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Keeping the energy flowing

FURTHER WORK ON THE COST OF CAPITAL INPUT METHODOLOGIES

Request for further evidence

1 May 2014

Keeping the energy flowing

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Transpower New Zealand Limited The National Grid

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EXECUTIVE SUMMARY

It remains our firm view that a fast-tracked, narrow review of the WACC percentile is neither necessary nor desirable.

Our submission presents constructive evidence to support the continued adoption of a 75th percentile estimate:

- the Commission's original rationale for adopting a 75th percentile estimate was robust, and has been reinforced in material produced subsequent to the 'closed record' available to the High Court;
- research shows that adopting an estimate above the mid-point is consistent with international 'best practice', contrary to the perception of the Court and the assertions made by NZIER for MEUG;
- the Commission's concerns about the difficulty and limitations of using a 'loss function' approach to estimate the relative social harm done by over-estimating or under-estimating the WACC are well-founded. The Commission needs to be mindful of these limitations when it evaluates the qualitative and quantitative evidence on WACC percentile;
- it is undesirable to carry out a partial review of the cost of capital IM. It is clear from the record that the choice of percentile estimate interacts with many other aspects of the regulatory framework;
- the objectives of Part 4 of the Commerce Act are best supported by refraining from destabilising 'out-of-cycle' amendments to value-shifting rules.

We elaborate on each of these points below. The structure of this submission reflects what we consider to be the logical analytical framework for this review.

The Commission's original rationale for a 75th percentile estimate was robust

The High Court expressed some sympathy with MEUG's view that the Commission's decision to adopt a 75th percentile WACC estimate lacked "a solid basis" and went on to express some "tentative in-principle arguments counter to the Commission's reasoning". These views are influenced by the closed book nature of the High Court's proceedings.

Material produced subsequent to the record available to the Court (including reasoning elaborated by the Commission and evidence provided by submitters and their experts) reinforce the Commission's original rationale:

- a regulatory error that constrains efficient investment is more costly to society than an error that over-compensates capital costs – that is, there is an 'asymmetric risk' that adopting an estimate above the mid-point can assist in mitigating.
- a buffer against the risk of catastrophic events; and
- to cover variations in systematic risk.

To support our submission, we commissioned Castalia to prepare an analysis of how a hypothetical 'rational transmission business' could respond to regulatory settings that did not compensate capital costs. This transmission-specific analysis reinforces the point that the societal cost of under-investment in infrastructure outweighs the societal cost of over-compensating investment, even in the presence of regulatory quality standards.

Adopting an above mid-point estimate is consistent with international 'best practice'

The High Court's comments rested, in part, on a view that adopting a WACC estimate above the mid-point has not "…found more than narrow favour" internationally. In our previous

submission (on whether the Commission should review the WACC percentile) we included a review by Frontier Economics of international (UK and Australia) practice that found "...the Commission's approach of adopting the 75th percentile of the WACC range is very much in line with accepted regulatory practice".

We have asked Frontier to expand their earlier review and to specifically consider the claim by NZIER (in support of MEUG's submission) that UK regulators "…have abandoned the practice of setting allowed rates of return above the midpoint of the WACC range". Frontier concludes:

> there are many, very recent examples of regulators in the UK allowing rates of return well above the midpoint of the WACC range and, in several instances, significantly higher than the 75th percentile.
>
> It is also clear that the High Court, in the IMs Merit Appeal decision, was incorrect to conclude that: "Nor is overseas practice suggestive that such an approach has found more than narrow favour, since the only examples from the numerous regulatory decisions made every year were two relating to United Kingdom airports".[1] The opposite is in fact the case.

Frontier's analysis indicates that the benchmark regulators are cautious in parameter *and* percentile selection (erring on the high side). In relation to recent comments by NZIER on the practices of UK regulators, Frontier concludes "There has been no shift in regulatory practice of the kind claimed by NZIER."

To complement Frontier's analysis, we asked Castalia to review recent energy sector decisions in US jurisdictions. Castalia's analysis reinforces that the Commission's current practice is in line with international peers.

The Commission was correct to reject loss function analysis

The Commission refers to "the possibility of using a 'loss function' approach, which would estimate the relative social harm done by over-estimating or under-estimating the WACC".

The Commission's process allows 21 working days for the production of this evidence. The timeframe provided is too short to provide comprehensive analysis of the type requested.

We agree with the High Court that quantitative models and empirical evidence are important components in regulatory decision making. However, it is not the case that loss function analysis can provide a definitive answer on the optimal percentile estimate. Accordingly, the Commission was correct to reject loss function analysis when making its original decision.

This does not rule out revisiting loss function analysis as an input for future decisions on cost of capital, but the Commission should not expect quick or robust answers. Rather, loss function analysis has potential value as a decision support tool that could complement other empirical and qualitative analyses.

Given the Commission's request for evidence specifically mentioned loss function analysis we have sought advice from Frontier Economics on an appropriate starting point. Frontier have provided advice on how earlier simulation work by Dobbs could be expanded and conclude that this would be likely to support an estimate above 90th percentile for the electricity sector.

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[1] Wellington International Airport & Ors v Commerce Commission [2013] NZHC 3289, paragraph [1477].

It is undesirable to carry out a partial review of the cost of capital IM

We remain concerned that a narrow review of the percentile estimate is undesirable. In particular:

- a narrow review now will not avoid the need for a more comprehensive review later. The Commission will still need to review the entire cost of capital IMs, as part of the statutory requirement for periodic review of the IMs, prior to decision making on the control periods commencing in 2020. This current review will mean that the cost of capital IMs will end up having been under almost continual development and review for close to a decade. This is not consistent with the objectives of Part 4 of the Commerce Act;
- percentile choice should be considered in conjunction with parameter selection. Frontier's analysis indicates that the Commission is hawkish on parameter selection relative to international peers, which reinforces that there is a very real risk a mid-point estimate may understate suppliers' actual cost of capital; and
- the Commission has carefully designed a balanced set of incentives intended to promote the long-term benefit of consumers. The choice of WACC percentile needs to be considered in light of the potential to upset this balance. This point is reinforced by the number of references the Commission has made in subsequent regulatory decisions to its choice of percentile estimate, and by the analysis we commissioned from Castalia regarding investment choices.

While a narrow review is undesirable, a more comprehensive review is unachievable in the timeframes available. The Commission has already acknowledged this. We have advised the Commission separately of the practical impacts of deferring determination of our RCP2 revenue to provide more time for the cost of capital review[2]. In any event, an extension of one or two months would not make a more comprehensive review achievable.

It is also desirable that a more comprehensive review is timed so it can build on relevant developments in telecommunications regulation, and on suppliers' experiences transitioning into the 2015-2020 control period.

Value-shifting 'out-of-cycle' IM changes should be restricted

A key purpose of the IMs is to provide certainty for regulated suppliers and consumers. This purpose is undermined if IMs are too readily changed in ways that are harmful to investment certainty.

We recommend that the Commission should clarify the 'entry thresholds' for different classes of IM amendment. For example:

- changes that are 'merely technical' in nature and/or non-contentious – e.g. clarifying requirements or enhancing the operation of the framework without shifting value – have limited potential to harm certainty and should have a relatively low entry threshold;
- changes that undermine the value of investments (by suppliers or consumers) should have a high entry threshold for review, and there should be a high threshold for demonstrating that change is warranted.

