VICTORIA'S 2001
ELECTRICITY DISTRIBUTION PRICE REVIEW

SUBMISSION TO :
THE OFFICE OF THE REGULATOR GENERAL (ORG)
ON THE 2001 PRICE REVIEW

ENERGY
ISSUES PAPER NO. 11
APRIL 1999

ALAN MORAN

Institute of
Public Affairs Ltd
Lvl 2, 410 Collins Street
Melbourne Vic 3000
Tel: (03) 9600 4744
Fax: (03) 9602 4989
E-mail: ipa@ipa.org.au

The IPA is an independent Australian policy research and educational institute supported by voluntary contributions.
Institute of Public Affairs Limited (Incorporated in the ACT) CAN 008 627 727

Submission to the Office of the Regulator-General (ORG) on the 2001 Price Review

1. *Summary*

1.1. The 2001 Victorian Price Setting Arrangements

The post 2001 price re-set for Victorian electricity distribution represent a major test for the post-Hilmer regulatory arrangements for industries with market power. Electricity distribution is considered to have market power. Both the Victorian Tariff Order and the National Electricity Code specify that it should be regulated by a price cap or similar incentive, rather than by profit controls. The political risks of price gouging ruled out New Zealand-type light handed regulation which would treat existing line charges as a contractual price cap and leave actual or potential competition as the regulator.

1.2. The Key Issues

This paper is confined to addressing just two or three of the most important general matters in the 2001 re-set: the price setting formulation, and the treatment of gains made in the first price setting period.

<u>Price capping</u>
Price capping is likely to regress into a form of profit control if the gains made by the regulated firm are taken automatically by the regulator in the next period. Such approaches will detract from the efficiency inducing goals of price capping. Many argue that the business-by-business price caps that the ORG has foreshadowed are no more than profit controls. The ORG maintains that reliable data is not yet available for more objective industry-wide price setting arrangements, which could employ industry total factor productivity or data envelopment methodologies.

For the post 2001 re-set, IPA proposes a price cap, which should be set on a consistent basis for each of the businesses, combined with a profit sharing arrangement. The latter would give a distributor's customers a share of profits above a specified level (in terms of price cuts), say on a 50/50 basis.

<u>Treatment of "Unanticipated" Revenues Gained in the Current Period</u>
The distribution businesses maintain that the government gave assurances that the price trajectory for the first re-set would follow a "glide path". This would effectively allow them to keep half of all the first period's gains during the 2001 quinquennium. The ORG wishes to confine the glide path to management initiated cost reductions, with windfall gains or losses eliminated at the outset of the new period.

Assurances should be a matter of record and should be kept.

That aside, the division of gains into windfall and management is likely to prove difficult. Changes in the cost of capital might be regarded as windfalls but increased market growth, O&M savings or economies in capital expenditure are more likely due to management effort..

2. *Policy Issues*

With the Victorian electricity market reforms and the National Electricity Market, control of the operations of electricity supply has been revolutionised–the operations are now market rather than production orientated. As in other commercial markets, price is now the prime driver of efficiency and resource allocation for generation and retailing. Competition between providers in both generation and retailing means no significant body of opinion considers that regulatory restraints are needed.

Distribution and transmission respectively comprise 30 and 10 per cent of electricity costs and remain regulated. In New Zealand, distribution and transmission are regulated only under the reserve powers of general competition policy laws. Although there is much to be said for this approach, the Australian authorities wish to maintain a more "heavy handed" regulation on elements characterised by a degree of monopoly power.

For those elements of the market considered to be natural monopolies, the key regulatory matters to be determined comprise:

(i) The formulation to be used in future price setting;

(ii) The treatment of the base year price of the regulatory period - gradually passing unpre-designated productivity gains to customers made in the previous regulatory period ("roof truss") or immediately delivering them ("P0").

In respect to this second matter, the ORG has also signalled an intention to disaggregate gains (or losses) into windfall and management initiated. The plan is to leave the latter, in the case of gains, with the regulated business over a longer period.

The key matters are interrelated. Together, they define the incentives for suppliers to operate efficiently and for consumers to obtain similar benefits to those that would emerge in competitive markets.

3. Means of Price Control

3.1. The Gamut of Regulatory Possibilities

Conceptually, there are five means of ensuring that profits in the provision of line services are not excessive. These are not mutually exclusive and comprise:

- ensuring that there is competition in the provision of the service and/or its close substitutes;
- controlling the profit level by fixing prices and revenues to cover costs;
- setting a price cap, based normally on CPI-X, and freeing firms to keep all profits in excess of this;
- placing a special tax on profits beyond some pre-determined level;
- establishing some form of benchmarking and setting a price path for each firm to meet this.

