



Supplementary Submission to Review of Asset Valuation Methodologies by Dunedin Electricity Limited

On 26 November 2002, in the course of the Review of Asset Valuation Methodologies Conference, the Commerce Commission (the Commission), requested Dunedin Electricity Limited (DE) to provide additional analysis regarding whether price and quality thresholds alone can reveal the presence or otherwise of any excess returns. Additionally, we comment on some other issues raised at the Conference.

Part 1: Will Price and Quality Thresholds adequately reveal any Excess Profit?

By way of introduction, we repeat our comments at the Conference - that excessive profit will be associated with excessive prices and/or poor service quality, providing network characteristics and operating efficiencies are similar. However, precisely because network characteristics and operating efficiencies are NOT similar across all lines businesses, a choice must be made between full input regulation and a 2-stage light-handed output regulation, focussing on efficiency and quality parameters first and followed by targeted investigation of companies that breach the output thresholds. The latter regime will provide the appropriate incentives for both investment and operating efficiency and for innovation in the New Zealand context.

To answer the Commission's question, we have undertaken the following simple analysis to demonstrate that an output approach will reveal lines businesses that may make excessive profits.

a) Analysis

In conducting the analysis we have segregated networks according to the generally acknowledged primary cost-driver (consumer density), using reasonable break-points in this parameter (Appendix 1). This approach was hinted at in Commissioner Bates' first question to us. To preserve the anonymity of individual lines companies, because this analysis is simplistic, we have assigned them random labels (A Ltd, S Ltd etc).

i) High Density Networks - We compare 6 high density networks, as follows:

	Price (low to high)	Quality (high to low)		Profitability (low to high)
1	M Ltd	E Ltd		K Ltd
2	K Ltd	K Ltd		M Ltd
3	J Ltd	B Ltd		J Ltd
4	B Ltd	J Ltd		E Ltd
5	E Ltd	M Ltd		B Ltd
6	A Ltd	A Ltd		A Ltd

The 3 companies showing highest profitability are also identified by highest price and/or lowest quality.

ii) Medium Density Networks - We compare 11 medium density networks, as follows:

	Price (low to high)	Quality (high to low)	Profitability (low to high)
1	S Ltd	L Ltd	R Ltd
2	AA Ltd	G Ltd	W Ltd
3	W Ltd	W Ltd	AC Ltd
4	AC Ltd	C Ltd	AA Ltd
5	R Ltd	I Ltd	L Ltd
6	V Ltd	R Ltd	S Ltd
7	C Ltd	S Ltd	T Ltd
8	L Ltd	T Ltd	G Ltd
9	G Ltd	AC Ltd	C Ltd
10	I Ltd	V Ltd	V Ltd
11	T Ltd	AA Ltd	I Ltd

All companies showing highest profitability are also identified by highest price and/or lowest quality.

iii) Low Density Networks - We have compared 12 low density networks, ranked as follows:

	Price (low to high)	Quality (high to low)	Profitability (low to high)
1	O Ltd	H Ltd	AB Ltd
2	H Ltd	P Ltd	U Ltd
3	AB Ltd	D Ltd	X Ltd
4	X Ltd	Y Ltd	O Ltd
5	F Ltd	F Ltd	Y Ltd
6	Y Ltd	X Ltd	Z Ltd
7	Z Ltd	U Ltd	<i>H Ltd</i>
8	Q Ltd	O Ltd	P Ltd
9	D Ltd	Z Ltd	Q Ltd
10	N Ltd	N Ltd	D Ltd
11	P Ltd	AB Ltd	N Ltd
12	U Ltd	Q Ltd	<i>F Ltd</i>

Except for F Ltd and H Ltd, all companies showing highest profitability are also identified by highest price and/or lowest quality.

H Ltd is at the median profitability level and has comparatively superior price and quality characteristics, so is unlikely to be a concern.