A clear framework of this nature would help ensure the Commission's practices consistently promote the Part 4 objectives, and help ensure certainty for consumers and regulated suppliers.

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[2] In summary, we could accommodate a one month delay but only by eliminating timing contingencies in our pricing process and by deferring advice of transmission charges until the week prior to Christmas. This would cause significant problems for distributors that are contractually obligated to provide retailers with three months' notice of 1 April 2015 tariff changes. We could not accommodate any delay longer than one month.

1. INTRODUCTION

We appreciate the opportunity to comment on the Commission's process update and consultation paper "*Further work on the cost of capital input methodologies*", dated 31 March 2014. No part of our submission is confidential. Aspects of our submission may also be of relevance to the Commission's WACC determination for UBA and UCLL services under Part 2 of the Telecommunications Act 2001.

While we retain the view that a fast-tracked, narrow review of the WACC percentile is neither necessary nor desirable we share the Commission's wish to ensure the positive incentives intended by using the 75th percentile estimate of WACC continue to benefit consumers during future control periods.

The High Court has expressed "scepticism about using a WACC substantially higher than the mid-point" [emphasis added].[3] This is distinct from scepticism about a WACC higher than the mid-point. This reflects that the review of the WACC percentile is not a choice between 50th and 75th percentile estimate of WACC but also percentiles between this range, and above 75th percentile.

1.1. TIME CONSTRAINTS LIMIT PROVISION OF EMPIRICAL EVIDENCE

The Commission is inviting submissions providing:

- "empirical or analytical evidence regarding the appropriate WACC percentile. For example, the Court referred to the possibility of using a 'loss function' …"; and
- "any additional considerations (supported by evidence) that differ between sectors, which might affect the appropriate WACC percentile".[4]

The timeframe provided is too short to provide comprehensive analysis of the type requested i.e. to build robust quantitative models. Our approach to this submission is therefore to provide evidence relevant to any loss function (or other quantitative) analysis. This evidence consists of two reports by Castalia and further work by Frontier Economics on benchmarking, analytical and empirical methods for understanding and responding to asymmetric risk. These reports, Attachments A, B and C respectively, are:

A. Frontier, Economics, Evidence on the WACC percentile, May 2014;

B. Castalia, Estimating WACC for Regulated Utilities in the United States, April 2014; and

C. Castalia, The Rational Response of a Regulated Transmission Company to a Low WACC, May 2014.

Given the time constraints on this round of consultation, we encourage the Commission to provide an adequate time period for interested parties to critique the evidence and any quantitative models the Commission and its experts produce or rely on in making a decision on WACC percentile.

[3] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1480].

[4] Commerce Commission, Further work on the cost of capital input methodologies, 31 March 2014, paragraphs 24.1 and 24.2.

2. FRAMEWORK FOR WACC IM PERCENTILE REVIEW

A robust analytical framework will assist the Commission to make an informed and robust decision for the WACC percentile review. In this section we briefly discuss key steps that should be included in the analytical framework. We develop some of these further in the remainder of the submission.

2.1. STEP 1: REVIEW THE VALIDITY OF THE RATIONALE FOR 75TH PERCENTILE

The first step should be to identify each of the rationale for adopting a 75th percentile estimate of WACC, and not just whether "an 'uplift' is required to promote investment".[5]

Any decision on the 75th percentile requires consideration of the original rationale, whether that rationale remains valid and, to ensure the analysis is complete, of any other rationale identified as relevant to the decision (including those not explicit in the original IM Reasons Paper). The Commission should also evaluate the merit of the High Court's "tentative" and "in-principle" counter arguments that prompted this review.

We comment further on this review of the rationale in section 3.

2.2. STEP 2: REVIEW CONSISTENCY WITH INTERNATIONAL PRACTICE

Second, in parallel, the Commission should review the approaches undertaken in overseas jurisdictions to the setting of WACC.

This review is particularly appropriate in light of the High Court comments that "Nor is overseas practice suggestive that such an approach has found more than narrow favour, since the only examples from the numerous regulatory decisions made every year were two relating to United Kingdom airports".[6] While we do not suggest that the Commission should uncritically adopt the practices of overseas regulators, indeed we caution against this, we do consider it prudent that its decisions are informed by "best regulatory practice" as demonstrated by well-regarded regulators in comparable jurisdictions.

To assist the Commission we commissioned Frontier Economics to develop its earlier analysis, including to address comments made by NZIER on behalf of MEUG. To complement Frontier's work we asked Castalia to examine relevant regulatory practice in the United States.

The key findings of Frontier and Castalia are summarised in section 3. Their full reports are included as Attachments A and B respectively.

2.3. STEP 3: UNDERTAKE QUANTITATIVE AND EMPIRICAL ANALYSIS

Third, the Commission should undertake its own empirical analysis of whether to change the WACC percentile.

[5] NZ Airports, Response to invitation to comment on whether the Commerce Commission should review or amend the cost of capital input methodologies, 13 March 2014, paragraph 38.

[6] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1477].

We agree with the High Court that quantitative models and empirical evidence are important components in regulatory decision making. However, it is not the case that loss function analysis can provide a definitive answer on the optimal percentile estimate. Accordingly, it was reasonable for the Commission to reject loss function analysis when making its original decision.

Given the Commission's request for evidence specifically mentioned loss function analysis we have sought advice from Frontier Economics[7] on benchmarking, analytical and empirical methods for understanding and responding to asymmetric risk and from Castalia[8] on how a rational investor might respond to a below cost regulated WACC, given prevailing regulatory conditions.

We expect that the Frontier and Castalia analysis will complement follow up reports, which we presume the Commission is obtaining, from professors Myers and Franks, and Dr Lally in response to comments by the High Court on their prior advice to the Commission (specifically the gap between their recommendations in support of 75th percentile or above, and lack of supporting evidence to back up the recommendations).

2.4. Step 4: Consider whether the review could or should be limited to WACC percentile only

Fourth, if steps 1 to 3 indicate a downward revision to the percentile selection is appropriate, the Commission should consider whether the review of the cost of capital IMs needs to be wider than initially considered, including:

- model errors in the WACC calculation;
- impact on other aspects of the IMs and operation of Part 4, e.g. the effectiveness of current mechanisms for compensating for catastrophic event risk; and
- the impact/risk of lowering the WACC percentile if the cost of capital IMs produce a low side WACC estimate

The Commission should also consider the parallel consultation on the cost of capital for its UBA and UCLL final pricing principle (FPP) determinations under Part 2 of the Telecommunications Act. It seems inevitable that submissions on WACC in relation to the UCLL and UBA price reviews will raise issues about WACC estimation that are both generic (pan-industry) and telecommunications specific. This is apparent from the submissions made by Chorus and CEG.

2.5. Step 5: Provide clarity on thresholds for review and amendment of the IMs

We are concerned that ambiguity around when and how the Commission will review and amend the IMs is detracting from the effectiveness of the IMs. The effectiveness of the IMs in promoting the purpose of Part 4, and for ensuring the IM purpose of providing certainty for regulated suppliers and consumers, could be advanced if the Commission established explicit and transparent criteria for when it would consider review and amendment of IMs.

[7] Section 4, Attachment A: report by Frontier Economics

[8] Attachment C: report by Castalia

3. CONSISTENCY WITH INTERNATIONAL PRACTICE

International benchmarking of regulatory decisions provides a useful sanity check for the Commission and other regulators. It is particularly valuable where the issue at hand has been grappled with at length in other jurisdictions and/or where the domestic regulator does not have the information, time or resources at its disposal to undertake a comprehensive analysis itself.

