Discussion paper

Financial performance measures

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AUSTRALIAN ENERGY REGULATOR

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Shortened forms

Shortened form	Extended form
ABS	Australian Bureau of Statistics
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
ATO	Australian Tax Office
CCP	Consumer Challenge Panel
COAG	the Council of Australian Governments
DGM	dividend growth model
energy networks	electricity and gas network service providers
the Guideline	the allowed rate of return guideline
MRP	market risk premium
NEL	national electricity law
NEO	national electricity objective
NER	national electricity rules
NGL	national gas law
NGO	national gas objective
NGR	national gas rules
RBA	the Reserve Bank of Australia
regulatory period	an access arrangement period for gas network service providers and/or a regulatory control period for electricity network service providers
the rules	collectively, the NER and NGR

Contents

1 Introduction

The Rate of Return Guideline (Guideline) outlines our approach to setting the allowed rate of return for regulated gas and electricity network services. We are currently reviewing the Guideline.

The purposes of this discussion paper are to:

- summarise submissions received from stakeholders on RAB multiples, historical profitability and financeability
- outline background material relevant to further consideration of these issues, and
- set out questions to frame discussions for the concurrent expert evidence session on 15 March 2018.

We note that a purpose of the concurrent evidence sessions is to consider whether it is appropriate to have regard to new or different sources of evidence in estimating the rate of return. This discussion paper is prepared for these sessions to assist with this purpose. We also note that the discussion papers and questions for the topics, including those contained in this discussion paper, cover a broad range of material that stakeholders wish to have considered in the Guideline review. This material should not be taken to imply the AER has yet formed views on the appropriate methodological approaches to apply, or numerical values to take, in the 2018 Guideline in determining the allowed rate of return.

2 Background

For the concurrent expert evidence session, we will seek expert views on whether the financial performance indicators of RAB multiples, financeability and historical profitability measures can or should be considered in the context of making the new rate of return guideline, and if so, then what role they should play. This question arises particularly in the context of evaluating whether the current guideline is producing outcomes which promote the objectives of the frameworks.

This section sets out:

- An introduction to issues regarding the financial performance indicators
- Submissions received from stakeholders in response to our issues paper published in October 2017 ('Issues Paper')
- Background on:
    - RAB multiples
    - financeability
    - analysis of historical profitability

2.1 Financial performance measures

Within this discussion paper we address three types of financial performance measures which have been raised by stakeholders either in submissions to the issues paper or in recent decisions. These are:

- RAB multiples
- financeability.
- analysis of historical profitability

The financial performance measures are distinct in their focus and in the data used to estimate them. However, stakeholders have submitted that they can be used to evaluate the overall reasonableness of revenue allowances for networks or, in historical performance or expectation, whether those revenue allowances are excessive or insufficient.

The rate of return is a significant driver of network revenue. So, to the extent that any of the financial performance indicators suggest that networks are systematically outperforming or underperforming compared to their regulatory revenue allowances, this may reflect shortcomings in the methodology used to estimate the rate of return. However, it is also possible that outperformance or underperformance, if observed, is driven by factors outside of the regulatory framework, such as the unregulated revenue sources that service providers generate. Even where under or over performance can be narrowed to the regulatory framework, it could be driven by other revenue building blocks such as the tax allowance or the stage of the asset's life and the corresponding point in its depreciation path.

In reviewing our rate of return methodology, we agree that it is important to evaluate whether our current methodology has been performing reasonably. We are seeking to do so by, for example, reviewing benchmark gearing or requesting actual return on debt information from networks as a sense check of our return on debt approach. As part of this process, we will also investigate potential uses of RAB multiples, other profitability analysis, and financeability for whether we can draw information specific to the rate of return. Further, we will also consider how the implementation of a binding instrument impacts the way in which we can take these measures into account.

2.2 Submissions

In response to our issues paper, stakeholders made submissions on the use of information sources to inform the guideline review including RAB multiples, profitability analysis and financeability assessments.

Table 1 Submissions on RAB multiples, profitability analysis and financeability assessments

Submission	Comment
Agricultural Industries Energy Task Force	The Agricultural Industries Energy Task Force supports the AER using a performance measurement framework and having access to detailed financial data from companies. The task force refers to a piece completed by the Sapere Group which claims that under the current guideline network owners can exceed efficient costs, prices and profits.
APA	The APA submits that information on profitability and asset sales would be largely irrelevant in assessing the allowed rate of return. However, the APA submits that considering financeability could be important seeing as providers of finance to regulated businesses have regard to allowed rates of return.
ATCO Gas Australia	ATCO Gas Australia supports using financial performance measures and potentially considering financeability assessments. ATCO makes the case that financeability assessments are routinely used by other regulators domestically and internationally, and that they are an important consideration in order to ensure the financial viability of regulated businesses.
APGA	The APGA's detailed views on profitability assessments are contained in submissions by member businesses to that ongoing review. The APGA submits that a potential profitability framework should not disrupt the incentive framework that businesses have to outperform targets.
Energy Networks Australia	The ENA's stance on profitability measures can be seen in its response to the AER's Profitability Discussion Paper. ENA submits that no weight should be given to asset sales when assessing outcomes, as the price investors pay for an asset can be impacted by a wide range of different factors. The ENA notes that financeability assessments are widely used by other regulators.
Consumer Challenge Panel – CCP16	CCP16 submits that the AER should consider profitability measures and RAB multiples in making its rate of return guideline. It submits that these measures provide directly observable evidence on whether the outcomes for the allowed rate of return match the expectations of investors and the requirements of the NEO/NGO in practice. The CCP notes that financeability tests can be used to test the financial sustainability of a proposed determination, but that they should not be used to directly determine the return on equity or the overall rate of return allowed.
Ergon Energy and Energex	Ergon and Energex's view is that information on profitability, asset sales and financeability is potentially useful in testing the reasonableness of the AER's

	determinations. Furthermore, Ergon and Energex submits that financeability tests can be particularly useful seeing as a network businesses' ability to finance its operations is central to achieving the NEO. However, the company believes that it is difficult to use measures of overall financial performance to directly inform the rate of return, seeing as there are a range of other factors that impact profitability, asset sales and financeability.
Major Energy Users	The MEU supports the AER examining profitability, asset sales and financeability measures seeing as they claim that there is little information currently available on the regulated network provider sector.
Origin Energy	Origin submits that the examination of a firm's profitability and financeability provides a useful cross-reference regarding the relationship between regulatory returns and the broader performance of the business. However, Origin believes that the principles set out in the guideline must maintain primacy in determining how the actual return is derived.
Public Interest Advocacy Centre (PIAC)	The PIAC supports the AER having access to additional data sets on areas such as profitability and financeability.
Spark Infrastructure	Spark submits that the current approach to setting a rate of return is prudent and that considering profitability, RAB multiples or financeability measures is not necessary. Spark supports the AER's benchmark approach and believe that this provides businesses with incentives to operate efficiently
Energy Consumers Australia	ECA encourage the AER to gather additional information on regulated businesses to institute profitability reporting.
Energy Users Association of Australia (EUAA)	The EUAA supports examining profitability measures and argues that it is a weak argument to state that "there are many reasons for actual profitability to be above the Allowed Rate of Return Objective so we should not be worried about actual profitability".

Source: Agricultural Industries Energy Taskforce, AER discussion paper profitability measures for regulated gas and electricity network business, December 2017, p3; APA, APA submission responding to AER issues paper, 12 December 2017, p3; ACTO Gas Australia, review of rate of return guideline – issues paper, 12 December 2017, p4; APGA, Submission to the Issues Paper – AER Review of the Rate of Return Guideline, 12 December 2017, p5; Energy Networks Australia, AER Rate of Return Guidelines – Response to Issues Paper, 12 December 2017, p13; Consumer Challenge Panel, Submission to the AER on its Rate of Return Guideline Issues Paper, December 2017, p6; Ergon Energy and Energex, Issues Paper – Review of the Rate of Return Guidelines, December 12 2017, p3; Major Energy Users, Review of the rate of return guidelines, December 2017, p14; Origin Energy, Review of rate or return guidelines, 12 December 2017, p2; Public Interest Advocacy Group, Submission on rate of return guideline review issues paper, 18 December 2017, p1; Spark Infrastructure, Response to issues paper on the review of the Rate of Return Guidelines, 12 December 2017, p4; Energy Consumers Australia, Review of the rate of return guideline, December 2017, p13; Energy Users Association of Australia, EUAA submission – AER Rate of Return Review Issues Paper, October 2017, p4.