F Ltd presents more of a difficulty. It is the old Otago Power Ltd, which restructured significantly the previous year and ceased trading in June 2002.

The above analysis demonstrates the strong probability that profitability “outliers” will be revealed through poor performance in relation to price and/or quality.

We acknowledge that this analysis provides circumstantial evidence only - we have not attempted to second guess the Commission's intended thresholds. Once the Commission has published its draft thresholds for comment we will be able to provide more robust analysis against these thresholds.

b) A Profitability Threshold is Undesirable

DE strongly believes that rate of return regulation will be counterproductive, and accordingly recommends against a profit threshold, because it will inevitably imply an input focus:

- ? An input focus will act as a disincentive to innovation and efficiency.
- ? Efficiency (i.e. Price) and Quality thresholds are sufficient to reveal any cases of excess profitability.
- ? Determination of excess profits is fraught with difficulty.
- ? Profit measures are not accurate in the short term, and determinations by the Commission are likely to be vigorously challenged.
- ? Compliance costs for the industry and the Commission will be high.
- ? Due to the industry structure, many consumers will be "beneficiaries" of any excess profits.

c) Incentive Relating to Distribution Losses

During the presentations by Grey Power, Commissioner Curtin questioned whether the point being made about distribution losses was relevant to asset valuation.

Grey Power correctly identify that inefficient equipment (with higher electrical losses) might be incentivised by the wrong regulatory regime. We believe that the addition of "cost of losses" to a price threshold will address this risk and is appropriate because the cost consumers bear in purchasing distribution losses from their retailer is a distributor-driven cost. We have taken this approach in the analysis referred to above.

d) Benchmarking

During the presentation by DE and by others the issue of international benchmarking was touched on. We believe that an output thresholds approach will have two significant effects that relate to benchmarking.

The first is that a thresholds approach is a benchmarking exercise – it enables companies to compare their position to the benchmark and, through information disclosure, with other companies. This knowledge will force improvements that have not yet been discovered by managers. More importantly for the Commission's question, it will lead to closer alignment between inputs and outputs, making it more certain that any excess profit will be revealed by output parameters.

DE believes that international benchmarking of outputs is an important part of validating initial price and quality thresholds. Additionally, there is a compelling long-term reason for its early introduction.

An effect of a thresholds regime will be industry convergence over time - companies can be expected to improve performance and “cluster” at a threshold, leading to less differentiation in terms of price and/or quality. In many respects this will be a favourable outcome. However, there could then be little to differentiate poor performers from good performers and some suspicion that all are performing sub-optimally. In this context robust international benchmarking will be desirable, adding to the case for it to commence at the start of the regulatory regime.

e) Summary

The following summarise DE’s answer to the Commission’s question about the ability of price and quality thresholds to reveal any excess profit:

- ? The evidence is supportive of our argument that any excess profits will be revealed by price and quality thresholds. Unless there is clear evidence that any excess profits (however defined) will occur and will fail to be revealed by price and quality thresholds, then the regulatory environment should err toward creating an environment for maximum investment efficiency and minimum regulatory cost – an output-focussed rather than input-focussed regime.
- ? A separate profit threshold is neither necessary nor desirable. We reiterate our comments at the Conference that the input and output regulatory regimes are mutually exclusive – they cannot be mixed.
- ? International benchmarking should be part of validating initial thresholds and will be required due to regulatory convergence.
- ? We draw attention to the fact that the vast majority of US electric utilities are unregulated – or rather they are regulated by their community owner. Of the approximately 3000 US utilities, something less than 10% are investor-owned and subject to regulation. In New Zealand the vast majority of distributors are community owned and this alone should lead to the conclusion that nothing more than a light-handed regime is appropriate, providing that comparison of the few privately owned with the many publicly-owned reveals no clear evidence of excessive price or inferior quality.
- ? The determination of excess profits is fraught with difficulty. We expect to make comments about this in the context of the forthcoming debate on WACC.