We do not advocate uncritical adoption of overseas practices, indeed we caution against this. However, we do consider it prudent that the Commission's decisions are informed by "best regulatory practice" as demonstrated by well-regarded regulators in comparable jurisdictions. Where the Commission diverges from best practice we would expect it to do so consciously and for strong and objectively justifiable reasons.

3.1. The High Court's comments necessitate review of international practice

The High Court suggested that the Commission's percentile selection is inconsistent with international practice:

> Nor is overseas practice suggestive that such an approach has found more than narrow favour, since the only examples from the numerous regulatory decisions made every year were two relating to United Kingdom airports.[9]

This statement, although made in the context of a closed record merit review, and comments by NZIER on behalf of MEUG necessitate a thorough review of UK regulatory practice (and regulatory practice more broadly).

3.2. Frontier and Castalia dispel the High Court's impression (and dismiss NZIER claims)

Frontier and Castalia dispel the High Court's impression (and dismiss NZIER claims) that above mid-point WACC is not the norm.

To assist the Commission's decision making process we commissioned Frontier Economics to develop its earlier analysis, prompted by the High Court's comments. We asked Frontier to address comments by NZIER on behalf of MEUG and to establish whether there were countervailing reasons for the adoption of high percentile WACC estimates by UK regulators.

Frontier's report is included as Attachment A. In summary, Frontier establishes that, as well as establishing a clear preference for above mid-point estimates of WACC, those regulators exercise caution in estimating individual WACC parameters. They conclude:

> There are many, very recent examples of regulators in the UK allowing rates of return well above the midpoint of the WACC range and, in several instances, significantly higher than the 75th percentile.
>
> There has been no shift in regulatory practice of the kind claimed by NZIER.

[9] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1477].

> It is also clear that the High Court, in the IMs Merit Appeal decision, was incorrect to conclude that: "Nor is overseas practice suggestive that such an approach has found more than narrow favour, since the only examples from the numerous regulatory decisions made every year were two relating to United Kingdom airports".[10] The opposite is in fact the case.
>
> …had the IM approach been used by UK regulators to estimate key parameters such as the risk-free rate, market risk premium and cost of debt, UK determinations of those parameters, over the past five years, would have been lower than they in fact have been.
>
> Source: Evidence on the WACC percentile (Frontier Economics), Executive Summary

While the Frontier's research was focused on decisions by UK regulators they also refer to statements by the Australian Productivity Commission in its Inquiry Report on Electricity Network Regulatory Frameworks including:

> Under incentive regulation, under-remuneration is likely, ultimately, to lead to larger costs than over-remuneration of an equal magnitude. This is because the costs of underinvestment affect the long-run provision of reliable network services to consumers.

Source: Evidence on the WACC percentile (Frontier Economics), section 4.1

To complement Frontier's research we asked Castalia to examine relevant regulatory practice in the United States. Castalia's benchmarking report is included as Attachment B. Castalia found:

- US regulators (like their counterparts in the UK, Australia and New Zealand), adopt the practice of specifying a reasonable range of returns. This reflects the uncertainty involved in setting an allowed rate of return for infrastructure assets. The way that the ranges are set varies by regulator.
- Regardless of how the range is determined, most recent regulatory decisions in the US allow energy utilities to earn returns that sit above the mid-point of the range. In five of the nine state-level decisions we reviewed, the regulator allowed a return on equity between the 75th and 86th percentile. In the case of electricity transmission, specific incentives apply that shift the allowed ROE from the mid-point of the range to well above the 75th percentile (depending on certain criteria being met, such as participation in a Regional Transmission Organisation).

Source: Attachment B, Introduction and Summary

The reports by Frontier and Castalia present compelling international support for the Commission's current practice of selecting the 75th percentile estimate of WACC. Both reports, but Frontier's in particular, suggest that the Commission may actually be hawkish (erring on the low side of WACC) relative to its peers.

The reports dispel the High Court's perceptions that adoption of the 75th percentile estimate of WACC by the Commission is not consistent with international practice. They also establish that claims by NZIER earlier this year are factually incorrect.

[10] Wellington International Airport & Ors v Commerce Commission [2013] NZHC 3289, paragraph [1477].

4. REVIEW RATIONALE FOR 75TH PERCENTILE WACC ESTIMATE

Consideration of a change to the WACC percentile requires consideration of the validity of the rationale for its original selection, and whether there is evidence or analysis that would suggest the WACC percentile adopted should be higher or lower.

The Commission's consultation paper focussed on the role of the 75th percentile in providing incentives to invest, and on the relative social harm done by over and under-estimating WACC.

It may be sufficient to limit the WACC percentile review to these matters if the Commission concludes these provide sufficient basis to justify a 75**th** percentile, or higher, WACC. Otherwise, the Commission should evaluate all of the rationale for use of a 75th percentile estimate of WACC to determine whether, in their totality, they justify 75th percentile estimate of WACC, or a WACC above the 50th percentile. This includes rationale that the Commission has provided subsequent to issuing the IMs Reasons Paper.[11,12]

4.1. Commerce Commission rationale for 75th percentile WACC

Tables 1 and 2 contain reasons the Commission has explicitly provided, in various documents, for use of a 75th percentile estimate of WACC.

Table 1: Reasons for 75th percentile estimate of WACC in the IM Reasons Paper

Rationale	Narrative
Precedence of dynamic efficiency over allocative efficiency	Incentives for dynamic efficiency can have significant benefits for consumers over the long term, so it is important to preserve incentives to invest and innovate. Accordingly, this consideration has been given greater weight than limiting suppliers' ability to extract excessive profits. Weighing the arguments, and having regard to the Part 4 Purpose, and in particular, that there are incentives for EDBs, GPBs and Transpower to invest and innovate, the Commission adopts the 75th percentile of the cost of capital as the cost of capital for price-quality regulation.[13] … the Commission acknowledges that where there is potential trade-off between dynamic efficiency (i.e. incentives to invest) and static allocative efficiency (i.e. higher short-term pricing), the Commission, under Part 4, generally favours outcomes that promote dynamic efficiency. Accordingly, this consideration has been given greater weight for price-quality regulation than minimising the costs to consumers of regulated suppliers earning excess profits through higher prices in the short-term.[14]

[11] Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010.

[12] We refer to the IM Reasons Paper rather than the Input Methodologies (Transpower) Reasons Paper (December 2010) on the basis [paragraph 6.1.3] that this "sets out in detail the Commission's decisions and reasons for the cost of capital IM as they related to EDBs … the reasoning in that document as it related to EDBs also applied to Transpower. Rather than substantially duplicate that reasoning in this document, the reader is instead referred to the EDB/GPB Reasons Paper."

[13] Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010, paragraph 6.7.12.

[14] Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010, paragraph H11.62.