2.3 RAB multiples

In its simplest form, a RAB multiple is the market value of the firm (its enterprise value) divided by its regulatory asset base (RAB)[1]. If used carefully, RAB multiples may be able to provide information on whether a regulated firm is under or over-valued, and on

[1] Biggar, Darryl, *Should the AER pay attention to RAB multiples in its regulatory processes?* January 18 2016, p. 1.

whether revenue determinations accurately reflect the actual financial performance of a company.

When calculating RAB multiples, there are two main sources of data that can be used to evaluate the market value of equity in the regulated business. They are:

- Acquisition data – the purchase price when a transaction[2] of the regulated business occurs, or
- Trading data – the existing share price of a business that has an equity ownership in the regulated business.

Subject to satisfying several conditions, a RAB multiple of 1 indicates that the present value of the future stream of expected cash-flows of the firm is equal to the regulatory asset base. This means that investors are compensated exactly at a level to encourage efficient investment, satisfying what we refer to as the NPV=0 criteria.

RAB multiples are closely related to profitability measures. However, where 'profitability analysis' commonly refers to backwards looking evaluations of actual profit—commonly by reference to financial reports—RAB multiples are a market-based measure of expected profitability (amongst other factors).

The AER has previously examined RAB multiples, and had regard to them as a general test for the reasonableness of regulatory decisions[3]. Whilst RAB multiples have frequently been cited in revenue determinations, they have not been systematically used in the regulatory process. However, stakeholders have requested that we reconsider the use of RAB multiples.

We discuss RAB multiples further in section 3.

2.4 Financeability

Financeability refers to a business's ability to meet its financing requirements and to efficiently raise new capital. In the regulatory context, it often refers to the service provider's ability to achieve the benchmark credit rating which feeds into estimation of the rate of return. Some stakeholders submitted that we should have regard to financeability and financial metrics, noting that other regulators domestically and internationally include financeability analysis within their regulatory frameworks.

Regulated networks have previously made proposals to the AER submitting that we should have regard to financial metrics in making our determinations on the rate of return or, more commonly, on approved depreciation profiles. [4]

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[2] A transaction may only involve the purchase of a certain portion of equity in a regulated business, in which case, an implied RAB multiple would be calculated based on the price paid for the percentage of shares acquired.

[3] See for example, AER, Access arrangement final decision – Multinet Gas 2013-2017 – Part 3: Appendices, p. 81.

[4] See Final Decision, Australian Gas Networks Access Arrangement 2016-2021, Attachment 5 – Regulatory depreciation.

In those decisions, we have not relied directly on financeability metrics in determining regulated revenue. To the extent that other regulators have incorporated these measures in their analysis, they have:

- typically referred the issue back to networks to manage; and
- explicitly limited themselves to adjustments (typically accelerating depreciation) which do not affect the net present value of the asset's cash flows.

We discuss financeability assessments further in section 4.

2.5 Analysis of historical profitability

Like RAB multiples, stakeholders have recommended that we could evaluate the outcomes produced by our current guideline by reference to historical profitability analysis.[5] Typically, this sort of analysis would involve standard accounting metrics that are based off the statutory accounts of a company. This includes measures such as the net profit margin and the return on assets, for example.

During recent determination processes, consumer groups have made submissions raising concerns around excessive profitability of regulated electricity and gas businesses and hence the need for ongoing profitability reporting and assessment.[6] In response to those submissions, we have commenced a separate consultation process exploring the use of profitability measures for regulated gas and electricity network businesses.

We released a discussion paper on profitability measures for regulated electricity and gas network businesses in November 2017, which included a study undertaken by McGrath Nicol on the measures of financial performance that could be applied to the electricity and gas businesses we regulate. McGrath Nicol's study identified a range of possible financial performance measures and ranked them against a set of pre-determined criteria[7].

In the consultation process on the review of profitability measures we will address:

- How profitability analysis might play a role in monitoring the performance of networks against our benchmark allowances.
- How profitability analysis might assist the AER in setting regulatory allowances.
- Which measures are most relevant for this sort of reporting.

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5 As noted previously, RAB multiples may be thought of as a subset of profitability analysis. For our purposes we have distinguished 'profitability analysis' as referring accounting based measures of cash flows.

6 See for example: Consumer Challenge Panel - Subpanel 4 (Hugh Grant and David Headberry) - 20 June 2016- Advice on Powerlink regulatory proposal 2017-22 ; AGL Submissions to the AER on the NSW Electricity Distribution Networks 2014-19 Revenue Proposals, August 2014; Consumer Challenge Panel - Subpanel 2 (Hugh Grant) — 3 September 2015 — Submission on the AER's Preliminary Revenue Determinations for the Queensland Distributors.

7 A copy of McGrath Nicol's report may be found at https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/profitability-measures-for-regulated-electricity-and-gas-network-businesses

- What data is currently available and what data would be necessary to reliably report on these measures.

Our draft decision on our review of profitability measures is due to be released soon.

3 RAB multiples

RAB multiples are in general terms a ratio of the market value of the firm compared to the book value of a firm.

3.1 Previous AER considerations

We have previously considered the evidence from and possible use of RAB multiples.

In the May 2013 consultation paper issued as part of the previous review of the Rate of Return Guideline, we have stated as a preliminary position that we would continue to use reasonableness checks on the overall rate of return informatively. That is, reasonableness checks may act to prompt us to re–examine the approach to estimating the return on equity, return on debt, or gearing ratio. Reasonable checks examined included RAB acquisition and trading multiples.

We stated that:

> "For recent transactions of regulated assets, for which relevant data is available, we have previously compared the market value (that is, the sale price) with the book value (that is, the regulatory asset base). If the market value is above the book value, this may imply that the regulatory rate of return is above that required by investors. Conversely, when the market value is below the book value, this may imply that the regulatory rate of return is below that required by investors.
>
> Caution must be exercised, however, before inferring that the difference indicates a disparity in WACCs, particularly where the difference is small. A range of factors may contribute to a difference between market and book values. A RAB multiple greater than one might be the result of the buyer:
>
> - expecting to achieve greater efficiency gains that result in actual operational and capital expenditure below the amount allowed by the regulator
> - increasing the service provider's revenues by encouraging demand for regulated services
> - benefiting from a more efficient tax structure or higher gearing levels than the benchmark assumptions adopted by the regulator, and growth options
> - expecting to achieve higher returns if regulation is relaxed.

Subsequently, in the 2013 Rate of Return Guideline, Explanatory Statement, we stated that:

> "We propose to not apply levels and changes in RAB acquisition and trading multiples as a direct reasonableness check on the overall rate of return at the time of a particular revenue determination or access arrangement. Instead, we propose to use these multiples as part of a set of indicators that we monitor over time and across network businesses to help inform us of potential areas of inquiry and research. This more general use of these multiples reflects the fact that there are many potential influences on RAB acquisition and trading multiples, such as changes in the expectations and the realisations of business revenues, expenditures and rates of return. Given these many potential

influences, any changes in these multiples may not be immediately attributable to any one factor.[8]"

3.2 Published multiples data

For discussion, we have set out below some published RAB multiples relating to firms either regulated by the AER, or close comparator firms. We have divided these into two sections:

- RAB multiples based on asset sales or transactions
- RAB multiples based on traded equity prices

Transaction RAB multiples

For reference, we have set out two tables below based on analysis by Morgan Stanley setting out a series of transaction multiples spanning from 2002 to 2017:

- Table 2 sets out those assets for which the transactions occurred while the network was regulated under the AER's regulatory regime
- Table 3 sets out those assets for which the transactions occurred while under other regulatory regimes.

