Input Methodologies

Expert Review of the New Zealand Commerce Commission's Draft Decisions and Reasons for Electricity Distribution Services and Gas Pipeline Services

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Input Methodologies Electricity Distribution Services Draft Reasons Paper and Gas Pipeline Services Draft Reasons Paper

My name is Michael Pollitt. I am a University Reader in Business Economics at the Judge Business School, University of Cambridge. I am also an Assistant Director of the ESRC[1] Electricity Policy Research Group (EPRG). Since 2007 I have been external economic advisor to Ofgem, where I have recently been working on the RPI-X@20 review of network regulation project, Project Discovery, the fifth Distribution Price Control Review and the Transmission Access Review, among other projects. I have also advised national energy regulators in The Netherlands, France, Germany and Austria as well as the UK Competition Commission, The World Bank and the UK rail regulator. This statement has been prepared under the conditions described in the High Court's Code of Conduct for Expert Witnesses, which I have read and by which I agree to be bound.

I have been asked to review various aspects of the two *Draft Reasons Papers* discussed below.[2] In what follows I refer to the Electricity Distribution Services Draft Reasons paper as EDSDR and the Gas Pipeline Services Draft Reasons paper as GPSDR.

Comments on the Commission's overall approach

In general I am in agreement with the Commission's approach to the task that it has been set. I think that the draft Input Methodologies that are discussed are sensible and consistent. Indeed the Commission has pleasingly made good use of its Expert Panel's Report - **Asset Valuation in Workably Competitive Markets**[3]**.** In my view the work done in relation to a definition of workable competition is very helpful in clarifying what I have found to be a rather ill-defined concept in the context of natural monopolies. The Commission's approach clearly reflects the Expert Panel's (p. 29) view that:

'Like long-term contracting, RAB-based regulation, as conventionally applied, has the effect of protecting investors against risks that are similar to some of the risks that can confront firms in workably competitive markets characterised by durable, sunk assets (buyer/regulatory opportunism, high downside exposures on sunk investments). There is, therefore, a distinct similarity (of this type of regulation) with a key feature of a workably competitive market in which long-term contracts are a major form of supply relationship. Indeed, regulation itself is often analysed as a type of (highly) incomplete contract between investors and consumers.'

There are a number of features to the Commission's approach which I would want to highlight as good practice.

First, it is sensible to adopt a building block approach to Customised Price Path (CPP) determinations. A building block approach can ensure that allowed revenues are justified in relation to requirement to cover efficient economic costs.

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[1] Economic and Social Research Council [of the UK].

[2] Given the similarity of the documents to the Input Methodologies Airport Services Draft Reasons Paper certain of my earlier comments are repeated (see, Michael Pollitt, *Input Methodologies Expert Review of the New Zealand Commerce Commission's Draft Decisions and Reasons for Specified Airport Services*, June 2010).

[3] Yarrow, G., Cave, M., Pollitt, M. and Small, J., *Asset Valuation in Workably Competitive Markets - A Report to the New Zealand Commerce Commission***,** 31 May 2010.

Second, the introduction of a rolling incentive mechanism (or Incremental Rolling Incentive Scheme - IRIS) to avoid distortions in the strength of the incentive across a price control period is important. The absence of such a mechanism skews cost reduction initiatives to the early years of the price control (and raises certain input costs if all regulated companies are incentivised to make investments in the same year) and results in declining incentive power as the end of the price control period approaches.

Third, the indexation of the regulatory asset base (RAB) by the consumer price index (CPI) is a pragmatic approach to updating the regulatory asset base which is consistent with lowering the cost of finance for regulated businesses. Such indexation offers investors the prospect of a fixed real rate of return and is very attractive to the capital markets.

Fourth, the use of materiality thresholds to determine the extent to which unregulated businesses use of regulated assets should be taken into account in setting prices for regulated services is sensible. The Commission's proposed way of doing this strikes a sensible balance between promoting competition in unregulated services (as mentioned in 2.8.1a, EDSDR and GDPDR) and ensuring fair compensation for the use of assets that regulated customers have paid for.

There are, however, a number of issues which I would have liked to have seen addressed more clearly in the documents.

A somewhat surprising aspect of the Draft Reasons papers is that they do not discuss the output measures with which the input costs are associated and how the overall regulated revenue of the regulated companies relates to the volume of output they are producing. Electricity distribution businesses (EDBs) and gas pipeline businesses (GPBs) are providing services to customers at a particular set of prices. Customer service standards can legitimately vary (e.g. the number of customer minutes lost per year in electricity or the degree of undergrounding to avoid visual amenity losses). There is no explicit discussion of this in the Draft Reasons paper (though I realise quality is dealt with under information disclosure).