Rationale	Narrative
Incentives to invest	For application in DPPs/CPPs, the IM uses the 75th percentile estimate of the WACC to ensure there are sufficient incentives to invest in regulated services for the long-term benefit of consumers.[15]
The uncertainty in estimating the true cost of capital.	Given the imprecision of the cost of capital estimation process, the Commission considers it may be preferable, in the context of non-exempt EDBs, GPBs and Transpower that will be subject to default/customised price-quality regulation, to err on the side of caution. That is, if a point estimate is required to set the price/quality path for this service, a figure above the mid-point of the range may be used.[16] The IM specifies a point estimate for the cost of capital … that is based on the 75th percentile of the cost of capital range. This reflects … the uncertainty in estimating the true cost of capital.[17]

Table 2: Reasons for 75th percentile estimate of WACC (not included in the IMs Reasons Paper)

Rationale	Narrative
Asymmetric risk	The IM Reasons Paper states that "The IMs do not make any adjustment to the cost of capital for asymmetric risk".[18] It goes on to elaborate on this point by stating "The IM does not make any adjustment to the cost of capital for Type I asymmetric risk"[19] and that "… the Commission considers a real options approach that provides for a mark-up in the cost of capital (or regulatory asset base) is not appropriate for dealing with Type II asymmetric risks."[20] While this view would seem quite clear, the Commission's decision on the Orion CPP appears to state the opposite:[21] … the rationale behind applying a 75th percentile estimate is to address the asymmetric risk of regulatory error, which cannot be addressed through other means, and could affect incentives for future investments.
Catastrophic event risk	It was clear from submissions on the Orion CPP application that the universal understanding of regulated suppliers under Part 4 was that the 75th percentile estimate of WACC did not address the risk of catastrophic risk and compensation (higher price path) for a catastrophic event would be dealt with in full *ex post* in any subsequent CPP (or DPP) determination. The Commission, however, clarified that compensation for the risk of catastrophic events was implicit in the 75th percentile WACC: Under the IMs the 75th percentile WACC is used for setting price-quality paths. Although the IMs did not "make any adjustment to the cost of capital for asymmetric risk" some allowance for the risks of catastrophic events is inherent in the IM-based WACC. While we did not decide the 75th percentile because of

[15] Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010, paragraph 6.8.8.

[16] Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010, paragraph H11.61.

[17] Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010, paragraph H11.65.

[18] Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010.

[19] Paragraph H12.13, Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010, paragraph H12.1.

[20] Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, December 2010, paragraph H12.34.

[21] Commerce Commission, Setting the customised price-quality path for Orion New Zealand Limited, Final reasons paper, 29 November 2013, paragraph L34.

Rationale	Narrative
	catastrophic risk, a consequence is that suppliers receive a return which is above the best estimate of a normal return (i.e., the mid-point WACC).[22] Although the IMs do not make any explicit adjustments to the cost of capital (or provide additional cash flow allowance) for asymmetric risk, the practical effect of using the 75th percentile WACC is to provide a buffer for catastrophic risk.[23]
Other matters:	As part of its analysis of the effectiveness of information disclosure regulation under section 56G of the Act for the three regulated airports, it was suggested by the Commission that the use of the 75th percentile was in part intended to cover variations between the systematic risk of individual airports.[24]

These statements demonstrate that, while promoting incentives to invest is an important rationale for adopting a 75th percentile estimate of WACC, it is by no means the only rationale for its selection.

They also highlight that a downward departure from the 75th percentile estimate of WACC would have a number of potential implications for the IMs and operation of the DPP/CPPs that the Commission would need to address before implanting the percentile change.

4.2. Status of the High Court "tentative in-principle arguments"

While the High Court expressed some "sympathy with MEUG's submission that the Commission's approach to the asymmetric costs of over and underestimating the WACC lacks a solid basis"[25], its sympathy only went as far as expressing "some tentative in-principle arguments counter to the Commission's reasoning."[26]

Although the High Court's comments are obiter, and therefore are not binding as a matter of law, they were the catalyst for this review and therefore are relevant considerations. That the Court described its arguments as "tentative" and "in-principle" is a clear signal that these comments are not intended to be conclusive on the matter. It also reflects that the arguments have been advanced in the abstract and have not been "tested" in the sense of being subject to close scrutiny and counter-argument. The Commission should have regard to the Court's obiter statements but is not bound by them. While the Commission should consider the High Court's "scepticism about using a WACC substantially higher than the mid-point" [emphasis added],[27] we conclude the High Court's "in-principle objections" cannot be relied on as support of a change to the WACC percentile.[28] We elaborate on the rationale for this conclusion in respect of each of the High Court's arguments below.

[22] Commerce Commission, Setting the customised price-quality path for Orion New Zealand Limited, Final reasons paper, 29 November 2013, paragraph C2.3.

[23] Commerce Commission, Setting the customised price-quality path for Orion New Zealand Limited, Final reasons paper, 29 November 2013, paragraph C25.

[24] NZ Airports, Response to invitation to comment on whether the Commerce Commission should review of amend the cost of capital Input Methodologies, 13 March 2014, paragraph 34(b).

[25] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1470].

[26] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1471].

[27] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1486].

[28] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1482].

4.3. HIGH COURT VIEWS ON EXCESS RETURNS

We consider that the High Court has erred in suggesting a 75th percentile estimate of WACC "is clearly at odds with the s 52A(1)(d) purpose of limiting the ability of regulated suppliers to extract excessive profits".[29]

The s 52A(1)(d) purpose specifies that regulated suppliers should be "limited" not "prevented" or "precluded" from extracting excessive profits. Care must also be taken in distinguishing between "excessive" profits (a term that has pejorative or negative connotations) and supranormal profits (any difference between the return the regulated supplier is earning and the actual opportunity cost of capital). This distinction is important because supranormal profits are to be expected under a workably competitive market standard, reflecting (temporary) superior performance or simply the asymmetries that characterise real world transactions.

Consideration needs to be given to whether an above-cost return has function or could be considered to be a "functionless rent". The function may be to reward superior performance (consistent with a workably competitive market), to mitigate risk of regulatory error (e.g. error in calculating WACC or current and forecast profitability when setting price-paths) or to address asymmetric cost (etc.).

The key point is that that while the 75th percentile estimate of WACC *may* result in above-cost returns (although it may not) this should not be taken as inconsistent with the s 52A (1)(d) purpose.

4.4. WORKABLY COMPETITIVE MARKET OUTCOMES CRITICISM MISPLACED

The High Court stated that the Commission's determination of 75th percentile estimate of WACC failed to include "any reference to how the outcomes produced by workably competitive markets might be relevant". [30]

This statement is surprising because that the Commission's consultation on WACC and WACC percentile, and its IMs Reasons Paper, included numerous references to workably competitive market benchmarks. Table 3 sets out some examples of references by the Commission to the workably competitive market standard.

Table 3: Sample of references to workably competitive market standard

Commerce Commission references to workably competitive market	Source
The Commission's choice over the precise percentile estimate of the cost of capital that is used for each regulatory instrument is informed by a number of factors, including considering … that in workably competitive markets the risks are borne by the party that is best equipped to manage these risks.	Paragraph E11.53, "Input Methodologies (Airport services) Reasons Paper", 22 October 2010
Since one aim of regulation is to mimic outcomes that are consistent with those of competitive or contestable markets, any scheme designed to deal with Type I risk should ideally allow some ex ante recovery …	Paragraph 248, "Revised Draft Guidelines: The Commerce Commission's Approach to Estimating the Cost of Capital", 19

[29] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1461].

[30] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1462].