Table 2- Australian Historical Network Trade Sale Multiples - for acquisitions under the AER's regulatory regime

Date	Asset		RAB Multiple
Oct-10	Country Energy Gas Distribution Network	Gas - Distribution	1.19x
Jun-11	Amadeus	Gas – Distribution	1.17x
Jun-11	Multinet Gas (20.1%)	Gas – Distribution	1.13x
Dec-11	Allgas Energy	Gas – Distribution	1.30x
Dec-12	ElectraNet (41.11%)	Electricity – Transmission	1.30x
May-13	SP AusNet (19.99%)	Gas – Distribution Electricity – Transmission & Distribution	1.23x
May-14	Diversified Utilities & Energy Trust (14.1%)	Gas – Transmission & Distribution Electricity - Distribution	1.34x
Sep-14	Envestra (67%)	Gas – Transmission & Distribution	1.54x
Nov-15	TransGrid	Electricity - Transmission	1.61x
Jun-16	TransGrid (2.5%)	Electricity - Transmission	1.63x
Oct-16	Ausgrid (50.4%)	Electricity - Distribution	1.41x

[8] *AER 2013 Rate of Return Guideline, Explanatory Statement*, p 48

May-17	Endeavour Energy (50.4%)	Electricity - Distribution	1.58x

Note: Given the AER's first determination was for Powerlink's transmission network (Queensland) in June 2007 (for the regulatory period 1 July 2007 to 30 June 2012), we have only included transactions that occurred after this date for the purposes of analysing RAB multiples under the AER's regulatory regime.

Source: Morgan Stanley, *Best Endeavours – Australia Regulated Utilities*, 11 May 2017, p 2.

Table 3- Australian and New Zealand Historical Network Trade Sale Multiples - for acquisitions outside of the AER's regulatory regime

Date	Asset		RAB Multiple
Aug-02	CitiPower	Electricity - Distribution	1.69x
Jul-03	United Energy	Electricity - Distribution	1.52x
Aug-04	Dampier to Bunbury Natural Gas Pipeline	Gas - Transmission	1.20x
Aug-04	Southern Cross Pipelines & Parmelia Pipeline	Gas - Transmission	1.47x
Nov-05	Spark Infrastructure	Electricity - Distribution	1.31x
Dec-05	SP AusNet	Gas – Distribution Electricity – Transmission & Distribution	1.22x
Mar-06	MurrayLink	Electricity – Transmission	1.47x
Apr-06	AGL Infrastructure	Gas – Transmission & Distribution	1.47x
Aug-06	GasNet	Gas – Transmission	2.19x
Oct-06	Allgas Energy	Gas – Distribution	1.64x
Dec-06	DirectLink	Electricity – Transmission	1.45x
Apr-07	Envestra (17.2%)	Gas – Transmission & Distribution	1.11x
Nov-08	Powerco (58%)	Gas – Distribution Electricity - Distribution	1.80x
Jun-11	West Australia Gas Network	Gas – Distribution	1.22x
Jun-11	Dampier to Bunbury Natural Gas Pipeline (20%)	Gas – Transmission	0.95x
Jul-13	Powerco (42%)	Gas – Distribution Electricity - Distribution	1.27x
Nov-15	Vector Gas	Gas – Transmission & Distribution	1.37x
Mar-16	Dampier to Bunbury Natural Gas Pipeline (20%)	Gas – Transmission	0.94x

Source: Morgan Stanley, *Best Endeavours – Australia Regulated Utilities*, 11 May 2017, p 2.

This time-series of data shows that, both for those networks regulated by the AER and those not, RAB multiples have typically been above 1x.

In particular:

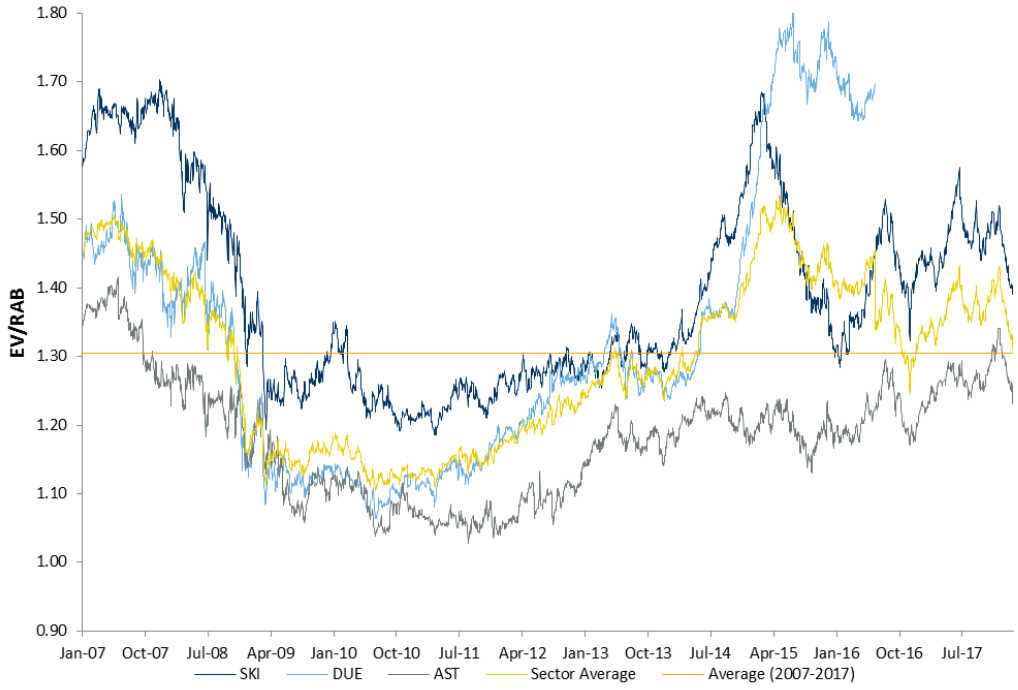
- the average RAB multiple is about 1.37x for the transactions under the AER's regulatory regime

- the average RAB multiple for relatively recent transactions undertaken after the release of the 2013 Rate of Return Guidelines was about 1.52x
- the average RAB multiple for transactions prior to the AER's first determination[9] and for businesses not regulated by the AER is about 1.41x.

Trading multiples

It is also possible to estimate RAB multiples using traded share prices and the number of shares on issue to estimate the market value of equity in the firm. Figure 1 below sets out a time series of trading RAB multiples provided to the AER by Royal Bank of Canada Capital Markets.

Figure 1 Royal Bank of Canada estimates of trading multiples (unadjusted)



Source: Royal Bank of Canada Capital Markets

In similar analysis published in August 2016, RBC Capital Markets commented that:[10]

- Unadjusted EV/RAB multiples have traded from a low of 1.1x in 2009-10 to 1.5x broadly consistent with the levels seen pre the global financial crisis.
- The listed sector has experience significant change over the last decade, not just regulation, including gearing levels, dividend policies, governance, technology risk, M&A.

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9 The AER's first determination was for Powerlink's transmission network (Queensland) in June 2007.

10 Royal Bank of Canada, ASX network utilities— Investor survey on regulation, August 2016, p. 7.

- The macro environment, both domestically and globally, have changed substantially.

3.3 Other regulators

Other regulators that we are aware of with similar regulatory frameworks have also engaged with the possible use of RAB multiples in evaluating regulatory methodologies. Below we have outlined commentary on the use of RAB multiples from:

- The New Zealand Commerce Commission (NZCC)
- The UK Civil Aviation Authority (CAA)
- The UK Office of Water (Ofwat)
- The Queensland Competition Authority (QCA)

New Zealand Commerce Commission (NZCC)

In its 2016 review of the cost of capital, the NZCC stated that:

> "As part of our reasonableness checks, we have considered RAB multiples for regulated energy and airports businesses in New Zealand. RAB multiples can provide a useful indicator of whether the allowed rate of return has been set at a sufficient level to adequately compensate investors for putting their capital at risk[11].