3.2. Ensuring Competition

Competition prevents firms from increasing prices above a level that would attract new entrepreneurs or bring losses of business to new or existing players. It also forces firms to seek cost reductions and better ways of meeting market requirements to retain and/or expand their business.

There is little dispute that competition is the best form of control. Regulators maintain that they are simply trying to mimic competitive outcomes in markets where competitive provision is either unattainable or inadequate.

3.3. Controlling Profit Levels

Traditional rate control has focussed on this approach. Either the utilities were government owned and the government set target rates of return or they were privately owned and regulators determined prices based on a return.

In both cases the outcomes brought inefficiencies–excessive capitalisation where the utility received a margin on its capital expenditure. This was compounded in the case of government owned utilities by no incentives to pare costs and generate higher profits (which are not even transiently available) and by corporate decisions being unduly influenced by political considerations.

3.4. Controlling Price Levels

Price cap controls under a CPI-X formulation were designed to overcome the inadequate incentives that were offered by profit rate controls. In their purest form price caps allow the regulated firm to keep all profits from its activities as long as prices are maintained at a pre-specified level. This was established at the general economy-wide level of prices, with some requirement of price reductions to reflect anticipated productivity improvements.

The "US price capping arrangements", used in railroads and telecommunications, establish average revenue standards based on estimates of volume growth, deducting an X factor based on historical[1] industry-wide Total Factor Productivity . This same X factor is applied to each of the regulated business.

Sometimes within the X factor, the US regulators incorporate a consumer benefit stretch factor or "consumer dividend". This adds to the historical productivity increases. Stretch factors have been used to correct for the effects of diminished incentives in previous profit control rate settings. They may be applied in future to adjust for over-generosity in outcomes from the price cap formula.

This CPI-X formulation often also has a Z factor to account for external factors, like taxes, not reflected in inflation or in the internal costs of the business itself.

These calculations allow an estimate of average revenue per kWh to be made, from which individual prices are developed.
The UK, without the US's long history of rate setting, has adopted a more cautious approach. This involves detailed examinations of each business to determine reasonable productivity paths unique to each business. The UK has also, in contrast to the US, set initial adjustments at the start of a subsequent period to reduce that period's opening price where, in the regulator's view, the previous price setting formula had been too generous.

3.5. Profit Sharing

An amalgam of the price and profit control is to re-base the price cap, perhaps annually, so that the controlled business passes back to customers, in price reductions, a portion of the profits above a certain threshold. Commonly the customer share beyond some specified level is 50%.

These rate controls have a history going back 150 years to English gas companies. Implicitly or explicitly, they have been the normal approach in the US price control of electricity where profit rate controls have not been applied.

3.6. Benchmarking

Data envelopment seeks to adjust each business's performance to best practice. Each firm's performance is adjusted by the different features of its supply base (customer type, density, topography, etc.) and this performance–effectively its total factor productivity–is gauged

[1] The X factor is updated in each year of the price set period to reflect each new year's data as it becomes available. Typically, data availability means the productivity represents that achieved in the period two years prior to the year that to which it applies.

against a best practice frontier. Alternatively, the same material can be assembled into a multiple regression with each firm measured against the adjusted average.

At least conceptually, these approaches allow individual business productivity measures to be set which offer the most efficient firms continued benefits, while penalizing the less efficient.

4. Existing Regulation of Victorian Distribution Businesses

Maximum tariffs were set for the 1995-2000 period on the basis that:

- each customer class has the same maximum rate across Victoria;
- initial network tariff could not be varied by more than 1.25 cents/kWh across each DBs service area;
- Each DB's average revenue during 1995-2000 is capped in each year by CPI-X with X set to reflect different costs of adjusted ODRC, current cost depreciation expenses and expected O&M costs and expected productivity gains. The X factor was set at 1% for Eastern and Powercor, 1.5% for Solaris and CitiPower, and 1.92% for United.

The interaction of these charges and the tariffs that were set for franchise customers without an ability to choose their own supplier gave rise to excess franchise profits. These totalled $632 million in 1995 values and were taken back by the Government as part of the sale process.