In regard to the general issue of asset valuation, we remain convinced that a replacement cost valuation methodology leads to maximum investment efficiency, while best facilitating a light-handed (targeted) approach to state intervention.

Part 2: Other Issues Raised at the Conference**a) Return to Vesting Values**

A consistent theme in some presentations and in Commission questions related to apparent belief that revaluations to ODV represented an unwarranted return to owners – unwarranted because:

- A. The return was not warranted by real investment at risk by the owners.
- B. The revaluation resulted in higher prices through higher depreciation and thus is paid for by future consumers, which is unwarranted.

In regard to A: Who were the owners, what did they own and thus have at risk, and did any gain go to other than the proper owner?

- ? Prior to corporatisation, ownership was such a nebulous concept that neither Government nor the Courts could resolve it. For corporatisation purposes, community groups were effectively tasked with deciding the issue for their communities.
- ? Pre-corporatisation asset book values were understated by the absence of either detailed or accurate asset register, the historic expensing of construction costs and “globo adjustments” relating to introduction of taxation in 1987, with the result that the assets actually cost much more than the balance sheets represented prior to corporatisation. On the issue of asset register accuracy, Information Disclosures from 1994 reveal the many hundreds of kilometres of lines added not because they were built in a given year but because previous error was discovered in that year. In spite of this correction of errors, we presented a graph (Appendix 2) showing that ODV has not grown as fast as energy usage.
- ? The “revaluation gain” that occurred accrued to the historic owners (as far as this could be determined) either because they retain ownership of the revalued assets or because they received a price on sale that reflected real value and not historic book value. To argue today about the distinction between electricity consumers and other members of the local community is to re-open the troublesome ownership debates around corporatisation of a decade ago.

In regard to B: In fact line prices paid by electricity consumers have not risen materially. What happened over the period was that:

- ? the pre-tax/pre-corporatisation regime, which involved negligible distinction between operating and capital expenditure and poor-to-non-existent asset registers and was a “cash-accounting” regime with a target of minimum positive cash surplus,
- ? moved to a proper corporate accounting regime. During this process removal of previously-expensed-capital from “operating costs” partly compensated for the increased depreciation that resulted from upward revaluation to ODV and, together with real productivity gains (evidenced by reduced employees, including company and contractor staff), led to the outcome that acceptable returns on ODV were generally achieved without material price increases.

That is, the regime changed, but consumers did not pay a price that is demonstrably higher than it would have been if the cash-surplus regime had continued. It would be totally inappropriate to force a revaluation back to vesting book values. Together with any mandated price reductions, it would amount to a wealth transfer to electricity consumers (if not expropriated by retailers), who did not pay for the creation of that wealth, and many of whom have cashed up that wealth already (through distribution to them of sale proceeds based on ODV or higher selling prices).

In the presentation by MEUG a paper by Mr Paul Harper oversimplifies the issue of vesting values. Not all distribution companies were corporatised with the majority in 1992/3. DE was corporatised in 1990, based on DCF valuation, resulting in an asset value of \$4.3m (previous BV \$13m) due to owner-constrained retail pricing. A number of other distributors also corporatised earlier, no doubt on different valuation bases.

b) Compliance Cost

There were conflicting views expressed by presenters about whether an HC regime or an RC regime would have higher compliance costs. DE's view is that the difference will be small. For reasons of good asset management sophisticated information systems will be maintained. For a specific asset:

- A. Under an RC regime its HC, the MEA class (Modern Equivalent Asset) of the asset, and its age/remaining life will be maintained – the HC for tax depreciation reasons the MEA to support the accounting depreciation rate, to derive its DRC at any time for regulatory purposes and to facilitate capex forecasting.
- B. Under an HC regime the HC, the MEA class of the asset and its age/remaining life will be maintained – the HC for tax and regulatory purposes and the MEA to support accounting depreciation and capex forecasting.