NZCC considered RAB multiples as one factor in determining the appropriate WACC percentile which was reduced from 75th to 67th percentile in 2014.[12] NZCC listed the main factors relating to RAB multiples that influenced this decision as follows:

- "The available RAB multiples suggest there is significant scope to reduce the WACC uplift below the 75th percentile estimate; but
- Given that the potential long-term costs to consumers of under-estimating WACC are substantial, some conservatism (ie, erring on the high side) remains appropriate when determining the WACC percentile." [13]

NZCC described in the purpose of its RAB multiples analysis as follows[14]:

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11 Commerce Commission of NZ, *Input methodologies review draft decisions Topic paper 4: Cost of capital issues*, June 2016, p161

12 In October 2014, the New Zealand Commerce Commission released its final determination on one aspect of its approach to estimating the WACC for regulated electricity lines and gas pipeline businesses in New Zealand. When determining regulated prices for these businesses, the Commission needs to determine an appropriate return on capital. Prior to this decision, the Commission does so by estimating a WACC range and applying the rate that corresponded to a certain percentile of that range. They made a final decision to reduce the percentile from the 75th percentile to the 67th percentile.

13 Commerce Commission of NZ, *Amendment to the WACC percentile for price-quality regulation for electricity lines services and gas pipeline services Reasons paper*, 2014, p13

14 Commerce Commission of NZ, *Amendment to the WACC percentile for price-quality regulation for electricity lines services and gas pipeline services Reasons paper*, 2014, p156

- "The AER had considered using RAB multiples in its rate of return guidelines but had decided not to because 'RAB multiples were influenced by a range of factors, and could not be attributable to any one factor'.
- We agree with the AER's position. RAB multiples indicate whether there is a source of excess returns relative to the regulator's assumptions. They do not however indicate what the source is.
- Consistent with the AER's approach, we are not using RAB multiples to assess the reasonableness of the individual WACC parameters used to estimate the WACC mid-point.
- Our focus is not on isolating the individual sources of excess returns. Rather our objective is to assess whether the existing WACC uplift is too generous."

NZCC described the following as the key findings and conclusions:

"Summary of observed RAB multiples[15]

Name of EDB	Date of transaction	RAB multiple (standard)	RAB multiple (adjusted)
Vector	June 2013	1.14	1.36
Powerco	July 2013	1.30	1.48
The Lines Company	December 2013	0.77	1.03
OtagoNet	September 2014	1.89	1.91
Average (simple)		**1.28**	**1.45**
Average (weighted)	**-**	**1.20**	**3.40**

- "There is evidence of excess returns available to investors in regulated utilities. This suggests that the risk of not attracting investment is low.
- The observed RAB multiples do not identify the drivers of excess returns. This is not an issue given that we are not using these indicators to assess the reasonableness of the WACC parameters or the WACC mid-point.
- We are assessing whether the current WACC uplift is too generous which does not require us to pinpoint the specific drivers of the excess returns.
- Given the evidence of excess returns, we consider the current WACC uplift may be too generous.
- We have estimated that reducing the WACC uplift from the 75th to the 67th percentile would have a relatively small impact on observed RAB multiples. We would expect a RAB multiple of 1.20 to fall to approximately 1.16 following a reduction in the WACC uplift from the 75th to the 67th percentile"[16].

In our reading of the NZCC's decisions, this could be described as a 'directional' use of RAB multiples. The NZCC has not attempted to directly increase or decrease its rate of return estimates in proportion with RAB multiples. Instead, the NZCC appears to have relied on RAB multiples generally in support of a view that its current approach provided rates of return that were at least sufficient.

UK Civil Aviation Authority (CAA)

[15] NZCC calculated both 'standard' and 'adjusted' RAB multiples. The later include other financial obligations in the estimate of enterprise value. NZCC subtracted the value of capital works in progress from enterprise values because capital works in progress are not included in the RAB.

[16] Commerce Commission of NZ, *Amendment to the WACC percentile for price-quality regulation for electricity lines services and gas pipeline services Reasons paper*, 2014, p151

The UK's Civil Aviation Authority (CAA) expressed its position on market-to-asset ratios (MARs) as:

> "The CAA agrees that MARs should be interpreted with caution. By comparing the airport operator MARs to other sectors with higher MARs starts to make inference about whether other sectors have got it 'right' or 'wrong'. This does not take the discussion forward. By comparing the MARs to 1, ignores the idea that a small modest premia might be desirable. The CAA considers that the MARs calculated in respect of HAL disposals (1.09 to 1.14) are within a range that does not give the CAA concern that the current WACC is too high or too low."[17]

UK Office of Water (Ofwat)

In its final methodology paper for its 2019 price review (PR19) Ofwat discussed the relevance of RAB multiples (Market to Asset Ratios, or MARs) for its upcoming price reviews[18].

It noted that it had seen significant premiums in private transactions since 2010 – that MARs for some private transactions had exceeded 1.5, and that PwC's analysis of transactions over 1998-2007 had found that MARs in recent years had been greater than the average multiple of 1.24 for the period[19].

For its draft methodology paper, Ofwat asked PwC to investigate the MARs to test Ofwat's hypothesis of whether the premiums observed in the MARs were due to investors' expectations of outperformance against the allowed cost of equity. For this investigation, Ofwat selected two listed water companies (United Utilities and Severn Trent) with predominantly regulated business activities that were close to being pure-play water companies.

PwC, in its analysis, estimated:

- A raw MAR of 1.24 for United Utilities and 1.27 for Severn Trent. It then adjusted them for potential outperformance of regulatory benchmarks by calculating the future cashflows of the two businesses from an analyst's forecast of outperformance, and subtracted their present value from the excess of enterprise value over the RCV (regulated capital value, or RAB).

It then calculated final estimates of MARs of:

- 1.10 for United Utilities and 1.12 for Severn Trent.

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[17] Civil Aviation Authority, *Estimating the cost of capital: a technical appendix to the CAA's Final Proposal for economic regulation of Heathrow and Gatwick after April 2014 CAP 1115*, 2013, p78

[18] Delivering Water 2020: Our methodology for the 2019 price review, Appendix 12: Aligning risk and return – December 2017

[19] Delivering Water 2020: Our methodology for the 2019 price review, Appendix 12: Aligning risk and return – December 2017, p 51

PwC then attributed the residual observed RAB premium of 10 and 12 percent to outperformance in the cost of equity (ie, that the allowed return on equity is set above investors' expected cost of equity)[20].

In response to Ofwat's draft methodology paper, PwC's MAR analysis drew criticism on three key grounds:

- Subjectivity of outperformance assumptions – that judgements on the contribution of specific factors to outperformance are subjective and unreliable.
- Omission of other contributions to outperformance – failure to capture sources of outperformance other than the cost of equity eg, growth in the RCV, non-regulated revenue.
- Unrepresentativeness of the listed companies – that the two companies were particularly high performers in various categories of cost outperformance and so inferences could not be drawn to the rest of the sector[21].

Also, in consideration of PwC's MARs analysis for Ofwat, National Grid in the UK commissioned NERA to consider the evidence on MARs for National Grid and UK water companies, including the analysis undertaken by PwC for Severn Trent and United Utilities[22]. NERA considered that PwC had not accurately made adjustments for non-regulated, non-wholesale businesses, outperformance opportunities and pension deficits/surpluses. NERA found that the MARs for the businesses, after adjusting for the identified issues, can be approximately 1x. Therefore, NERA considered that there was no evidence to suggest that investors' expected cost of equity is lower than the allowed returns for the water sector[23].

In its final methodology paper, Ofwat recognised that deconstructing MARs and attributing the source of the premium is dependent on assessments of future outperformance and judgement over how long this will apply and that there is some uncertainty around these parameters. However, Ofwat still considered that MARs analysis provides a valuable source of information and that it is appropriate that Ofwat takes it into account in its assessments of the overall estimate of the return on equity[24].

Queensland Competition Authority

In its February 2014 report on the split cost of capital, the Queensland Competition Authority referred CEPA's report[25] to the UK Office of Rail Regulation which discussed premia for traded values relative to the RAB of 10-30% for 29 regulated airport, energy

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[20] NERA, Implications of Observed Market-to-Asset Ratios for Cost of Equity at RIIO-T2, December 2017, p 9.

[21] Delivering Water 2020: Our methodology for the 2019 price review, Appendix 12: Aligning risk and return – December 2017, p 52.

[22] NERA, Implications of Observed Market-to-Asset Ratios for Cost of Equity at RIIO-T2, December 2017.

[23] NERA, Implications of Observed Market-to-Asset Ratios for Cost of Equity at RIIO-T2, December 2017, p 10.

[24] Delivering Water 2020: Our methodology for the 2019 price review, Appendix 12: Aligning risk and return – December 2017, p 52.