	June 2009
The Commission has considered a range of analyses used by capital market practitioners to estimate the cost of capital. The Commission has also considered academic analyses of the factors relevant to the choice of which forms of analysis and corresponding models are appropriate for the purposes of Part 4. In reviewing these analyses, the Commission has taken full account of the objective of promoting outcomes consistent with workably competitive markets. The Commission notes that the models used by it are based on capital markets being workably competitive. In estimating the cost of capital, the Commission recognises that this is an estimation process, which is likely to be imprecise. The aim of the Commission therefore is to estimate a cost of capital that, when applied under Part 4, promotes outcomes as regards to quality and pricing of the regulated services that is consistent with those produced in workably competitive markets.…	Paragraphs 6.2.30 - 34, "Input Methodologies (Electricity Distribution Services) Draft Reasons Paper", 18 June 2010
This is consistent with the purpose statement as it tries to get as close to a workably competitive market outcome as possible, whilst ensuring that the long-term interests of consumer are promoted. In light of the purpose statement, the outcome where an estimate above the mid-point is taken when setting price-quality paths is potentially desirable as it recognises that the social costs of setting allowed rates of return too low (i.e. incentives for firms to undertake efficient investments will be distorted, which would be inconsistent with the long-term benefit of consumers) probably outweighs the costs of setting allowed rates too high (i.e. consumers will be charged prices that are above those of comparable products or services expected in workably competitive markets).	Paragraph 6.2.22, "Input Methodologies (Electricity Distribution Services) Draft Reasons Paper", 18 June 2010

4.5. Weaknesses in "tentative in-principle arguments"

We do not agree that the High Court's statement that "a normal return on new investment … in the price control regulatory framework … is almost guaranteed" is correct.[31]

There have been a substantial number of submissions, outside the closed record of the Merit Appeal, from regulated suppliers detailing why the operation of Part 4 does not "guarantee" a normal rate of return, and there is material risk of regulatory error resulting in regulated suppliers earning less than a normal rate of return e.g. incorrect forecasts of costs and revenues.[32]

In practice a mid-point estimate of WACC, even if robust, has a 50% chance of not covering costs (and a 75th percentile estimate has a 25% chance). Over the life of a regulated asset (often 50 years or longer) there are multiple regulatory periods (and, a real chance of multiple regulatory reviews and even regime changes) each of which presents a fresh risk to suppliers that committed costs will not be compensated.

Understanding the relationship between WACC and efficiency

The High Court argued that "it is far from obvious that higher than normal expected returns would stimulate greater efficiency of any kind. On the contrary, they would render excess

[31] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1472].

[32] For example, refer to the following submissions from the ENA and Vector:

ENA, Submission on "Invitation to have your say on whether the Commerce Commission should review of amend the cost of capital input methodologies", 13 March 2014, paragraph 37.

Vector, Submission to the Commerce Commission on Revised Draft Reset of the 2010-15 Default Price-Quality Paths for Electricity Distribution Businesses, 1 October 2012, paragraph 165.

profits likely, even if less effort were made by suppliers to generate efficiencies than in a workably competitive market …Providing a revenue cushion is not the way to create the right incentives."[33]

This skates over several important points:

- adopting a 75th percentile estimate because of accuracy concerns does not guarantee a 'revenue cushion' (nor does it 'render excess profits likely'), it simply reduces (but does not eliminate) the risk that costs are not covered;
- this in turn promotes dynamic efficiency by supporting continued investment; and
- other mechanisms are in place to support productive efficiency gains. These are designed to influence marginal profits, and should not be undermined even if a supplier were making supranormal returns.

Promoting incentives to invest

The High Court also argued, in relation to investment incentives, that "In our view, applying the 75th percentile estimate to the initial RAB is unlikely to be necessary to promote incentives to invest and innovate. Future investment choices by suppliers must rationally be influenced by expected earnings on those future investments, not by earnings on past investment. (The experience with past investments may of course be relevant to future investments, but that is another story.)"[34]

The distinction between sunk (initial RAB) and future investment is only meaningful if a two-tier WACC is in place. The High Court states, correctly, that "Future investment choices by suppliers must rationally be influenced by expected earnings on those future investments" but is silent on whether adoption of an above mid-point WACC would make any difference to future investment than adoption of a mid-point WACC. The High Court argument, therefore, should not be relied on to refute that the Commission should err on the side of a high WACC to better ensure incentives to invest.

Balancing Consumers' short and long term interests

The High Court states "… the outputs of regulated suppliers are inputs to numerous – probably all – other sectors of the economy, as well as being used by final consumers. If the prices paid by user industries are higher than the resource cost of producing the outputs (viz, electricity and gas transmission and distribution), then inefficiency is promulgated throughout the economy. That is what is implied by higher than normal expected returns."[35]

There is an inherent trade-off between lower prices (in the short-term) and incentives to invest to avoid higher long-term costs. The High Court's argument only recognises one side of this argument: the short-term costs. The High Court did not consider whether adoption of an above mid-point WACC would result in greater investment by regulated suppliers which, in turn, would result in infrastructure that is more capable of meeting the needs of user industries, and for ensuring continuation of reliable supply.

[33] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1473].

[34] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1479].

[35] Paragraph [1475], Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013.

We reiterate in full the comments we made to the Commission on its question about "how significant is it that regulated outputs are inputs to other sectors of the economy":[36]

> The High Court narrowly considered the impact of the prices for regulated services on other sectors of the economy, without considering the interrelationships amongst price, service quality and investment.
>
> When considering the impact of the Part 4 decisions on consumers, and other sectors of the economy, the Commission faces the same trade-off between the benefit to consumers of a lower price and the benefit of ensuring regulated suppliers have both incentives and the ability to invest and maintain their networks, and to provide services at a quality that reflects consumer demands.
>
> We urge the Commission to ensure it does not place over emphasis on achieving s 52A(1)(d), of the purpose in Part 4 of the Commerce Act, at the expense of s 52A(1)(a) – (c). A risk that could arise is that consumers benefit from lower prices in the shorter-term, but that consumers and New Zealand business suffer from sub-optimal investment in infrastructure. This provides a stark trade-off between allocative efficiency and dynamic efficiency and highlights the critical role of the Commission in balancing the short and long term interests of consumers.
>
> It is vital to the New Zealand economy, and New Zealand businesses, that network infrastructure – be it electricity, gas, telecommunications, roads etc. – is well maintained, and there is sufficient investment to maintain and enhance service quality.
>
> We note this is recognised in the New Zealand National Infrastructure Plan which sets out a vision that "By 2030 New Zealand's infrastructure is resilient and co-ordinated and contributes to economic growth and increased quality of life." The Plan also recognises that "Infrastructure is critical to all aspects of modern living, allowing us to enjoy the quality of life we have become accustomed to and providing a platform that enables us to compete in the global economy".
>
> The first Plan, published in 2010, notably signalled the Government's intention to deliver large scale investment in key infrastructure priorities which, notably, included electricity transmission.
>
> Transpower considers that this supports the Commission's adoption and retention of a 75th percentile WACC, or an above 75 percentile WACC. [footnotes removed]

Consideration of the importance of infrastructure to the economy also supports the Commission's view that "there are higher costs in under-estimating the price than over-estimating the price (i.e., asymmetric costs)" and "the risk to dynamic efficiency of a low access price is asymmetric and that the balance of risk favours setting a price that errs on the high side. Consequently, we believe some adjustment is appropriate to take account of asymmetric risks."

[36] Question 6, Attachment A: responses to specific questions, Transpower, Consultation on whether the Commission should review the cost of capital input methodologies, 13 March 2014.