Whilst supporting the continued application of RC base valuations, DE believes that compliance costs are largely irrelevant to the arguments concerning HC or RC.

c) Capital Contributions

During the presentation by Federated Farmers the issue of capital contributions arose. Dunedin Electricity makes two observations.

These arise where the “standard” line charge will not provide sufficient revenue to justify the investment, and there are then two choices – to agree a higher line charge for that supply, or to require a “pre-payment” of the amount that the appropriate higher line charge exceeds the standard line charge. Such a pre-payment has historically been called a capital contribution and that is unfortunate because it gives the impression that ownership of the asset might be involved. Many consumers subject to a “pre-payment” requirement object to “handing over” assets they perceive they have partly paid for.

DE prefers to deal with the issue by counting such contributions as revenue, both because this more correctly represents its purpose and because this is simpler than the alternative perpetual exclusion of the assets from “normal” regulatory treatment. However DE recognises that any significant annual variation in such payments will cause instability in reported profit.

Appendix 1

The analysis was undertaken as follows:

- a. We have undertaken the analysis by simple ranking rather than attempt to simulate variance from any specific thresholds.
- b. We have compared efficiency (i.e. price), quality, and profitability statistics from Information Disclosure statistics.
- c. A lines company's ranking for one measure is independent of the ranking for each of the other measures.
- d. A low density network (e.g predominantly rural) will need higher prices to achieve the same level of quality and profitability as a high density network (e.g. predominantly urban). We have therefore used consumer density as a discriminating factor in our analysis. The density discriminants adopted were:

- i. Low Density: < 7 customers/km
- ii. Medium Density: between 7 and 16 customers/km
- iii. High Density: > 16 customers/km

The three comparatives are defined as follows:

a) Price

Average cost per kWh delivered has been derived for each business as: Revenue from electricity Line/Access charges *less* any discount/rebate *plus* AC loss-rental rebates income *less* AC loss rental rebate expense *less* payment for transmission/avoided transmission charges *plus* cost of losses valued at 5 c/kWh, *divided by* kWh delivered.

No attempt has been made to identify the "highest" or "average" tariffs relating to particular classes of consumers. We recognise some bias may be introduced where lower tariffs are applied to large (semi-contestable) industrial customers – to attract their patronage, or to avoid someone bypassing the distribution system.

b) Quality

SAIDI has been used as a proxy for quality. While individual consumers are usually interested in either the frequency of interruptions or in the length of interruptions (refer Appendix 3), SAIDI does captures both of these aggravators.

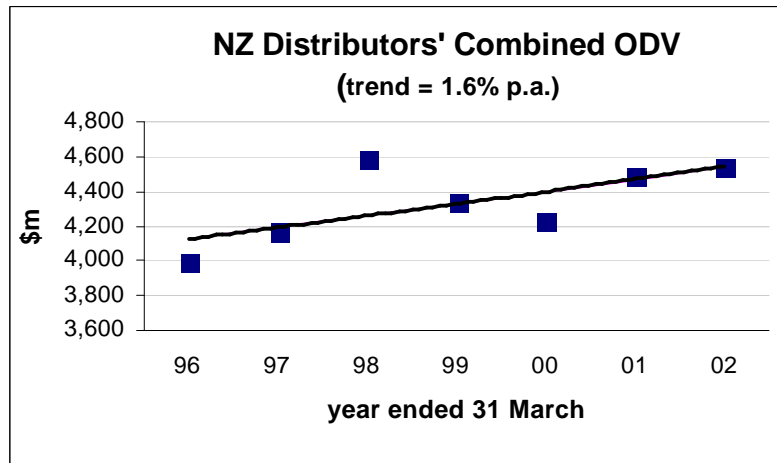
We have used the most recently disclosed SAIDI, recognising that it will include some annual variability for individual companies.