Transmission use of system charges were adjusted to create a cross subsidy to rural customers as follows:

TUOS Equalisation Adjustments, 1994/95 $'000

	Uncorrected TUOS	Equalisation Adjmnt	Corrected TUOS
CitiPower	21,070	5,920	26,990 (+28.1%)
Eastern Energy	17,640	(4,939)	12,701 (-28%)
Powercor	45, 270	(19,011)	26,259 (-42%)
Solaris Power	14,180	5,171	19,980 (+36.5%)
United Energy	26,540	12,859	39,450 (+48.5%)

Thus, based on replacement costs, the capital component of United's charges are 48.5 per cent above the optimised replacement value, while that of Powercor incorporates a 42 per cent under-recovery.

- Similarly, the write-up and -down of the distribution lines was made:

Asset Value Adjustments at Privatization (1994/95 values), $m

	ODRC Value	Adjustment	Adjustment %	Regulatory Value
CitiPower	482	129	26.7%	$611
Eastern Energy	1046	(218)	(20.8)%	$828
Powercor	1227	(161)	(13.1)%	$1066
Solaris Power	361	61	16.9%	$422
United Energy	743	136	18.3%	$879

Thus, CitiPower charges were set at 26.7% above costs, while those of Eastern were set 20.8% below costs. These subsidies were to be unwound over a period of 20 years.

The rebalancing adjustments in the Victorian market have created asset prices and line charges that are artificially high in some areas. This will create an increased vulnerability of by-pass in those areas that have had their charges increased.

Distribution price re-balancing can take place but is limited to an increase of 2% per annum for each tariff category. The businesses have taken advantage of these provisions to re-base their charges better to reflect costs. The ORG has some reservations about the efficiency of this re-balancing (Consultation Paper No 3, p. 12).

Cost allocations for unregulated services (like telecommunications and construction on behalf of others) must also be submitted to the ORG. These costs need to be disaggregated from those incurred on the regulated services, a process that will bring inevitable wrangles where costs are shared.

5. The Regulatory Approach

5.1. The ORG's legislative framework

The Office is required to adopt a post January 2001 price control that utilises "price based regulation adopting a CPI-X approach and not rate of return regulation." (5.10(a) of the Statement of Government Policy September 1995). The ORG must also use the Distribution Businesses' adjusted asset values in setting price determinations.

In its price setting procedures the ORG must have regard for the need to:
(i) provide each Distributor with incentives to operate efficiently;
(ii) ensure a fair sharing of the benefits achieved through efficiency gains between customers and the Distributors;
(iii) ensure appropriate incentives for capital expenditure and maintenance in the Distributor's Distribution Systems. (5.10(d)).

Also relevant is the *National Electricity Code,* which also requires distribution services to be regulated on the basis of 'CPI-X', or an 'incentive-based variant' of 'CPI-X' (clause 6.10.5(a)).

The provisions of both the *Tariff Order* and the *National Electricity Code* leave considerable latitude to the ORG. In this respect, the ORG in its third Consultation Paper states its overriding requirements is to apply "explicit price capping" and since that term is not specifically defined,

> *"the Office interprets the Tariff Order and the National Electricity Code as giving unequivocal support to incentive-based regulation. Within this overall framework, however, the Office recognises that there remains considerable flexibility about the detailed form of the price control to be adopted for distribution services."* (Consultation Paper No. 3 p. 2)

This has generated considerable controversy and is taken up in Sections 5.2 and 6.

5.2. The ORG Consultations

<u>Consultation Paper No. 1</u>
Consultation Paper No 1 of June 1998 was the first of three Consultation Papers the ORG has issued. It reaffirmed the intent to pursue a CPI-X approach and explained the balancing required to enable the process to operate in a way that gives adequate incentives to efficiency while preventing monopolistic exploitation.

It addressed the different benchmarking approaches. In doing so it dismissed the case for independent Total Factor Productivity benchmarks referenced against some external measure of industry or economy-wide productivity, although adding,

> *"Arguably, that outcome would be generally consistent with the operations of the competitive market which allows firms with lower costs than the marginal firm to earn above normal profits and punishes those firms with higher costs"* (p.46).

The ORG's reservations regarding this approach include:
- the licensees of well performing businesses keep too much of the benefit
- poor performing businesses may run into financial difficulties
- the difficulties of developing benchmarks that adequately account for each business's unique operating environment
- lack of data both on the licensees and the relevant external benchmark.

These reasons are not persuasive.

A well performing business in the market the ORG seeks to mimic would pass back profits in lower prices more slowly provided its performance could not be matched by competitors. These are precisely the outcomes the ORG should be seeking. And if a poorly performing business ran into financial difficulties it would be vulnerable to takeover (or its owners would sell it), again an outcome that should be welcomed.

