation of Water and Sanitation Services (WSS),** 2005—There is a significant amount of debate and confusion about regulation in the WSS sector. This arises because people often do not have a common vocabulary and conceptual framework. Castalia was engaged to write a set of six Explanatory Notes on key topics in WSS sector regulation to clear up confusion over the meaning of key terms and concepts, and to provide a foundation from which to develop cohesive and effective regulatory approaches. Mr. Sundakov contributed to these notes, providing input on economic theory, regulatory frameworks and the application of theory in the water sector
- **Regulatory Framework for Small Private Power Providers in Remote Areas, Philippines** 2004—Led the development of a regulatory and policy framework under which areas not served by an existing power distributor will be opened to supply by micro- and mini-grid operators, which will be awarded contracts to supply specified areas, and receive subsidies where necessary, using a regulatory process. Specific responsibilities included working with the Department of Energy (DOE) and Electricity Regulatory Commission to agree the regulatory and subsidy framework, and ensure it is consistent with DOE policy objectives

- **Governance of Infrastructure, East Asia and Pacific 2004**—Developed a framework for analysis of governance issues in infrastructure in East Asia and Pacific. Carried out a number of case studies, in order to make practical recommendations to improve infrastructure governance in the region, as an input to a flagship report on infrastructure financing and provision developed jointly by the World Bank, the Asian Development Bank and the Japan Bank for International Cooperation
- **Valuation of a Major Energy Company, New Zealand 2004**—Acted for an overseas buyer on a valuation of a major electricity generator and retailer. Our responsibilities included forecasts of demand, wholesale and retail prices, analysis of wholesale market hedge premiums, advice on valuation of the retail business and regulatory and political risk analysis
- **Training of the Electricity Regulatory Commission, Philippines 2004**—Provided training in regulation of regional electricity distribution co-operatives, the transition from cost-plus to performance-based rate-making, and subsidy and regulatory regimes to promote electrification of isolated areas
- **Transpower Regulatory Strategy, New Zealand 2004**—Advised the national transmission company on the approach it should take to regulation following establishment of a new Electricity Commission. Mr. Sundakov led this work to develop the company's overall corporate strategy, and ensure that the regulatory strategy supported this. We advocated a regime which linked service levels to investments and tariffs, providing for revenue security
- **Infrastructure Stocktake, New Zealand 2004**—The Ministry of Economic Development in New Zealand wanted to review the performance of infrastructure in the economy, understand whether infrastructure might become a constraint on growth and competitiveness, and develop policy responses to ensure adequate supply and coordination of infrastructure services. Mr. Sundakov assisted the Ministry in synthesising work prepared on discrete aspects of infrastructure provision into a useable whole, and recommended further policy developments

Economic Policy Advice

- **Review of Banking Regulation, New Zealand 2008**—Mr. Sundakov led a team which worked with a group of major trading banks to review the existing approach to the regulation of the banking sector, and to recommend improvements
- **Pharmaceutical Regulation, Canada 2008**—Undertook a detailed review of the differences and similarities between pharmaceutical regulations in Canada, Australia and New Zealand, and to provide advice on the effects of the regulatory regimes on patient outcomes and on public health expenditure
- **Funding of High Cost Pharmaceuticals, New Zealand 2008**—Undertook a review of New Zealand policies for the funding of high cost pharmaceuticals, and to recommend an approach better suited to patient needs
- **Impacts of Kyoto Protocol on Energy Sector and Economy, New Zealand 2003–2004**—Engaged by a major energy company to provide

evidence on the likely impacts on growth, income and energy sector development of New Zealand's ratification of the Kyoto protocol