5. QUANTITATIVE AND EMPIRICAL ANALYSIS

The High Court Merit Appeal decision placed particular emphasis on the need for empirical evidence to support the Commission's decisions on how to implement its responsibilities as price regulator. The High Court was critical generally of the lack of empirical evidence to support both the arguments for selection of a 50th percentile estimate of WACC and for the Commission's decision to set WACC in the cost of capital IMs at 75th percentile.

We agree with the High Court that quantitative models and empirical evidence are important components in regulatory decision making. However, it is not the case that loss function analysis can provide a definitive answer on the optimal percentile estimate. Given the issues the Commission previously raised in relation to application of loss function analysis it was justified in rejecting the approach when making its original decision. (Supporting this, it was notable that no other party attempted to undertake loss function analysis themselves, at the time, despite the idea being discussed.)

Given the Commission's request for evidence specifically mentioned loss function analysis we have sought advice from Frontier Economics[37] on an appropriate starting point and from Castalia[38] on how a rational investor might respond to a below cost regulated WACC, given prevailing regulatory conditions.

These reports are intended as complements to follow up reports that we expect the Commission will have requested from professors Myers and Franks, and Dr Lally in response to comments by the High Court on their prior advice to the Commission.

5.1. HIGH COURT GUIDANCE TO THE COMMISSION

The High Court noted the Commission's experts all supported a 75th percentile estimate of WACC (or above), but "That advice was … expressed in very conclusionary terms":

> There had … been support for the Commission's approach from its experts. In December 2008, when Dr Lally recommended that the Commission choose a point higher than the mid-point, Professors Myers and Franks agreed that the Commission should set the WACC equal to or greater than the mid-point, with Professor Franks recommending that the Commission evaluate how far above mid-point on a case-by-case basis. That advice was, however, expressed in very conclusionary terms and neither Professors Myers nor Franks, nor Dr Lally, explained their reasoning in any detail. [footnote removed][39]
>
> … at the Cost of Capital Workshop, the Commission's own expert adviser, Dr Lally, suggested that "the 75th percentile is probably the lower bound on what you might choose".[40]

Dr Lally went on to say that "… you could easily choose something well above that [75th percentile]."[41]

[37] Section 4, Attachment A

[38] Attachment C

[39] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1436].

[40] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1446].

[41] Dr Martin Lally, Commerce Commission, Cost of Capital workshop transcript (day 2), 12 November 2009 at page 255.

It is clear the High Court considers there to be significant gaps in the advice provided by Professors Myers and Franks, and Dr Lally. An essential part of the Commission's WACC percentile review will be to seek advice from these three experts to support the recommendations they previously made. We would expect that Dr Lally's advice should also include why he considers 75th percentile to be a minimum and what he considers to be an appropriate (above 75th) percentile to select.

The High Court did not provide specific direction as to the type of empirical evidence that would be needed to demonstrate change to the WACC percentile was warranted. The High Court, for example, discussed in some detail the LFA approach but did not direct the Commission that it should undertake such an approach.

The Commission's previous comments on such an approach are worth illustrating as reason to treat the results of any such analysis with caution:[42]

> Although conceptually interesting, the Commission does not favour this approach because there is no empirical data on the loss ratio. In other words, there is no way to know the true form of the function, and there is no way to reliably calibrate it. Instead, the Commission would have to make large theoretical assumptions … In the Commission's view, LECG's recommended approach is too mechanical and suggests a misplaced sense of precision and mathematical rigour. For this reason, the Commission does not propose to pursue the approach further.

The Commission made similar comments on terms of its decision to select the 75th percentile of a benchmark pricing range to address asymmetric risk is worth noting[43]:

> The Commission has been unable to identify any rigorous and quantifiable means of accounting for the risk to dynamic efficiency, while recognising that the risk should induce the Commission to set a price at a level that minimises the possibility of undershooting. The Commission has accordingly decided to shift the price point from the median point of the range to the 75th percentile of the range.

This poses a challenge for demonstrating that a change in the WACC percentile would better serve the long-term interests of consumers than 75th percentile. We suggest the Commission will face these challenges no matter the approach it adopts.

5.2. INITIAL CONTRIBUTIONS TO EMPIRICAL / QUANTITATIVE ANALYSIS

Reports from Frontier Economics and Castalia provide an initial contribution to the Commission's analysis. A brief summary of their respective findings is provided below

Frontier economics: Evidence on the WACC percentile

Frontier, in section 4.2 (and in their earlier report for Transpower[44]), establish that there is a strong theoretical / analytical basis for an asymmetric loss function.

In section 4.3 of their latest report, Frontier extend their earlier commentary on Dobbs' (2011) analysis including to consider the likely implications of applying electricity sector elasticity of demand. They conclude:

> "The use of any of the elasticity estimates noted above would tend to, other things being equal:

[42] Commerce Commission, Revised Draft Guidelines: The Commerce Commission's approach to Estimating the Cost of Capital, 19 June 2009, paragraph 242.

[43] Commerce Commission, Decision 477, paragraph 169.

[44] See: http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/further-work-on-wacc/

- increase the asymmetry of the loss function;
- reduce the loss from setting the allowed rate of return for electricity network businesses above the true WACC; and
- increase the optimal allowed rate of return for electricity network businesses."

In section 4.4 of their latest report, Frontier observe:

> "Dobbs (2011) provides a clear framework not only for developing an allowed rate of return loss function for regulated suppliers, but also for utilising that function to estimate the optimal allowed rate of return percentile within a range using a Monte Carlo modelling approach."
>
> and:
>
> "In our view, a reasonable and pragmatic first step in applying loss function analysis to guide the choice of the allowed rate of return percentile would be to calibrate the Dobbs model with plausible parameter values and then conduct the requisite Monte Carlo analysis. In due course, the results from this initial analysis could potentially be refined by extending Dobbs' model to accommodate specific important features of regulated electricity networks."

Frontier provide guidance, in section 4.4, on the practical application of loss functions that it considers would be reasonable first steps if the Commission were minded to develop, or rely on a loss function analysis prepared by a third party, in its WACC percentile decision.

Frontier's report is included as Attachment A.

Castalia: The Rational Response of a Regulated Transmission Company to a Low WACC

Castalia's second report explores how on how a rational investor might respond to a below cost regulated WACC, given prevailing regulatory conditions. Castalia conclude that:

> "the current combination of regulatory tools appears to strike the right balance between a WACC set above the true unobservable WACC and the need to ensure efficient outcomes for consumers. Any change in WACC therefore needs to be assessed against the risk of reducing how other regulatory components work.
>
> Overall, we find that a low WACC would encourage a rational transmission company to take opportunities to defer or avoid capital expenditure."
>
> and
>
> "These behavioural changes would be likely to reduce overall welfare. The impact on consumers could include:
>
> - Foregone economic benefits from having fewer economic investments designed to more efficiently transport electricity from low-cost generation sources to demand.
> - A higher total cost of electricity supply due to a shift at the margin towards opex (and away from capex). This would raise the whole of life costs of providing transmission services, and could create the need for periods of "catch up" investment.
> - Reduced value from innovative investments that are avoided due to the risk that expected benefits cannot be realised.
>
> Other "low probability, high impact" outcomes are also possible. For example, constraining capital clearly has the potential over the long run to lead to lower levels of reliability. While system reliability is clearly a very high priority for Transpower, decreasing the financial attractiveness of investing could bring about subtle changes in approach to grid planning.
>
> These impacts on consumers are difficult to quantify—which explains why the Commission relied primarily on conceptual arguments when determining how to choose a point in the WACC range

under the IMs. However, the changes in welfare described in this report are material and weigh against any change in approach that lowers the point estimate used for the regulated WACC."