Similarly, it would not be difficult to assemble sufficient data to develop industry wide benchmarks, that take into account different operating environments, perhaps drawing off the experiences in North America and the UK.

One difficulty with applying the Total Factor Productivity approach in 2001 that the ORG did not discuss is how to handle the abrupt upward productivity shift that has occurred in the industry post privatisation. Productivity levels in the years prior to 1995 might be totally irrelevant to the increases that have taken place since. In the US, these breaks in data (where regulation has moved from profit control to a more incentivised system) have been handled by "stretch factors" incorporated within the X-factor. A stretch factor is necessarily arbitrary and in Victoria might need to be quite substantial. It would detract from the automaticity of the Total Factor Productivity approach, which is one of its most valued facets.

In addressing what it designated as the other end of the spectrum, licensee specific benchmarks, Consultation Paper No. 1 argued that these will better track the performance and costs of each licensee and overcome the other deficiencies it sees with external benchmarking. It saw independent benchmarks as secondary measures for the present review, for which it prefers a building block approach that:
- establishes the original performance parameters of each business;
- assesses performance due to factors within management control (which will receive a longer reward period) and windfall factors (which will be passed to customers more quickly); these will allow an opening position to be established
- builds on this opening position with future service standards under a best practice basis and the necessary operating and capital expenditures to estimate revenue requirements;
- determines levels of X to deliver the revenue in net present value terms; these revenue requirements are then translated into specific tariff levels.

There are substantial informational demands of this approach. Some of the information will not be available. Moreover, since the approach requires material that is normally closely guarded within businesses, there are considerable risks that the information supplied will be distorted, or that the regulator, anticipating this informational distortion, will make inadequately informed adjustments to the data supplied. These risks are magnified where, as appears to be the case, the regulated entities and the regulator are at serious odds over the allocation of gains over and above those anticipated in 1994 and over the method of determining future price levels.

In addition to the risks of poor determinations being made, the decision making framework is already showing a strong appetite for regulatory/lobbying resources which must be considered largely dead-weight waste.

Consultation Paper No 2

Consultation Paper No 2 amplified some of the matters outlined in Information Paper No 1, in particular the disaggregation of windfall from management induced gains. This is envisaged to be the prime determinant of the phase-in period for the transfer of gains to customers through lower prices.

Recognising the difficulties of classifying the source of cost savings, the Office has stated an intention to place a prima facie judgement that the different aspects are either windfall or management initiated. In this regard it indicated its disposition to treat the different components as follows:

Higher than expected market growth	Windfall
O&M Savings	Management
Capital Expenditure	Windfall
Cost of capital	Windfall

Where the prima facie judgement is that the gains are windfall gains, the onus is on each regulated business to demonstrate the contrary. However, even in the one case where the prima facie judgement is that the gains are management initiated the paper indicates that the matter will be thoroughly scrutinised when it states (p. 25):

> *The Office will need to ensure, however, that such an assumption is reasonable in the context of each licensee and to be satisfied that reductions in operating and maintenance expenditure will not contribute to declining service standards in future. The Office is currently initiating a series of asset management audits to ensure, among other things, that the expenditure programs proposed by the licensees are consistent with current and future service standards. It is also initiating a cost-driver study in co-operation with the distribution licensees which will give important insights into the condition of the networks and the estimated impact of proposed and actual maintenance and capital expenditure on the future performance of the networks.*

Consultation Paper No. 3

In Consultation Paper No. 3, the ORG explores price controls based on the *National Electricity Code* which requires distribution services to be regulated on the basis of 'CPI-X', or an 'incentive-based variant' of 'CPI-X' (clause 6.10.5(a)). The Code explicitly permits various forms of price regulation under clause 6.10.5(b), which states that:

> 'the *Jurisdictional Regulator* shall specify the form of economic regulation to be applied to the *Distribution Network Service Provider* to be in the form of either:
> (1) a *revenue cap*; or
> (2) a weighted average *price cap*; or
> (3) a combination of the above.'

The ORG is attracted to a hybrid approach. It argues that the present revenue yield approach may encourage retailers to make sales "below economically efficient levels, in order to increase their overall profitability." (p.11). It further maintains that this bias is greater in Victoria because of the common ownership of distribution and retailing, and, incongruously in view of its concerns to avoid excessive prices, raises the issue of underpricing and predatory behaviour.

These concerns sit uneasily with the separation of retailing and distribution within each business and the considerable shift of contestable customers from their host retailer. In view of the fierce competition for retail customers, should a business be using its distribution arm to favour its retail business, the ORG would have received complaints to that effect. No evidence of such complaints is referred to by the ORG.