[25] Cambridge Economic Policy Associates 2013, *Advice on Estimating Network Rail's Cost of Capital, June*, 2013, p46

and water companies and reported that it is highly unlikely this outperformance on incentives and cost would contribute to any more than 10% of the premium[26]. It also stated the comparable performance of the regulated infrastructure sector in Australia with "the premia to RAB values average 22% across the Australian businesses and 35% for Powerco in New Zealand provide evidence that the market value assigned to most regulated assets is significantly higher than their respective EAB values"[27].

3.4 Independent expert views

Independent experts have also outlined views on the information value of RAB multiples and the extent to which they can assist regulators in making decisions on issues such as the rate of return.

In this section, we do not aim to exhaustively cover all the views, but rather highlight some of the key considerations to facilitate discussion. In section 6 of this discussion paper we suggest some questions for further discussion in the subsequent section.

In this section, we discuss:

- A new report by Darryl Biggar from the ACCC's Regulatory Economics Unit which we requested and have published with this discussion paper.
- Previous expert commentary by Frontier Economics, McKenzie and Partington and McGrath Nicol.

Biggar

To assist our consideration of this issue, we requested Dr Darryl Biggar from the ACCC's Regulatory Economics Unit to produce a report on the interpretation of RAB multiples. We have published that report with this discussion paper.

Dr Biggar indicates that under strict conditions, the RAB multiple may be expected to be close to 1x if the following conditions hold:

- The enterprise value (or market value) of the firm must be a reasonable reflection of the discounted value of the future stream of cash flows eg, buyers have not over-paid (however, the "winner's curse" suggests that the winning party in an auction or tender process is likely to have over-paid).
- The revenue and expenditure streams of the firm which is valued on the market must be the same as revenue and expenditure streams of the regulated firm for which the RAB applies.
- The regulatory framework must use one of the standard forms of the building block model and must be expected to continue to do so into the future.

[26] Queensland Competition Authority, *The Split Cost of Capital Concept February 2014*, 2014, P11

[27] Queensland Competition Authority, *The Split Cost of Capital Concept February 2014*, 2014, P12

- The actual revenue received by the regulated firm must not systematically depart from the forecast regulatory revenue allowance
- The forecast regulatory revenue allowance must not systematically depart from the actual expenditure of the regulated firm.
- The forecast expenditure (and tax) building blocks must not systematically depart from the actual expenditure (and tax) incurred by the regulated firm.
- The regulatory cost of capital must not systematically depart from the regulated firm's actual cost of capital.

Dr Biggar identifies that a RAB multiple which is different from 1 could be a sign of a flaw or defect in the regulatory framework or methodologies. The RAB multiple could therefore play a role as a trigger for further investigation. That investigation would seek to explore the factors which might be driving the RAB multiple. Such an investigation would examine the conditions listed above, and try to determine whether they are influential in accounting for the RAB multiple observed. If the regulator concludes that these factors cannot fully explain the persistence of a RAB multiple which is larger than one, then it is possible that a regulator could use RAB multiples as a source of evidence in support of reduce the regulatory-allowed cost of capital.

Dr Biggar investigates whether using RAB multiples would introduce an element of circularity - in that investors would recognise that the RAB multiple will be used to adjust the firm's allowed cost of capital, and they will take this into account when determining how much the firm is worth. However Dr Biggar concludes that a better estimate of the true rate of return estimate or methodology may be determined having careful regard to RAB multiples amongst other sources of evidence.

Frontier Economics

Frontier Economics has previously stated that:

- a RAB multiple being above 1 does not imply that the regulator's allowed return is overly generous, and that
- a regulator cannot make any use of RAB multiples when setting allowed returns[28].

It indicated that the possible reasons why RAB multiples may be greater than 1 are:

- outperformance of regulatory benchmarks - businesses are able to keep some of the gains if they perform better than their regulatory allowances under incentive-based regulation
- potential diversification benefits - acquiring a particular regulated business (or a share of the business) may provide a diversification benefit to the purchaser's existing investment portfolio by asset type, geography, regulatory timing and partnering[29]

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[28] Frontier Economics, *Why do regulated assets sell for more than the RAB? – IPART 25th Anniversary Conference*, October 2017.

[29] Spark Infrastructure Investor Presentation Materials, 25 November 2015.

- growth options - there may be long term growth options in the RAB due to macro-economic driven demand growth expectations, and change in generation mix to renewables, or opportunities to grow the non-prescribed [ie, unregulated] business activity [30], and
- control premiums - purchasers usually pay a premium to acquire a controlling interest in a business.

Frontier Economics also used the 99 year lease TransGrid transaction in 2015 (RAB multiple of 1.55x) as an example to indicate that not much could be concluded about the generosity of the AER's allowed returns. Frontier Economics highlighted that there were only 4-years remaining in the regulatory period at the time with 95-years remaining on the lease, in addition to a merits review process that was already underway (which we note would have created uncertainty over TransGrid's rate of return)[31].

McKenzie and Partington

McKenzie and Partington have previously indicated that the source of the value premium in RAB multiples could arise from: economies of scale and synergies in general; opportunities for efficiency gains; opportunities for growth; potential to exploit tax shields; or because the allowed regulated return is above the return really required. They also indicate that it is difficult to attribute the value premium across these components[32].

McGrath Nicol

McGrathNicol, in its recent report on review of financial performance measures commissioned by the AER, considered the available measures and data to report on network profitability. For the purpose of the report, the key objectives of the financial performance measures was defined as to measure the actual probability of a regulated entity, and to allow the AER to compare the actual probability of the regulated entity to the allowed return on equity from its regulatory determination, actual profit of other regulated entities and actual profit of other businesses operating in the Australian economy. In this context, McGrathNicol's overall assessment of RAB multiples was '*may be an appropriate measure*' (as opposed to '*Appropriate measure'* and '*Not likely to be an appropriate measure'*). In arriving at the assessment for RAB multiples, McGrathNicol commented:

- It may be difficult to calculate consistently over time, due to reliance on the availability of data used to determine enterprise values (e.g. there may be no recent sale of similar businesses that could be used as comparable transactions).

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[30] Spark Infrastructure Investor Presentation Materials, 25 November 2015.

[31] Frontier Economics also discussed a critique of the AER's long-standing approach of adding a constant fixed risk premium to the prevailing risk-free rate – businesses have previously submitted that this can lead to under-compensation when rates are low, vice-versa. Frontier Economics noted the current under-compensation but indicated that it may be expected to average out in the long run.

[32] McKenzie and Partington, *Report to Corrs Chambers Westgarth - Equity market risk premium*, December 2011, p 34.

- Enterprise values would need to be determined through a business valuation process and may not be accurate and likely to rely on assumptions.

- There is support by industry experts for RAB multiples as a measure of profitability, though there may be a number of factors that influence the RAB multiple. It may not be accurate to interpret a ratio greater than 1 as meaning that a business is earning profits in excess of its cost of capital (WACC).

- It may be comparable to other regulated businesses, but less comparable to businesses in other industries (as a market asset ratio for businesses in non-regulated industries would incorporate factors such as management capability and internally generated goodwill that is not able to be capitalised in the asset base).

- However it may be useful to calculate for the regulated businesses as likely to be a good, although potentially imprecise, indicator of profitability (or expected profitability). Also it may indicate that a business is earning adequate returns (where RAB multiple is greater than 1)[33].

[33] McGrathNicol, *Review of measures of financial performance that could be applied to the Electricity and Gas businesses the AER regulates,* 15 June 2017, p.51

4 Financeability

In response to our Issues Paper, several stakeholders commented on financeability assessments and the role it should play in our rate of return guidelines. There were mixed views with some submissions supporting the consideration of financeability assessments[34] whilst others consider that they should not be used directly to determine the return on equity or the overall rate of return achieved[35].

We have previously undertaken detailed analysis on the use of financeability assessments within the building block regulatory framework.[36] Like all other regulators whose views on financial metrics we are aware of, our views in past decisions have been that it is inappropriate to adjust the rate of return or any other NPV non-neutral revenue component to address financeability metrics.