Comparing the Draft Reasons papers for Electricity Distribution Services, Gas Pipeline Businesses and Certain Airport Services, there are some unexplained differences between the approaches. Indeed the documents do not cross-reference each other. In particular the approaches to the establishment of an initial RAB and to taxation differ. This is rather untidy and unsatisfactory given that the industries are regulated by the same regulator. While I think the different approaches can be justified in each case, there should be an explanation of why it is thought desirable to have different approaches. I will refer to the differing regulatory tax treatment below.

There is also a general issue with the difference between the treatment of DPPs and CPPs. The legitimate desire to keep the Default Price Paths (DPPs) less costly to the companies, seems to open up a significant number of circumstances under which companies would be expected to apply for a CPP (e.g. a request for non-straight line depreciation schedules, or trigger events for GPBs or desire for an IRIS). It was not clear in the documents the extent to which companies were likely to take up the CPP option and hence to give rise to CPP determinations, of which the Commission can process four per year.

The terms of reference I have been given asks me to focus on assessing the following three issues for both documents which appear in chapters 3 (cost allocation), 4 (valuation of the regulatory asset base) and 5 (regulatory tax). I look at each of these in turn, before offering some comments on the later chapters.

Cost Allocation (Chapter 3)

I strongly agree with the Commission's position on the current anomalies of the Avoidable Cost Allocation Methodology (ACAM) approach in 3.2.8 and 3.2.10 of EDSDR and GPSDR. It is clearly not sensible that EDB and GPB customers could see their payments for regulated services change as a result of a change in the current payment arrangements for an unregulated service. If such a change occurred it would seem to be a violation of the economic principle of 'independence of irrelevant alternatives' where the efficient outcomes in one sector would be affected by what changes *within* another sector.

In 3.2.70 of EDSDR the Commission states that *'In summary, the Commission considers that Part 4 allows the efficiency gains associated with supplying both regulated and unregulated services to be shared with consumers of the electricity distribution services. The same applies to costs associated with more than one regulated service. Similarly, where efficiencies arise through new mergers with regulated services these should be shared with consumers of the electricity distribution services in the long-term, although in the short-term suppliers may retain some of these efficiencies.'*

I very much agree with this approach (and that in 3.2.71 of GPSDR) and the further statements in 3.2.36 and 3.2.64 of EDSDR (and in 3.2.36 and 3.2.64 of GPSDR). Clearly a balance has to be struck by the need to encourage EDBs and GPBs to seek new uses of their existing assets and the fact that under workable competition scope economies and merger benefits will eventually be passed on to consumers. This is particularly true when the scope economies and merger benefits are generic in the sense that all firms of a particular type can be expected to have the option to benefit from them. The particular example of broadband telephone service would be expected to be in that category.

There is an interesting discussion (in 3.2.73 – 3.2.75 of EDSDR and 3.2.74-3.2.76 of GPSDR) of whether Ramsey pricing principles imply that little or none of the fixed cost of EDBs and GPBs should be charged to broadband telephone services. Partly this hangs on the relative elasticities and the percentage of costs of broadband service represented by pole/pipe rental. While it would seem to be true in aggregate that demand for broadband service is more elastic than demand for energy services, it is by no means clear that this will be true in the long run (which is when Fully Distributed Cost (FDC) charging might actually be expected to apply) given that broadband is on the way to becoming an essential service and that households might increasingly have the option to be self-sufficient in energy due to micro-generation. Given that pole/pipe rental is likely to be a small percentage of the final cost of broadband, the price elasticity of demand for broadband with respect to the pole/pipe rental charge might be similar or lower than price elasticity of demand for energy services with respect to pole/pipe charges (which are likely to be a larger percentage of the final cost). The extent to which both these observations is correct implies that even under Ramsey pricing broadband service should be charged - at least in the medium run - for the use of EDB and GPB assets.

The Commission introduces Cost Allocation Materiality Screening Criteria (CAMSC). The principle of having a set of criteria is very sensible. The Commission has also taken a pragmatic approach to incentivising businesses to reveal relevant information and has started from the view that the criteria should imply that the costs are allocated to unregulated businesses in circumstances where there can be expected to be a material benefit to regulated customers (at least 1% lower price). Another way of approaching the issue would have been to introduce absolute size thresholds and it might have been useful to discuss this as an alternative given that transaction costs of compliance are cited as an issue. Clearly, as with all thresholds there exist threshold effects and the Commission might want to actively encourage regulated businesses to be employing sensible cost allocation rules even when short of the threshold levels. The approach to verification of the cost allocation employed in 3.4.47 of EDSDR and GPSDR is important and sensible.

Chapter 4 (valuation of the regulatory asset base)

Section 4.2 of EDSDR and GPSDR draws heavily on the report of the Expert Panel and I strongly support the Commission's general approach to this issue.