The ORG is also concerned that the revenue yield approach will create an incentive to avoid demand management measures. This concern seems misplaced in view of the incentive that competitive retailing has to seek out the lowest cost solutions for customers in order to win and maintain sales.

The ORG also addresses a pure revenue cap, even though this is not favoured by the Code. Although attractive to those wishing to see lower sales of electricity and a strong bias towards demand management, revenue capping brings considerable distortions. In particular, it offers no incentive for a monopoly distributor to seek out increased sales volume and would prove inimical to consumer welfare by encouraging distributors to concentrate only on the most profitable market segments.

5.3. Profit Sharing

Of all the approaches in common use, earning sharing mechanisms are notably absent from the ORG's canvas. Sharing mechanisms offer an incentive to efficiency on the part of the supplier, albeit a reduced incentive to one where the supplier retains all the gains. At the same time they offer insurance that if the productivity gains are greater than the regulator estimated was likely and reasonable, the customers automatically benefit. As such mechanisms should apply symmetrically, they also offer some insurance to the supplier by muting the effects of an over-ambitious setting of the X-factor.

One of the reasons cited against sharing mechanisms, that they will cause management to focus on beating the system rather than maximising productivity gains, is equally applicable to the form of CPI-X that the ORG favours.

6. Addressing the Different Approaches

6.1. Deficiencies in the Regulated Approach

Even the best incentives based regime cannot match the positive and negative incentives that automatically flow from a competitive market based on private (as opposed to government) shareholders. There is, for example, no direct penalty for inefficiency - inefficiency may bring loss of profits which may eventually make the firm vulnerable to takeover or restructuring by its parent, but discovery of inefficiency may take the regulator some time.

In addition, there is a need to prevent the regulatory costs assuming a prominence of themselves and the regulatory procedures bringing distortions to commercial operations. This is made even more complicated by the shared facilities and economies of scope where non-regulated outputs form part of the businesses (e.g. telecommunications and gas sales).

The regulated approach's basic premise of monopoly provision may also prove self-fulfilling. Where the regulator determines price levels that are below the cost of new entry, competition will be pre-empted.

There is a consensus that regulation is inferior to competition as a means to generating efficiency. Where a regulatory approach is favoured it is because natural monopoly is deemed inevitable. The tension in regulatory decisions is on the one hand to provide incentives to suppliers to seek out cost reductions and better allocation of goods and services between the different customer and market classes. And on the other hand to ensure that the benefits of the economies thus generated flow back to consumers. This tension is underpinned by a recognition that denial of profit gains will mean inefficiency, and a strong awareness of the dangers of regulatory inconsistency in increasing business risk and hence costs.

Regulation can be extremely destructive if the regulator seeks to apply some economic concepts inappropriately. In this respect, calls for price setting based on marginal costs are common in Australia. Marginal cost pricing is a common strategy to ensure a firm's survival in a period of excess supply or as a means for tapping some additional demand that can be isolated from mainline customers. It cannot be used to set price caps. Such price setting represents profit confiscation–the regulator either misunderstands the operations of private enterprise or is playing to a populist gallery. Whilst its initial effects are likely to be confined to the lower profits of the suppliers, over the longer term it will reduce the capacity of the network efficiently to meet consumer needs.

6.2. The Regulatory Compact

Much of the regulatory literature over recent decades has, inspired by the work of Stigler[2], featured the notion of regulatory capture by the regulated entities. Yet, in more recent years at least, the risk has been in the opposite direction with the regulatory authorities engaging in what Shuttleworth[3] has called "regulatory opportunism" to reduce prices.

Regulatory opportunism tends to bring a bias in favour of insufficient rather than excessive supplier returns because the most important constituency for the regulator is the government and public opinion. Generally, a regulator's decision will be more welcome to consumers the lower the price levels they bring. Although setting a price that is too low will rebound on the system's development and eventually on the existing network's reliability, a self-interested regulator's time horizon will place a lower priority on the longer term. By contrast, a business accountable to private shareholders has a combination of capital maintenance and current income as the focus of its self-interest.

Recently the IPA Energy Forum hosted briefing from Dr Stephen Littlechild, formerly the UK electricity regulator. Dr Littlechild, who also gave extensive briefings to the staff at the ORG, explained the pragmatic approach that regulators must adopt in balancing the need to incentivise the regulated businesses while ensuring that the consumer is not seen to be exploited by businesses able to collect high profits.