To the extent that other regulators have directly responded to financeability issues in their determination, they have done so either:

- by referring the financeability issue back to networks to manage—for example, IPART observes that:

  > "the shareholders of a utility or its management are best placed to deal with short-term financial issues. For example, if management is embarking on a major capital expansion program, an option for management to fund the program is to reduce the level of dividends for a period of time"[37]

- through the depreciation allowance.

The depreciation allowance, however, is outside the scope of this guideline review.

We will consider further whether and how financeability analysis could inform development of a binding rate of return instrument, noting that:

- financial metric assessments are, by their nature, company specific
- the availability of revenue and cost projections are, in turn, dependent on specific revenue proposals
- the credit ratings process appears to depend significantly on qualitative analysis by the credit ratings agencies.

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34 For example, APGA, Submission to the Issues Paper – AER Review of the Rate of Return Guideline, 12 December 2017, p5, Ergon Energy and Energex, Issues Paper – Review of the Rate of Return Guidelines, December 12 2017, p3, Origin Energy, Review of rate or return guidelines, 12 December 2017, p2

35 For example, Consumer Challenge Panel, Submission to the AER on its Rate of Return Guideline Issues Paper, December 2017, p6, Spark Infrastructure, Response to issues paper on the review of the Rate of Return Guidelines, 12 December 2017, p4

36 See for example: AER, Final decision for AGN South Australia—Attachment 5: Regulatory Depreciation, May 2016, pp. 62–80.

37 IPART, *Financeability tests in price regulation*, December 2013, p. 18.

In this section we have set out some analysis of:

- background to financeability
- the approach adopted by other regulators
- use of financeability in a building block revenue framework

For further details regarding our previous analysis of financeability (including the approach adopted by other regulators and analysis of financial metrics within a building block framework) please see Attachment 5 of our final decision on Australian Gas Networks (AGN) access arrangement (2016-2021)[38].

4.1 Background

As employed by ratings agencies, financial metrics are measures of financial risk taking into account forecast revenue streams and cost drivers. The most commonly used ratios are measures of cash flow availability to meet its debt obligations, after taking into account the company's operating expenditures. Common ratios considered in this sort of analysis include:

- FFO to debt ratio: defined as FFO/debt
- FFO interest cover: defined as (FFO + interest)/interest
- Gearing.

Credit ratings agencies use these or similar metrics to quantify levels of financial risk as part of a broader assessment of creditworthiness.[39] However, the use of these metrics for a notional benchmark entity is different to the way that ratings agencies employ them to assess actual companies. This is because, unlike an actual company, the notional entity using our benchmark assumptions (gearing, credit rating, term of debt etc) has revenue allowances set in proportion to forecasts of efficient costs. In contrast, when assessing financial metrics for an actual company, credit ratings agencies base their assessment on actual costs, and projections of those costs. This reflects the reality that for actual companies, including service providers as assessed by the ratings agencies, there is no strict link between actual costs and revenues. The absence of this direct link creates a risk that revenue will not match costs. However, a notional benchmark entity has revenue set precisely to target its expected costs and our decision on the required return on equity.

4.1.1 NPV neutral vs non-neutral

[38] AER, *Australian Gas Networks Access Arrangement 2016 to 2021- Final Decision*; Attachment 5 – Regulatory depreciation, May 2016.

[39] See for example: Standard and Poor's, Criteria—Corporates—Utilities: *Key credit factors for the regulated utilities industry*, Nov. 2013; Moody's Investor Service, *Rating Methodology: Regulated Electric and Gas Utilities*, December 2013.

We and other regulators refer to 'NPV neutral' or 'NPV non-neutral' adjustments to revenue allowances. This refers to whether a service provider:

- NPV neutral—is no better or worse off over the life of the asset in net present value terms; or
- NPV non-neutral—an adjustment leads to an increase or decrease in revenue over the life of the asset.

Typically, the only NPV neutral adjustment that can be made within the building block revenue allowance is an acceleration or deceleration of the regulatory depreciation allowance. Regulatory depreciation is the means by which service providers and their investors recover the face value of capital investment over the economic lives of the assets. The value of the asset which remains in the asset base after depreciation generates a return on capital to reflect the outstanding financing costs of that investment. It is because of this effect that assets in the capital base can be depreciated in any time-path to zero and remain equivalent in net present value terms with other possible depreciation paths.

In contrast, an adjustment to the rate of return or other building blocks such as tax or operating expenditure is NPV non-neutral unless an explicit mechanism is introduced to 'claw back' that revenue later. That is, any increase (or decrease) to the rate of return will result in higher (or lower) revenues for the service providers and investors in net present value terms over the life of the asset, holding other things constant.

4.2 Steps in undertaking a financeability assessment

There are two steps in evaluating the financeability of a revenue determination by reference to financial metrics:

- Estimating the metrics for the particular network in question—using either a notional revenue and cost stream (term, gearing, costs of debt etc) or actual revenue and costs
- Determining benchmark financial metric values to determine whether a service provider is financeable, or typically, whether they should be able to achieve the benchmark credit rating on which the return on debt is set.

4.2.1 Estimating financial metrics for the network

To generate estimates of costs and revenue within the building block revenue framework we would need to adopt assumptions of the post-tax revenue model (PTRM). For example, the assumed interest costs faced by the service provider is equal to the return on debt multiplied by the benchmark debt funded portion of the capital base and the assumed operating costs are equal to the opex allowance. This results in an unavoidable limitation where major drivers of the overall revenue allowance do not influence the estimated financial metrics.

In contrast, to evaluate financeability by reference to the networks' actual circumstances, we would need to incorporate all actual costs including gearing, costs of debt and tax into our analysis.

4.2.2 Finding an appropriate benchmark

In order to undertake a financeability assessment using forecast or observed financial metric, it is also necessary to determine threshold metrics (or ranges) associated with a particular credit rating.

Credit ratings agencies periodically publish details of their range benchmarks for particular credit ratings. However, it also appears that ratings agencies retain some discretion or flexibility in the way these benchmarks are applied and evaluated given the relative stability of observed ratings amongst regulated networks despite significant variability in key drivers of network revenue (such as the risk free rate). For our purposes, it appears that we would need to determine an appropriate threshold that could be used as a 'bright line' for any adjustments.

4.3 The approach adopted by other regulators

In our previous analysis on the financial metrics and their possible use in the regulatory framework, we considered in detail the approaches, commentary and expert advice adopted by other regulators in Australia and in the United Kingdom. Overall, our view was that this body of evidence indicated that:

- other regulators do not apply financial metrics strictly or with determinative weight
- where there appear to be short term dips in financial metrics, other regulators refer these issues to the regulated service providers to manage in the first instance. — For example, IPART observes that:[40]

  > "the shareholders of a utility or its management are best placed to deal with short-term financial issues. For example, if management is embarking on a major capital expansion program, an option for management to fund the program is to reduce the level of dividends for a period of time"

- other regulators recognise shortcomings of using financial metrics based on notional benchmark relationships.

Ofgem

In submissions, stakeholders have referred to the financeability analysis undertaken by Ofgem in the UK. Ofgem's financeability obligation arises because the licence conditions for regulated electricity and gas service providers explicitly requires those service providers to maintain investment grade credit ratings.[41] No such obligation exists in Australia. However, Ofgem stated that:[42]

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40 IPART, *Financeability tests in price regulation*, December 2013, p. 18.

41 Joint regulators group, *Cost of capital and financeability*, March 2013, p. 13.

42 Ofgem, *Regulating energy networks for the future: RPI-X@20—Current thinking working paper—Financeability*, May 2010, p. 10.

> [A]s long as the allowed return, depreciation profile and capitalisation policy are set appropriately and that there is consistency in their respective future determinations, the notional company should be financeable.

Further, in describing its likely responses to credit metric analysis, Ofgem stated that:[43]

> [W]e would not advance cash flow in light of apparent short-term dips in cash flow metrics. We would seek to understand the reason behind such failures (e.g. high capital expenditure relative to RAV) but the onus would be on the company to resolve the situation, including by injecting equity and/or reducing dividend payments as they see fit.
>
> In contrast, when relative expenditure levels decrease, the company may choose to remove equity if it deems appropriate, e.g. through the payment of special dividends.
>
> By placing a greater onus on companies to take action to maintain their investment grade credit ratings, it reduces the requirement for Ofgem to make adjustments to other areas of the price control.