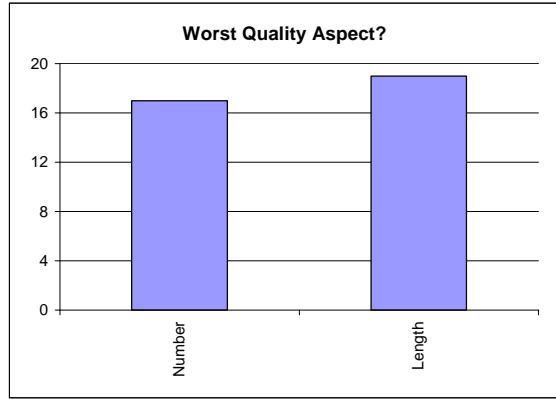
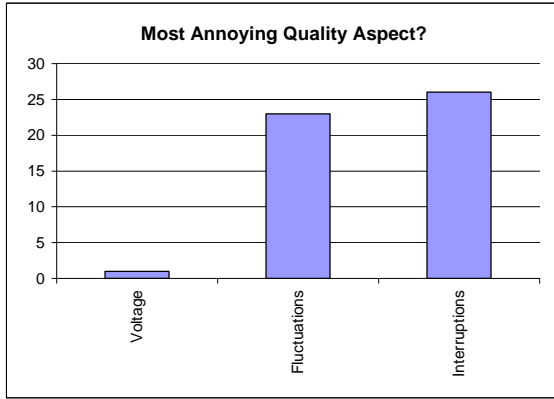
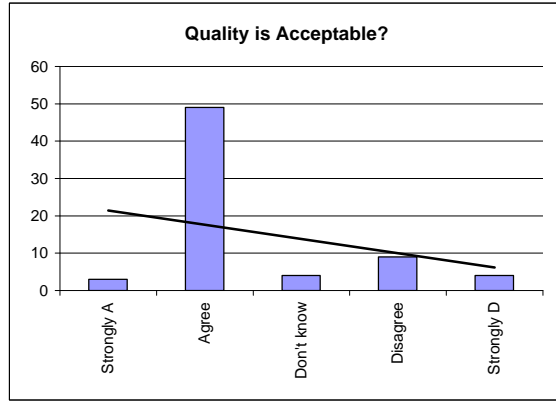
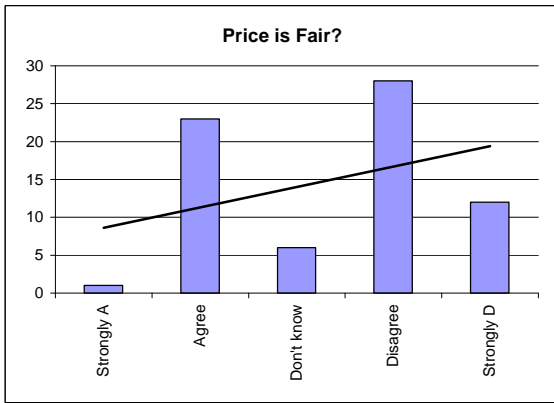
c) Profitability

The proxy used for profitability is 3 year average ROI (return on investment), because revaluations cause significant distortion of single period ROI. We recognise that ROI's are not additive unless the denominator (i.e. investment base) remains constant.

Note that we have used disclosed ROI without attempting to normalise ROI by reference to the appropriate WACC for individual companies. Nor is it appropriate to use ROI as a measure of excess profit, but it suffices to demonstrate our point.

Appendix 2





Results from a survey of 157 consumers in April 2002, selected from 1781 (mostly residential) consumers who had responded to the general quality survey by identifying quality as the major problem.

CONCLUSIONS

- 1 Only consumers who had previously identified quality as the major problem were surveyed.
- 2 Most are now far happier with quality than they were when first surveyed. This suggests that they were previously surveyed shortly after they were significantly affected by a quality problem.
- 3 Consumers are roughly evenly divided in regard to "fluctuations" (however they interpret this word) and interruptions.
- 4 Consumers are roughly evenly divided in regard to frequency and duration.