In this respect, he was mindful of the re-opening of the England and Wales regulated tariffs after the 1994 price setting. In the initial year of the new tariff settings, the UK distribution rates were cut by between 11 and 17 per cent and an X factor established at 2 per cent per annum. A readjustment was sparked by public criticism that these measures offered excessive gains to the regulated businesses, evidence for which was provided by a steep rise in their market values. The tariff levels were subsequently adjusted down by a further 9 per cent compared to the rates set only some six months previously and a 3 per cent X factor was imposed.

Dr Littlechild stressed that although regulators are intended to be independent of Government, they cannot be oblivious to the same pressures that impact upon Government in determining the *just price*. He noted that the UK 1994/5 price setting experience would have impacted upon the regulatory psyche in Australia. Perhaps as a result, both the Government and the regulator might have been required to provide more specific assurances about future price paths than they would have preferred.

---

[2] Stigler, G.J. *The Economic Theory of Regulation*, Bell Journal of Economics, Spring 1971.

[3] Shuttleworth G, *Updating Price Controls: Rationale and Practicalities*, a report to the ORG, June 1998

Assurances of this nature include those said to have been given by the previous Regulator-General about his intention not to utilise an immediate claw back approach profits earned above expected levels (the "P0 approach") but instead to operate the "roof truss" whereby the claw back would take place *over the course of* the succeeding regulatory period. Assurances like this cannot be revoked without causing considerable tension to the entire regulatory compact.

Regulatory decisions create distortions even in the US where there is considerable experience in them and an ethos antagonistic to regulatory opportunism. Spiwak[4] notes that since the forced disagreggation of US generation and transmission, the amount of new transmission building has halved. He attributes this to the greater risk required of transmission that is not integrated, the requirement for common carriage with a fixed price, and regulated charges based on marginal rather than total costs.

The ORG's claim in Consultation Paper 3 that "explicit price capping" as a regulatory approach is ill-defined and cannot be a criteria against which it will determine future price paths has drawn considerable criticism. Victorian distributors' submissions all suggest to a greater or lesser degree that abandoning this approach breaks the regulatory compact made at the time of sale. The criticism represents fears, stemming from all three Consultation Papers, that the ORG will use its discretion to engage in forms of profit expropriation.

The concerns about a departure from a price capping approach are valid if the ORG's claimed flexibility extends to a de facto use of profit control or rate of return regulation. The degeneration of price capping approaches to forms of profit control has long been observed. This regression to profit control is seen especially where the regulator must use considerable judgement in setting future X factors. The risks of this are particularly acute where there is no readily available external productivity measure on which the future paths can be set. If paths are set for each business based on forecasts of their own individual costs, the businesses will adjust their behaviour accordingly. These adjustments will take the form of deviations from the most efficient expenditures and concealing their intended expenditures to gain from the price determinations.

These risks were identified by IPART:

> *Depending on how far this (cost based or building block) approach is pursued, however, the requirement for detailed company information, analysis and judgements about managerial competence can make incentive regulation seem more like cost plus regulation, albeit with a longer control period*[5].

Referring specifically to the approach indicated by the ORG, Dan Fessler, the former Chairman of the Californian Public Utilities Commission, argues that the ORG proposals are rate of return rather than incentive based. Mr Fessler says:

> *The only pragmatic difference between the …. proposal and the regime which stifled efficiency incentives in the management of California's investor owned energy utilities is an application of projected cost-derived rates for five rather than three years.*

Even so, there is merit in the ORG view that data on total factor productivity is not at this time sufficiently available to set industry-wide prices over the next five years. The immediate task is to set the prices in the current review without creating distortions, avoiding imposing a high (and ultimately unreliable) paperburden on the regulated businesses, and

[4] Spiwak L.J., *You Say ISO, I Say Transco - Let's Call the Whole Thing Off,* Phoenix Center Policy Paper No. 4, Washington Jan 1999, www.phoenix-center.org

[5] Independent Pricing And Regulatory Tribunal Of New South Wales, *Regulation of electricity network service providers: Incentives and Principles for Regulation,* Discussion Paper DP32 January 1999 (p.4)

maintaining the Government's obligations and previous assurances to the those who have bought its interests in the industry.

6.3. Incentive Regulation Through Profit Sharing Approaches

The ORG has expressed a clear view that incentive regulation based on the CPI-X approach basing the X factor on some external measure of productivity is not feasible at this time.

As discussed in Sections 3.4 and 5.7, one deviation from a pure price capping approach, profit sharing, may carry considerable merit in offering strong incentive for business efficiency while guaranteeing consumer gains.