In addition, Ofgem's financeability tests are designed to preserve a 'comfortable investment grade' credit rating,[44] where Ofgem calculates its cost of debt using an average of the broad A and broad BBB non-financial debt indices.[45] That appears to suggest an effective benchmark rating comparable to the BBB+ benchmark that we adopt. It also means that Ofgem may target a lower credit rating for its financeability assessment (BBB– or BBB) compared to the rating it uses to estimate the return on debt (by implication A–or BBB+).

In addition to Ofgem, the UK water regulator (Ofwat) stated that:[46]

> We have not adopted a policy of accelerated depreciation in our past price determinations as we have considered it breaks the link between asset lives and the capital expenditure required to maintain and replace the asset base.

IPART

To avoid the limitations and circularities that are inherent to financial metrics based on notional cash flows, other regulators such as IPART follow a different approach in calculating financial metrics.[47] Specifically, IPART uses actual balance sheet

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43 Ofgem, *Regulating energy networks for the future: RPI-X@20—Current thinking working paper—Financeability*, May 2010, p. 10.

44 In practice, it is not clear what specific rating band 'comfortable investment grade' refers to. However, an investment grade rating is one at BBB– or better. We have therefore interpreted 'comfortable investment grade' as BBB– or BBB.

45 Ofgem, *Cost of debt indexation model—2015*, October 2015.

46 Ofwat, *Financeability and financing the asset base – a discussion paper*, March 2011, p. 29. See at http://www.ofwat.gov.uk/wp-content/uploads/2015/11/prs_inf1103fpl_financeability.

47 IPART, *Financeability tests in price regulation*, December 2013, p. 2.

information for the particular service provider, including actual interest expenses and unregulated revenue.[48] IPART described this as follows:[49]

> Our final decision is that, consistent with our objective, we will use a financeability test based on a utility's actual gearing ratio and a forecast of the actual interest expense. A test based on notional gearing and interest expense, as proposed by stakeholders, is not consistent with the objective of our financeability test.

IPART's approach may be more likely to reflect the key drivers of financeability since it avoids the circularity inherent to the use of notional cash flows and expenses. Importantly, IPART further notes with respect to applying its financeability test that:

> Any adjustment, if necessary, should be NPV-neutral.

4.3.1 Use of financial metrics in a building block revenue framework

The two most common measures included in this sort of analysis are measures of risk relating to the capacity to meet debt obligations:

- FFO to interest cover—the availability of cash flow to pay interest
- FFO to debt ratio—the availability of cash flow to repay the principal.

Unlike actual companies, to whom these metrics normally apply, regulated service providers receive a revenue allowance for benchmark efficient interest costs (the return on debt). This allowance also reflects a benchmark level of gearing, which is based on an assessment of observed gearing level amongst a sample of comparator companies.[50] In the rate of return guideline and in subsequent decisions, we determined that the approach to estimating the return on debt should transition to an annually updated trailing average portfolio return on debt.[51] Compared to the on-the-day approach, a trailing average approach is likely to result in a closer match between the return on debt allowance and the costs of debt faced by the benchmark efficient entity.

In addition, under the current guideline we update our return on debt estimate annually to reflect prevailing costs of debt.[52] This means that the service provider's cash flows are likely to be protected from year-to-year volatility in prevailing costs of debt. Therefore, to the extent that our annual estimates reasonably reflect prevailing conditions in the market for debt, investors could reasonably expect a high likelihood

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48 IPART, *IPART financeability test— ratio calculations*, December 2014, p. 2.

49 IPART, *Financeability tests in price regulation*, December 2013, p. 2.

50 AER, *Final rate of return guideline—Appendices*, December 2013, pp. 126–130.

51 AER, *Better regulation—Explanatory statement to the rate of return guideline*, December 2013, chapters 3, 7 and 8; AER, *Draft decision for AGN—Attachment 3: Rate of return*, pp. 13–14.

52 See attachment 3 to this final decision.

that an efficient service provider would have sufficient cash flow to meet its interest costs.

Also unlike actual companies, the service providers receive an allowance for the return of capital (regulatory depreciation allowance) through which they recover the principal value of all efficient investments over time. As long as the approach to estimating regulatory depreciation is consistent over time, investors would reasonably expect that the benchmark efficient entity will receive adequate cash flows to repay principal amounts over the life of the assets. In contrast, an actual company faces substantially greater risks relating to the valuation of its assets.

In describing its approach to financeability, Ofgem observed that:[53]

> 5.8. If both the allowed return and depreciation allowance are set appropriately, the notional company should be financeable.
>
> 5.9. The actual network company may not, however, be financeable even if these parameters have been set appropriately. This could be for a number of reasons, including that the company:
>
> - Has chosen a significantly different financial structure;
> - Is operating inefficiently; and / or
> - Faces a mismatch in its cash flows, which means that its available revenues fall short of the necessary financing costs at a particular point in time, though not on average over time.
>
> 5.10. In each case, the issue is at least partially under the regulated company's control, and fully in the case of the first two.
>
> 5.11. In the third instance, sense checking the modelled cash flow ratios for the notional business would likely reveal that the ratios fell short of those required by rating agencies to support comfortable investment grade credit ratings in the short term but not on average over time. Given the negligible revenue risk faced by regulated networks and the limited cost risk, this should not raise financeability issues.

4.3.2 Evidence in actual credit ratings

Based on our analysis, the outcomes implied by financial metrics within our building block revenue framework have not resulted in movements in the actual credit rating outcomes. Table 4 below, sets out a time series of credit ratings amongst regulated networks.

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[53] Ofgem, *Regulating energy networks for the future: RPI-X@20—Current thinking working paper—Financeability*, May 2010, p. 10.

Table 4 Time series of credit ratings amongst regulated networks

Issuer	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
APT Pipelines Ltd	NR	NR	NR	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB
ATCO Gas Australian LP*	NR	NR	NR	NR	NR	BBB	BBB	A-	A-	A-	A-	BBB+
DBNGP Trust*	BBB	BBB	BBB	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB
DUET Group	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	NR	NR	NR	NR	NR
ElectraNet Pty Ltd	BBB+	BBB+	BBB+	BBB	BBB	BBB	BBB	BBB	BBB+	BBB+	BBB+	BBB+
Energy Partnership (Gas) Pty Ltd	BBB	BBB	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB+
Australian Gas Networks Ltd	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB-	BBB	BBB+	BBB+	BBB+	BBB+
ETSA Utilities	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-
Powercor Australia LLC	A-	A-	A-	A-	A-	A-	A-	BBB+	BBB+	NR	NR	NR
SP AusNet Services	A	A	A-	A-	A-	A-	A-	A-	A-	A-	A-	A-
SGSP (Australia) Assets Pty Ltd	NR	NR	A-	A-	A-	A-	A-	BBB+	BBB+	BBB+	A-	A-
The CitiPower Trust	A-	A-	A-	A-	A-	A-	A-	BBB+	BBB+	NR	NR	NR
United Energy Distribution Pty Ltd	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	A-
Victoria Power Networks Pty Ltd	NR	NR	NR	NR	NR	NR	NR	NR	NR	BBB+	BBB+	BBB+

*Not under AER regulation

Source: Bloomberg (S&P), AER analysis

The data in the table appears to indicate that the privately owned service providers have collectively maintained stable credit ratings over an extended period - spanning the GFC, where interest rates were historically high, to 2017, where interest rates were substantially below recent averages.

CEPA identified that, in a competitive market where investment was planned but financial ratios were at risk of being breached we would expect to see a call on equity investors, and commensurately a reduction in gearing. As we have consistently adopted a regulatory depreciation approach, and have adopted the guideline approach in rate of return decisions since 2013, we would expect that both credit agencies and service providers have already formed a view about whether service providers will be able to manage their financeability under our current approach.

As the data in the table indicates there has not been any service providers or ownership groups under AER's regulation whose credit ratings have been downgraded since publication of the current rate of return guideline.

The investment grade range of credit ratings (between BBB– and A–) have also been maintained during the previous rules regime which specified the models and formulae to estimate the return on capital. This may indicate that the approach to estimating the return on capital was largely consistent between service providers.