Castalia's report is included as Attachment B.

5.3. WEIGHING UP COSTS AND BENEFITS UNDER UNCERTAINTY

Determining the short-run cost to consumers of a 75th percentile estimate of WACC should be fairly straight forward.

As Castalia point out "On one side of the welfare loss function this relationship will be reasonably direct. Higher prices for regulated services may mean that consumers pay slightly higher prices than is needed to maintain efficient levels of service. This causes a loss in consumer welfare (some of which will be transferred to producers).[45] However, a direct link cannot be drawn on the other side of the welfare loss function between setting a low WACC and welfare impacts". Castalia go on to report that "This is relatively straightforward to calculate. All that is needed to calculate this is: (i) the difference in maximum allowable revenue under different WACC percentile options, (ii) the level of pass-through to consumer prices; and (iii) elasticity of demand".[46] (Pass-through is relevant because consumers will only benefit from price reductions that are passed on to them.[47])

The Commission has undertaken similar exercises in the past; for example, when investigating whether to recommend designation of mobile termination rates (MTRs) under the Telecommunications Act 2001. The first DPP and IPP resets under Part 4 of the Commerce Act provide data that could be used for this purpose.

Calculating some of the benefits to consumers of a WACC estimate being set at the 75th percentile is not likely to be as straightforward; particularly the benefits from greater surety that efficient investment will go ahead and there won't be under-investment. When the Commission weighs up how to assess the readily quantifiable cost to consumers of an above mid-point WACC against the more uncertain but potentially much larger investment and dynamic efficiency benefits it is important the Commission recognises the limitations of empirical evidence and quantified CBA.

In our view, this necessitates that the empirical or quantitative evidence sought by the High Court be viewed as complementary to, rather than a substitute for, the qualitative assessment of the WACC percentile options. The extent to which any quantified analysis or empirical evidence should be relied on depends on how robust and reliable the Commission considers the results to be having tested that analysis internally, with its own experts, and through the submissions of interested parties.[48]

[45] This is relatively straightforward to calculate. All that is needed to calculate this is: (i) the difference in maximum allowable revenue under different WACC percentile options, (ii) the level of pass-through to consumer prices; and (iii) elasticity of demand

[46] Refer Attachment C: report by Castalia

[47] The issue of pass-through has been extensively considered in Commission investigations such as whether to recommend designation of mobile termination rates under the Telecommunications Act, but hasn't been a consideration that has featured largely in Part 4 of the Commerce Act.

[48] The Commission's LLU investigation under s 64 of the Telecommunications Act is a good example of this. In its final decision the quantified CBA was that there would be positive net benefits from regulation. The Commission concluded that it should not recommend regulation on the basis on non-quantified dynamic efficiency concerns.

6. IMPLICATIONS OF LIMITING THE REVIEW'S SCOPE

We remain concerned that a narrow review of the percentile estimate is undesirable. There are a number of aspects of the determination of the regulatory WACC, and the function of selecting an above mid-point estimate, that may make it difficult for the Commission to conduct a partial review of the cost of capital IMs that focuses exclusively on selection of WACC percentile.

We consider that percentile choice should be considered in conjunction with parameter selection. Frontier's analysis indicates that the Commission is hawkish on parameter selection (erring on the low side) relative to international peers and the High Court decision says "We take a similar approach to the suppliers' views that individual decisions by the Commission led to the WACC being underestimated". These points reinforce the risk that a mid-point estimate may understate suppliers' actual cost of capital.

It would be necessary, if the Commission were to decide that it should amend the WACC percentile below 75th percentile, for the Commission to address flow on implications for the IMs and operation of the DPP/CPPs before implementing a WACC percentile change.

6.1. Operation of the IMs and IPP

Many of the regulatory settings applicable to Transpower appear predicated on Transpower having sufficient incentives to invest. We have not fully worked through the implications on the effectiveness of the IMs and IPP in promoting the purpose of Part 4 if this assumption no longer held and Transpower did not have sufficient incentives to invest.

In addition to the direct implications for capital investment if incentives to invest are insufficient Castalia identifies the following potential issues relating to the operation of the Transpower IMs and IPP:

- how opex / capex trade-offs influenced by IRIS and the base capex efficiency incentive would be affected by capital constraints
- how capital constraints would affect the intended operation of the base capex efficiency incentive

We recommend that the Commission carefully consider these and other potential IM and IPP issues if, on conclusion of its analysis, it considers that a downward revision to the current WACC percentile may be appropriate.

6.2. Ensuring investment certainty

The Commission has determined that it should undertake a review of the WACC percentile to address the investment uncertainty created by the High Court comments about the need to review the WACC, and the resulting possibility that 75th percentile estimate of WACC may not be enduring.

A problem with the Commission's current consultation, though, is that it only addresses one part of the High Court's commentary. The High Court considered that the Commission

should review the percentile and stated that it “would also expect the Commission to consider MEUG’s two-tier proposal in light of our observations”.[49]

Even if the Commission determines it should maintain a 75th percentile estimate of WACC, the uncertainty the Commission perceives to exist may still partially remain because of the prospect of the Commission subsequently considering whether a two-tier WACC should be adopted as part of its statutory IMs review. In practice, it is still expected that the Commission will conduct the statutory review scheduled for 2016-17 (or sooner) in which the Commission will, amongst other issues, address other comments by the High Court.

6.3. UBA AND UCLL WACC DETERMINATION

We had previously recommended the Commission sequence the reviews by undertaking the Part 2 Telecommunications Act review first, and then using this decision as a precedent for subsequent review of the cost of capital IMs.[50]

Given the Commission is now aiming for completion of the Part 4 and Part 2 reviews in similar timeframes, November and December respectively, we would note that submissions made under Part 2 are likely to have relevance to Part 4 and vice versa.

Several submissions on the UBA and UCLL WACC determination, notably Telecom (and a report it commissioned from PricewaterhouseCoopers) and Callplus, comment on the relevance of Part 4 precedent to Part 2 services including the circumstances where, and reasons why, different approaches may be appropriate. We note, for example, comments by PricewaterhouseCoopers at paragraphs 32-34 in relation to the relative merits of adopting a 75th percentile estimate of WACC for services regulated under the cost of capital IMs with the UBA and UCLL services.

The second Castalia report also highlights differences between regulated suppliers, that provide services where there is no realistic substitute such as electricity distribution and transmission, and others, such as Chorus’ copper network, that provide services for which there are substitutes e.g. mobile services and fibre provided by LFCs. Castalia suggest that where substitutes exist there is less scope for the regulated supplier to defer investment, in response to a low WACC, than there is for other regulated suppliers because they would face the risk of loss of customers and revenue (analogous to what you would see in a workably competitive market).

We do not have a well-developed view at this point on the appropriateness of applying different WACC percentiles for the UBA and UCLL determinations to that of the cost of capital IMs. However, we do consider that this is something the Commission should turn its mind to.

6.4. NEW MATERIAL ON THE COST OF CAPITAL IMS

It is clear from submissions, to date, on the Commission’s UBA and UCLL cost of capital and FPP determinations that there is new material that has implications for the cost of capital IMs, and may suggest that the current IMs set WACC too low.