- **Strategy for Development of the “Cervena” Venison Appellation, New Zealand 2003–2004**—Reviewed the Cervena appellation to assess what it has achieved and what is needed to make the most of the industry's investment in the appellation. The overall objective of the review was to enable the Cervena Trust to make a decision about the future ownership structure, funding and scope of the brand from the perspective of the deer industry in New Zealand. Recommended a change in ownership and governance of the appellation
- **Transmission and Distribution Price Regulation, New Zealand 2003**—Provision of economic advice related to definition of price control thresholds in the definition of transmission and distribution markets; and the means for demonstrating contestability of system operator services. Commented on the Commerce Commission's draft Assessment and Inquiry guidelines
- **Submission on Providing Security of Supply in Wholesale Electricity Market, New Zealand 2003**—Assisted Contact Energy, a major electricity generator and retailer in developing submissions on a proposed new generation market regime and security of supply proposals. In particular, assisted with a feasibility study and analysis of Contact's proposal to Government and an approach to quantifying the costs and benefits of Contact's proposal as well as their incidence. Reviewed the work of US consultants to ensure it reflected a comprehension of local conditions
- **Submission on Dry Year Reserve Proposal, New Zealand 2003**—The government proposed to improve New Zealand's security of electricity supply by establishing an Electricity Commission which would, among other things, contract for stand-by capacity to operate in years in which low rainfall led to a shortage of hydro-generation. Mr. Sundakov assisted Solid Energy, New Zealand's leading coal-mining company, with the preparation of the submission on the Government's dry year reserve purchasing proposal
- **Regulatory Framework for Private Participation in Rural Electrification, Philippines 2003**—Developed a regulatory framework and Model Contracts for private investment and management in rural electrification cooperatives and in new minigrid projects. Advised a Government-owned rural electricity generating company on privatisation. Developed a regulatory and subsidy framework to promote efficiency and private participation in the sector
- **Electricity Market Reform, New Zealand 2003**—The Government announced its intention to establish an Electricity Commission charged with overseeing development and operation of the electricity industry and with contracting for reserve capacity to prevent electricity shortages in dry years (New Zealand gets 60% of its electricity from hydro). Transpower, as the system operator, sought advice on the development of substantive policies to achieve the Government objectives. Mr. Sundakov advised on policy and regulatory approaches to address the problem of underinvestment in New Zealand non-hydro electricity generation. Developed a proposed approach to address the fundamental issues with the least possible regulatory intervention
- **Telecommunications Regulatory Advice, Vodafone, 2002**—Advised Vodafone on an appropriate methodology for estimating the cost of the Telecommunications Service Obligation in New Zealand (New Zealand's

equivalent of a universal service obligation). This project included consideration of the incentives on telecommunications operators to invest in rural areas. Presented evidence to hearings of the regulatory authorities

- **Dairy Industry Co-operative Mergers, 2000–2001**—Advised a series of dairy co-operative mergers, leading to the formation of Fonterra, one of the world's largest agricultural co-operative accounting for 20 percent of New Zealand exports.
- **Transmission Pricing Methodology Advice to Transpower New Zealand, 2001**—On the transmission pricing methodology. In the context of this work, facilitated a series of industry forums bringing together transmission users and the provider
- **Development of Universal Service Obligation, New Zealand 2001**—Advised the incumbent telecommunications provider, on how to measure the cost of meeting its social obligations in rural areas. Telecom has a substantial existing rural network, primarily based on conventional twisted copper pair technology, and in some areas utilising multi-access radio. Advised on cost modelling and allocation of losses
- **International Telecom Tariff Benchmarking, New Zealand 2000**—Provided Advice to the New Zealand Government on benchmarking prices for telephone services across countries. This included consideration of the implications differences in rural networks (e.g. in relation to penetration rates and population distribution) have for the extent to which you can compare telecommunications costs across countries
- **Privatisation of Ukrtelecom, 1999–2000**—Acted as an advisor to the Board of Ukrtelecom, Ukraine's incumbent telecommunications operator on preparing the company for eventual privatisation. This advice included both the strategy for privatisation, and helping the company negotiate with Government on the design of the post-privatisation regulatory regime



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