We have consistently adopted the rate of return guideline approach, which:

- updates annually to reflect the changing return on debt portfolio, which may have provided protection for both investors and customers in response to changing interest rates
- transitions from a starting point of the return on debt and equity that is either consistent (the on the day approach for the first year return on debt estimate) or similar (use of the Sharpe-Lintner CAPM as the foundation model for the return on equity) to those used in the preceding access arrangement periods over which credit ratings were stable across the sector.

Several regulatory proposals were put to us during the preceding regulatory cycle suggesting that it was necessary to either accelerate depreciation or increase the rate of return in order to provide for a financeable final decision. Despite having not accepted these proposals, we have not observed any resulting impact in observed credit ratings.

This may suggest that the stable underlying approach used to estimate regulatory revenue is a more significant influence on the benchmark efficient entity's credit rating than interest rates and by extension financial metrics.

5 Historical profitability analysis

5.1 Background

Through the regulatory reset process, consumer groups and other stakeholders have raised concerns about the profit levels of regulated electricity and gas network businesses. They argue the regulatory framework enables regulated network businesses to achieve returns above expected returns given the risks they face.

Under the national energy laws and rules, the AER may prepare and publish reports on financial performance or operational performance, including profitability and efficiency, of regulated businesses. While we have previously published some information on the profitability of the network businesses in our performance reports, this has not been on a continuous or consistent basis.

5.2 AER consultation on profitability measures

We are commencing a consultation process to identify profitability measures and the data required to calculate these measures.[54]

We plan to begin collecting this data from electricity and gas network businesses as part of our annual regulatory reporting processes. We will publish this information and use it to report on profitability in performance reports. In addition to measuring the actual profitability of a regulated entity, the measures should also allow comparison of forecast returns against actual returns, comparison of regulated businesses against each other and comparison of regulated businesses against other businesses.

We are expecting to publish a draft decision for this review in March 2018 and a final decision in May 2018. Where relevant, we will engage with relevant findings to rate of return estimation from this consultation process in our draft decision, also due in May 2018. However, a key objective of the profitability consultation process is to identify appropriate measures for profitability reporting and to identify:

- which of the necessary data we currently have available
- what further data we need to seek.

To the extent that there is significant further data collection or analysis to be done as a consequence of that consultation process, we may be constrained in engaging with the outcomes of that reporting as part of this guideline review.

[54] AER, *Discussion Paper - Profitability measures for regulated gas and electricity network business*, November 2017

6 Questions for discussion

General financial performance measures

1. What is the available evidence to test whether or not the application of the current ROR guideline has delivered appropriate outcomes when tested against the NEO and NGO, from a consumer perspective, and what does that evidence suggest?
2. What do the currently available (as referred to in this discussion paper) financial performance measures indicate?
3. Can financial performance measures be used to better estimate parameter point estimates?
4. Can financial performance measures inform exercise of discretion?

RAB multiples

5. Are there any common views that can be agreed about the interpretation of RAB multiples and their potential role in network regulation?
6. What are the risks of having regard to RAB multiples in a 'directional' sense as the NZCC has done?
7. How significant are these risks?
8. What conclusions should we draw from the acquisitions and trading multiples set out in section 3.2?

Financeability

9. The evidence suggests that actual credit ratings for the regulated networks have been relatively stable over time, including a period spanning the GFC. What were the factors that contributed to this stability?
10. Are there any common views that can be agreed about potential use of financeability analysis in rate of return determination?

    10a. If so, what approach would be recommended in estimating the metrics (notional or actual or other method?) and what benchmark values would be appropriate?

    10b. What would be the risks to the AER and regulated networks in adopting financeability analysis in rate of return determination? How significant are the risks?

Historical profitability analysis

11. Are there any common views that can be agreed about potential use of profitability analysis in rate of return methodology or rate of return determination? If so, what measures would be recommended and what benchmark values would be appropriate?

7 Bibliography

AER, *Final decision for AGN South Australia—Attachment 5: Regulatory Depreciation*, May 2016, pp. 62–80. Available at: https://www.aer.gov.au/system/files/AER%20-%20Final%20decision%20Australian%20Gas%20Networks%20Access%20Arrangement%20-%20Attachment%205%20-%20Regulatory%20depreciation%20-%20May%202016.pdf

Biggar, Darryl, *The Role of RAB Multiples in the Regulatory Process*, February 2018.

Cambridge Economic Policy Associates, *Advice on Estimating Network Rail's Cost of Capital,* June 2013. Available at http://www.cepa.co.uk/corelibs/download.class.php?source=PB&fileName=sysimgdocs/docs/CEPA-ORR-report_pb90_1.pdf&file=CEPA%20ORR%20report.pdf.

Civil Aviation Authority, *Estimating the cost of capital: a technical appendix to the CAA's Final Proposal for economic regulation of Heathrow and Gatwick after April 2014 CAP 1115*, 2013. Available at https://publicapps.caa.co.uk/docs/33/CAP1115.pdf.

Commerce Commission of New Zealand, *Input methodologies review - draft decisions -Topic paper 4: Cost of capital issues*, June 2016. Available at http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/input-methodologies-review/.

Commerce Commission of New Zealand, *Reasons Paper - Amendment to the WACC percentile for price-quality regulation for electricity lines services and gas pipeline services*, 2014. Available at http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/further-work-on-wacc/.

Frontier Economics, *Why do regulated assets sell for more than the RAB? – IPART 25th Anniversary Conference*, October 2017.

Incenta, *Using the profile of prices during an access arrangement period and return of capital to improve financial metrics*, June 2015. Available at https://www.aer.gov.au/system/files/Australian%20Gas%20Networks%20-%20Attachment%205.1%20Incenta%20Improving%20Financial%20Metrics%20-%20July%202015.pdf/

IPART, *Financeability tests in price regulation*, December 2013.

IPART, *IPART financeability test— ratio calculations*, December 2014.

Joint Regulators Group, *Cost of capital and financeability*, March 2013. Available at https://www.ofgem.gov.uk/publications-and-updates/joint-regulators%E2%80%99-group-report-cost-capital-and-financeability.

McGrathNicol, *Review of measures of financial performance that could be applied to the Electricity and Gas businesses the AER regulates*, 15th June 2017. Available at https://www.aer.gov.au/system/files/McGrathNicol%20Final%20Report%20-%20Review%20of%20measures%20of%20financial%20performance%20that%20could%20be%20applied%20to%20the%20electricity%20and%20gas%20businesses%20the%20AER%20regulates%20-%2015%20June%202017.pdf/

McKenzie and Partington, *Report to Corrs Chambers Westgarth - Equity market risk premium*, December 2011. Available at

https://www.aer.gov.au/system/files/RBP%20gas%20transmission%202012%20-%20MRP%20report%20-%20McKenzie%20and%20Partington%20%28Public%29%20-%2021%20December%202011.pdf/

Moody's Investor Service, *Rating Methodology: Regulated Electric and Gas Utilities*, March 2017.

NERA*, Implications of Observed Market-to-Asset Ratios for Cost of Equity at RIIO-T2*, December 2017. Available at http://www.nera.com/content/dam/nera/publications/2017/171201_MAR_report_final.pdf/

Ofgem, *Cost of debt indexation model—2017*, November 2015. Available at https://www.ofgem.gov.uk/publications-and-updates/cost-debt-indexation-aip-2017.

Ofgem, *Regulating energy networks for the future: RPI-X@20—Current thinking working paper—Financeability*, May 2010. Available at https://www.ofgem.gov.uk/sites/default/files/docs/2010/05/may-financeability-paper-19052010-final.pdf

Ofwat, *Financeability and financing the asset base – a discussion paper*, March 2011. Available at https://www.ofwat.gov.uk/publication/financeability-and-financing-the-asset-base-a-discussion-paper//

Queensland Competition Authority, *The Split Cost of Capital Concept February 2014*, 2014. Available at http://www.qca.org.au/getattachment/36c07f65-de57-429e-9ab0-efaaadfab2c8/QCA-The-Split-Cost-of-Capital.aspx/

Royal Bank of Canada*, ASX network utilities— Investor survey on regulation*, August 2016 (chart updated in email correspondence to the AER).

Standard and Poor's, *Key credit factors for the regulated utilities industry*, Nov. 2013