A profit sharing CPI-X hybrid could readily be developed. As the productivity measure is set only on the regulated part of the business, the regulator will already require each business to segment its operations and assets into two streams: regulated and unregulated. This need to continue monitoring firms with mixed regulated and non-regulated businesses is a major deficiency of profit sharing compared with a pure price cap based on an industry wide measure of total factor productivity.

The hybrid CPI-X / profit sharing approach might be established so that a given threshold of productivity gain each year beyond the level set by the X-Factor is retained by the business and 50 per cent of any remaining increase is passed back to customers in lower prices. The cumulative impact of the profit pass back could form the basis of the subsequent period's initial price level.

This approach would offer an improved matching of outcomes to that which automatically occurs where there is no natural monopoly. Firms that make high profits by dint of their superior management will normally release these gradually to their customers in terms of lower prices. They will recognise that their improved methods can be replicated by rivals, who will take market share off them unless they pass on their gains to customers. At the same time they will seek to take advantage of some inertia on the part of their customers to reward their shareholders, in the absence of which the motivation for seeking improvements would be seriously reduced.

Profit sharing also is likely to more closely track outcomes that will develop in the competitive market for electricity distribution that is emerging. This is evidenced in the protracted review that the ORG is undertaking into the application by Powercor to distribute electricity in CitiPower's dockland area. The ability of businesses to seize markets presently served by a rival business, or of users to by-pass their host distributor, will force profit sharing and supplement regulatory measures in this direction. Of course, this could be frustrated by unwise decisions by regulators seeking to maintain controls where such competition renders them unnecessary.

6.4. Differing Treatment of Gains

The treatment of deviations from the forecast changes to productivity during the period is the other major factor in determining the prices in the period under review. There are two aspects of this: cost savings made which reflect an understatement of likely gains at the first price setting in 1995; and unanticipated gains made in the subsequent years.

The ORG has created considerable animosity with its intent to segregate profit gains into those that are management initiated and those that are windfalls. If windfall gains are to be removed at the initial price determination, rather than following a "glide path" reduction over the course of the subsequent review, businesses would lose (and customers would obtain) half of the gains.

<u>Adjusting the Starting Point of the First Regulatory Period</u>

Though there is no public information to suggest that the Government was conservative in setting X-factors in 1995, there are grounds for regarding them to be too low. X-factors were set at 1-1.92% per annum at a time when the UK regulator had decided upon a large initial price reduction and a 3% X-factor. In addition, the reforms prior to sale had not, in the case of the distribution businesses, included a major reduction in staffing–and the businesses, particularly those parts formerly owned by the municipalities, were known to be featherbedded. All the businesses have since moved to reduce overstaffing and/or increase outsourcing.

The 1995-2001 regulatory regime also has a tariff reduction program for franchised customers. This included a 2% real reduction for households in 1996 and 1% per year for the following years. For small and medium franchised customers, the reductions were greater (10% in 1995, 5% in 1996 and 1997, and 1% in each of the three subsequent years). However these reductions followed a large price increase in 1994 and have been accompanied by a reduction, approaching one third, in the cost of energy (accounting for about half of total costs). The estimated effects of the benefit from higher prices to captive customers in the 1995-2000 period formed part of the privatisation proceeds, as franchise fees, realised by the Government.

The most persuasive case for a one off reduction is that experience of private ownership has revealed far greater cost saving potential than ostensibly anticipated in 1995. Also credible is a view that the cost of capital has changed markedly and warrants a one off step change.

In both cases, merits of the stepped (P0) price adjustment need to be measured against expectations at the time of privatisation. These are discussed below. In the case of adjustments for a "permanent" change in the cost of capital, a further consideration is whether the regulator could convincingly maintain that he would act in a symmetrical manner if capital costs rise. `

Windfalls versus Management Initiated Cuts in Costs

Although it is conceptually clear that those profit changes caused by factors outside of the control of management will not have an effect on incentives, there are two reasons why in practice they might.