The fundamental issue in determining the opening RAB is the need to avoid arbitrarily changing a pre-existing valuation. Indeed regulatory regimes the world over are concerned to avoid precisely this sort of arbitrary change to RABs. In developing countries the concern is often to avoid arbitrary write downs, but in some developed countries there is (occasionally) the risk of arbitrary write ups.

It seems to me that the Commission is right to start by using the pre-existing RABs for both EDBs and GPBs. Indeed to do anything else would be to undermine the Input Methodologies regime right from the start. A revaluation upwards would clearly not be in the interest of consumers, while a revaluation downwards would not be in the interest of the regulated companies. Independent regulation should strike this balance and importantly see itself as doing this in spite of changes to the details of the regulatory regime. In the end what matters for long lived investment in any given country's regulated sectors is *the sustainability of the protection of investors' capital*. Any independently minded investor reading the Commission's careful discussion of this issue would be reassured that there was a commitment to Financial Capital Maintenance (FCM) in the electricity distribution and gas pipeline sectors.

In addition, it is important to state that any regulatory regime does, in an important sense, start from here. Given FCM of existing capital, the important thing for future investment is the arrangements for new capital investment. Even developing countries can introduce more credible regulatory regimes than previously and attract investment. The Commission's approach to updating the RAB by CPI and incorporating the actual cost of new capital investments is sensible and reflects successful practice in the UK and elsewhere.

Viewed this way the Commission's approach to updating the RAB in 4.3.1-4.3.5 of EDSDR and GDSDR is sensible. Obvious past mistakes (which were expected to be corrected at some point) should be corrected but statements about potential revaluations made prior to game-changing legislative decisions (such as represented by the 2008 Commerce Act) cannot be deemed to be binding.

In 4.3.42 of EDSDR the Commission states that *'In response to a request from the Chair of the Commission at the Energy Workshop that submitters identify the detriment they have/would suffer from the Commission's decision not to undertake new ODVs in 2008 or 2009,no submitter has identified any to date. Although there have been some general* *submissions that not undertaking a new ODV would harm investment, no evidence has been provided that investment decisions have been detrimentally affected as a result.'*

This is a rather telling illustration, suggesting that there is no evidence that the current RABs (for electricity distribution at least) on which the Commission plans to base future RABs are deficient in any sense recognised by Part 4. As noted in 4.3.45 of EDSDR there is nothing to be gained by a new valuation of the RAB. A parallel discussion in GDSDR (notably in 4.4.29) focuses on a similar point about the lack of a need to change the RAB.

The Commission proposes a number of non-fundamental adjustments to the 2009 RAB values. It is not clear the extent to which these are actually necessary. One would have to be clear that FCM was actually being threatened if they were not implemented. In general, only identified failings in previous valuations (to maintain FCM) *need* to be corrected for the purposes of reassuring future investors. Basically I would want to know how large the total of these adjustments is likely to be for any regulated company before coming to a view of whether they were reasonable adjustments to allow for.

In 4.4.1 and following of EDSDR the Commission makes sensible proposals for works under construction; intangible assets; revaluations and changes in the asset base; treatment of additions and disposals; treatment of asset transfers; lost and found assets; vested assets; easements; cost allocation adjustment; and for depreciation and related matters. My only question here is whether the fact that non-standard depreciation is not being accommodated under DPP may give rise to a large number of companies opting for a CPP. In general, it would seem sensible to avoid letting rather straightforward matters be grounds for a CPP.

Chapter 5 (regulatory tax)

The Commission makes the case for the tax expense approach in 5.3.9 of the Input Methodologies Airport Services Draft Reasons Paper:
'The Commission notes that the tax expense approach is slightly simpler than a tax payable approach to implement, as it does not require information about the regulatory tax asset value to be maintained separately from information on the RAB. However, the Commission does not consider that this benefit is sufficient to outweigh the fact that the tax expense approach is not consistent with effectively monitoring whether regulated suppliers are being limited to an expectation of earning a normal return. This is because the tax expense approach is not equivalent in present value terms to a tax payable approach, and the tax payable better reflects the actual tax costs faced by a regulated supplier.'

Whereas in 5.3.5 of EDSDR (and a similar statement in 5.3.6 of GDSDR) the Commission states:
'A 'modified' deferred tax approach is therefore a potentially appropriate treatment of taxation to apply to the regulation of electricity distribution services because it is consistent with suppliers expecting to earn a normal rate of return over time. When compared to the other main NPV-neutral approach—i.e. the tax payable approach implemented under the existing information disclosure regime for EDBs (discussed further below)—the modified deferred tax approach results in greater up-front cash flows for suppliers in respect of new investments. This is considered to be an appropriate approach for EDBs, as it would be expected to improve the financeability of investments for EDBs subject to default/customised regulation consistent with s 52A(1)(a), while ensuring that—under information disclosure regulation—

interested persons are able to assess whether EDBs are limited in their ability to extract excessive profits, consistent with s 52A(1)(d). One such modified deferred tax approach, developed by PwC, is supported by a number of EDBs.'