Specifically, we refer the Commission to the submissions of Chorus and CEG. This is material that wasn’t considered as part of the original IM decisions, or in the (closed record) High Court Merit Appeal, but has potential implications for the cost of capital IMs. We believe the Commission should take these submissions into account for the UBA and UCLL FPP determinations, and also for the cost of capital IMs.

[49] Wellington International Airport Ltd and others v Commerce Commission [2013] NZHC 3289, 11 December 2013, paragraph [1486].
[50] Transpower, *Determining the cost of capital for the UCLL and UBA price reviews*, 28 March 2014, page 3.

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The Commission should be mindful that if it considers the matter of 50th versus 75th percentile in isolation of other matters that may indicate the current WACC determinations are too low, a decision to move to 50th percentile estimate of WACC could exacerbate these problems by setting the WACC lower still.

We share the concern expressed by the ENA and NZ Airports regarding the scope of the review:

> … if the scope of any IM review … seeks only to review the 75th percentile without considering other inter-related elements of the regulatory and market environment facing [regulated suppliers]. Risk and return are inextricably linked: the ENA submits that it is impossible to have a proper discussion of the acceptable rate of return absent a comprehensive discussion of the risks that [regulated suppliers] bear due to the business environment we operate in as well as regulator-determined risk allocations, the role of insurance and self-insurance or other mechanisms to ensure [regulated suppliers] have a reasonable expectation of being NPV positive over the lifetimes of investments. Moreover, review of the 75th percentile adjustment should be coupled with more rigorous modelling and analysis of the WACC standard error estimate from which it is derived [footnote removed].[51]
>
> As acknowledged by the Court, the possibility of model error arising from the Commission's choice of model (i.e. the simplified Brennan-Lally CAPM) was a consideration in the Commission's decision to adopt the 75 percentile estimate of the WACC for price-quality regulation. The Court notes elsewhere in its judgment that the Commission may give consideration to alternatives to that model in the future (given the acceptance of the leverage anomaly). In its recent consultation paper for WACC under the UBA and UCLL Final Pricing Reviews, the Commission appears to discount that possibility, and certainly has no plans to accelerate consideration of the issue. We understand that some interested parties have asked the Commission to accelerate consideration of the 75th percentile issue, but otherwise we see no principled basis for proposing different treatment of the various matters that the Court suggested should be reconsidered. A decision on the model to be used when setting the cost of capital, and the model error associated with that choice, would be highly relevant to determining the best estimate of WACC having regard to the uncertainty involved in the estimation process. As such, the most robust approach is for these issues to be considered together, when the Commission conducts its full review of the WACC IMs. [footnotes removed and emphasis added][52]

This all suggests the work the Commission may need to undertake to reach a defensible conclusion about amendment of the WACC percentile could be wider than the Commission has anticipated, and may not be possible by the end of November. This may also have implications for the timing of the Commission's UBA and UCLL FPP determinations.

[51] ENA, Submission on "Invitation to have your say on whether the Commerce Commission should review or amend the cost of capital input methodologies", 13 March 2014, paragraph 16.

[52] NZ Airports, Response to invitation to comment on whether the Commerce Commission should review or amend the cost of capital input methodologies, 13 March 2014, paragraph 43a.

7. ESTABLISH CRITERIA FOR REVIEW AND AMENDMENT OF THE IMS

A key purpose of the IMs is to provide certainty for regulated suppliers and consumers. Specifically, section 52R of the Commerce Act states:

> The purpose of input methodologies is to promote certainty for suppliers and consumers in relation to the rules, requirements, and processes applying to the regulation, proposed regulation, of goods or services under this Part.

This purpose is undermined if IMs are too readily changed in ways that are harmful to investment certainty. We consider that a clear framework of this nature would help ensure that the Commission's practices consistently promote the Part 4 objectives. We recommend therefore that the Commission should clarify the 'entry thresholds' for different classes of IM amendment.

7.1. SECTION 52R BEST ACHIEVED IF A CLEAR POLICY FOR CHANGING THE IMS ESTABLISHED

The Commission's consultation on whether it should undertake a partial review of the cost of capital IMs outside of the statutory timeframes for review of the IMs has prompted debate about whether this would enhance or be detrimental to certainty.

When considering how to best achieve the section 52R purpose, the Commission should specifically consider what it needs to do to promote "certainty".

The IMs on their own cannot achieve the certainty that section 52R seeks. Rather, that certainty is a product of the rules established in the IMs and the behaviour of the Commission in exercising its discretion over when (and how) to reopen the IMs. Suppliers can only judge the Commission on its conduct and what can be inferred from its 'form' vis-à-vis willingness to revisit the IMs and the threshold for changing the IMs.

We consider the section 52R purpose and certainty will be best achieved by the Commission establishing and adhering to a set of principles as to when it will revisit the IMs, outside the statutory review, and the threshold any change proposal must pass before introduction. Table 4 contains our preliminary views on how the Commission should approach different types of IM change.

Table 4: Preliminary views on approach IM changes

	Limited circumstances for IM review outside of the Commerce Act's periodic review provisions:	Threshold for change
Non-contentious	i. direction from the High Court to change the IMs ii. correction of errors in the IMs (including errors of law) and minor administrative changes iii. non-contentious changes that do not have negative impacts on any stakeholders i.e. regulated suppliers and consumers	Low. The Commission should change the IMs if it is satisfied the change would be consistent with the long-term interests of consumers.
Potentially contentious	iv. evidence that the IM is insufficiently achieving its purpose; and v. other exceptional circumstances.	High burden of proof for change that a change is warranted. The Commission should only change the IMs if it can be demonstrated that an alternative approach would be materially better.

The IM changes we have advocated previously (some of which the Commission is currently considering as part of the overall RCP2 process) all fit under categories ii and iii. These changes should be adopted provided the Commission is satisfied that the changes promote the long-term interests of consumers.

7.2. Implications for the WACC percentile review

In the case of the present WACC percentile review, the starting point is not "neutral" as it was when the IMs were first determined. The Commission has made a previous decision and any exercise of discretion must take that decision into account. Further, the IMs were extensively reviewed by the High Court and, while the High Court had reservations about the WACC percentile, it concluded that there wasn't sufficient evidence to demonstrate that 50th percentile would be materially better than the existing IM.

There is no manifest error or evidence that the cost of capital IMs are not promoting the Part 4 purpose.

Given this, the approach the Commission should adopt, to best achieve the section 52R purpose, is to apply a high burden of proof to satisfy itself that a change to the IMs (either a higher or lower estimate of the WACC) would be in the long-term interests of end-users. In particular, the Commission must have good reason for making a change to the status quo. A change of position without a good reason is arbitrary, and therefore potentially unreasonable as a matter of administrative law. A change from the status quo to the 50th percentile therefore requires a good reason to act as a justification for that decision. There must be a positive reason to change that can be clearly justified objectively, not merely a change of heart by the Commission.

The threshold for an amendment in these circumstances mandated by Part 4 is the materially better threshold. Parliament has determined that, in the case of High Court review, this is the appropriate standard that best balances the need for certainty (s 52R) with the workably competitive market objective (s 52A). While the Commission is not bound to apply the same standard when undertaking its own review of the IMs, the application of the

materially better threshold ought to inform the Commission’s assessment as it indicates the threshold for change is a high one