The first is the nature of the regulatory compact. If firms had been led to believe that a portion of all gains made in the first controlled period would be carried forward into the next and if their expectation was that most of the gains would be upside, disturbing those expectations would erode confidence in the regulator's integrity. Such an erosion of confidence would result in higher future risks and would be accompanied by increased costs. A recent McKinsey report made the following points:

> *Regulators enjoy considerable discretion in determining prices for a forthcoming control period, so the outcome of the review is not easy to predict. Uncertainty produces what the market perceives as regulatory risk*
> *This market perception must explain at least some of the increased cost of equity under the UK system. The beta (a measure of risk) for UK utilities is around 0.9, whereas the corresponding figure for US utilities is around 0.5 when adjusted for similar levels of debt. Thus the real allowed return in the United Kingdom must typically be more than 1 percent higher than the return in the United States. The cost to the United Kingdom's economy is between $2 billion and $3 billion a year in higher utility charges*[6]

Similar cost implications[7] have been drawn to the attention of the ORG by the Australian finance industry. The industry had formed a view that there was to be no differentiation between windfall and other gains and that the "roof truss" was to apply generally.

---

[6] Richard Dobbs and Matthew Elson , *The McKinsey Quarterly*, 1999 Number 1, pp. 133—144.

[7] Letter to the ORG from SG Warburg's http://www.reggen.vic.gov.au/docs/electric/sghcon2.pdf

In any event, there is no clear division between windfall and management initiated gains. Productivity gains are rarely achieved without management initiative. The complexities in obtaining productivity gains are exemplified by the manning reductions that have been brought about. Although there was clear evidence of over-manning, downsizing of a highly unionised workforce is not an inevitability. The Patrick's dispute with the Maritime Union of Australia demonstrates how a well organised union dominated labour force can prevent management action to redress even the most blatant overstaffing. Difficulties in taking on a determined union were major considerations in the Government not embarking on the task itself prior to privatisation. In implementing staff reductions in electricity distribution, two of the businesses faced some protracted labour disputes.

Nonetheless, in a situation where a previously inefficient government monopoly is privatised and subjected to truly commercial management there are considerable risks that the regulator may be over-generous in setting price caps. Again, profit sharing offers a possible solution.

Professor Cave, who was commissioned to advise the ORG on this matter argued strongly against assuming that there exists an easily recognised dichotomy between windfall and management initiated gains. Even in the case of the cost of capital, firms have hedging instruments available and their skill in using these will be an important adjunct to what might readily be classified as a windfall change.

A matter of key significance in these respects is how the regulatory compact stood at the time of privatisation. In contrast to the UK, where the electricity businesses sold at a discount to book values, in Victoria the electricity assets sold at a 100 per cent premium to their book values. It is likely therefore that the Government obtained a very large share of any surplus profits stemming from the quasi monopolies that the distribution businesses hold. This is evidence of the expectations highlighted in the previously quoted letter from S.G Warburg.

The full extent of assurances about treatment of this issue prior to the sale process is not in the public domain, but if such assurances were given it would raise considerable issues of sovereign risk should a Government agency now seek to renege on them. Letters from the Treasurer and the Treasury's Energy Policy Division have not confirmed that there were assurances given that a windfall/management initiated dichotomy would not be applied. However, EPD's letter to the ORG of 17 March 1999 says:

The main issue of interest to EPD in this regard is the Office's approach to controllable and windfall profits. The glide path approach should always be a partial glide path in so far as gains and losses that are clearly not the result of actions by the business should not carry forward to the subsequent period. A clear example of such an exogenous gain or loss is a variation in the risk free rate in the CAPM formula used to determine a business's rate of return.

However, the approach outlined by ORG in paper no 2 appears to suggest a more detailed approach which, if pursued, would increase the risk that efficiency incentives faced by the businesses could be substantially compromised. For example, drawing a distinction between the treatment of operating and maintenance costs and capital expenditure efficiencies as proposed by the ORG could lead to distortions arising between capital expenditures and O&M expenditures, more intense gaming of expenditure classifications and less efficient long term consumer outcomes. Uncertainty over whether the ORG will classify an investment as giving rise to an exogenous or endogenous gain (thus affecting the returns of the particular investment) may produce a disincentive to invest by the businesses.

Professor Cave's paper concludes that it is not straightforward to classify variations in performance as being attributable to either controllable or uncontrollable factors, and that erring on the side of caution in identifying factors as uncontrollable is warranted in the interests of maintaining incentives for efficiency. Professor Cave also comments on the allocation of risk for uncontrollable price movements and notes that licensees are best placed to bear the consequences of random shocks unrelated to the business cycle.

This seems to suggest that the Government's understanding of assurances it offered confined windfall gains that might be subject to a P0 correction to changes in the cost of capital. Professor Cave comes down on the side of regarding changes in the cost of capital as windfall gains. However he does so guardedly and counsels that there are offsetting factors in terms of business response to exogenous changes in the cost of capital that should be taken into consideration.