In 5.3.16 of EDSDR (and similarly in 5.3.19 of GDSDR) the Commission states its reasons for choosing a different approach (without referring to its earlier statements about airports): *'On balance, however, the Commission considers that, despite a number of drawbacks with the modified deferred tax approach, it is, like the tax payable approach, an appropriate approach under Part 4. Given its strong support by the industry, the Commission's draft decision is to change the existing tax payable approach for EDBs to a modified deferred tax approach. The Commission stresses that this concession to the submissions of the EDBs is based on regulated suppliers meeting the deferred tax obligation to consumers where the deferred tax balance is a liability. The Commission would consider any future submission that argued for a deferred tax balance which was a liability to be written-off would be a breach of good faith, if the party concerned had argued for the tax deferred approach.'*

There is clearly some inconsistency in the Commission's approach to airports and to EDBs and GPBs (except the gas pipeline business, MDL, who are allowed a tax payable approach). It is clearly not desirable (nor is it even commented on) that the same regulator should be undertaking a different approach to taxation in closely related industries that it regulates. The Commission clearly thinks that the tax payable approach is to be preferred and it only seems to have conceded to another approach under pressure from industry. Both approaches may be NPV-neutral, but (many) customers have very high discount rates and it is not clear what the basis for improving the cash flow of well financed regulated businesses is (if that is the impact). Such an improvement in the cash flow of regulated businesses is at the expense of poor residential electricity and gas customers and struggling non-regulated businesses. I regard the Commission's reasoning as rather weak here. Nor do I see why different GPBs should be allowed different tax treatments.

The Commission's approach to the treatment of tax losses in the wider tax group; the tax treatment of acquisitions; establishing the initial regulatory tax asset value; and establishing the initial deferred tax balance are quite sensible. In particular they quite properly seek to avoid distortions in economically efficient decision making arising from tax efficiency decisions of the regulated businesses or their holding companies.

Consistency of Chapter 6 (Cost of capital) with Chapters 3-5

The Commission has asked me to consider whether the approach adopted in chapters 3, 4 and 5 are consistent with the Commission's approach to estimating the cost of capital in chapter 6. This is straightforwardly the case.

Cost allocation rules (chapter 3) have little to do with the allowed cost of capital per se. If the allowed cost of capital is sufficient (which it appears to be) then costs can be allocated between different activities as suggested in chapter 3.

Even more clearly, the valuation of the regulatory asset base (chapter 4) has little to do with the cost of capital itself. The Commission's suggested approach is to make use of existing opening asset values and incremental net additions. The only possible area of inconsistency is in the treatment of assets under construction, where companies should use an interest rate consistent with the cost of capital calculated in chapter 6.

On regulatory tax, the Commission has made stand alone arguments for NPV-neutral approaches to tax which are independent on the cost of capital calculation.

I therefore conclude that there is no evidence of inconsistency of approach between chapter 6 and chapters 3-5.

Some further comments

<u>Pass-Through costs (8.4.6 in EDSDR and 8.4.5 in GDSDR)</u>

In general there should be incentives to save on pass through costs. In workably competitive markets there is no such thing as straight pass-through of costs. Suppliers should always be under an obligation to purchase as cheaply as possible and to turn up to decisions about significant elements of their cost base (like meetings of local councils). A sensible approach is to have 90-99% pass-through and 1-10% fixed.

<u>Catastrophic events (8.6.18 in EDSDR and GDSDR)</u>

There is an issue here with catastrophic events which imply several regulated businesses requiring a reopening of their price paths at the same time. There may be events (e.g. a major storm, earthquake or transmission system failure) affecting several (but not all) regulated businesses which could overwhelm the CPP determination process. It might be sensible to have a category of reopening of price-quality paths which did not require recourse to the CPP process to handle this.

<u>IRIS (8.8.12 in EDSDR and GDSDR)</u>

I think the introduction of a rolling incentive mechanism is very much to be encouraged. However I wondered why it would not apply under a DPP. It would seem to be universally desirable to have such an incentive. The value of such an incentive is not based on the way that the price cap is determined (i.e. DPP vs CPP) but on its timing-invariant property.

There is also an issue with Figure 8.6 (vs Figure 8.5) in both EDSDR and GDSDR. This suggests that $1m in Year 6 is the same as $1m in Year 11. I would suggest that there is a need to adjust for the cost of capital (to maintain NPV neutrality) as these are not the same. Such a difference might be material if relative cost reductions are at their largest during the last year of a price control (due to the coming to fruition of cost reduction initiatives).