Advice to the Australian Energy Regulator

CRG Response to the AER's July 2021 Draft Working Papers:

The Overall Rate of Return, Debt Omnibus and Equity Omnibus Papers

3 September 2021

Preface

The CRG wishes to thank the many people who have shared their experiences and insights with the CRG over the last 12 months. They have greatly contributed to our understanding of consumer and other stakeholder perspectives and have helped us develop our recommendations on the rate of return issues to the AER in consumers' long-term interests.

We give special thanks to the consumer representatives and the independent investors who have generously given us their time to explore these complex issues in some depth.

We also thank those several thousands of commercial and residential energy consumers who have participated in our energy consumer surveys. We understand that the regulated rate of return is not a subject on everyone's 'radar', so we are delighted at the response to these surveys, and the positive feedback from survey participants about the survey process.

Last, we would like to sincerely thank AER staff for their time and patience as we work through the rate of return issues, and to Energy Consumers Australia (ECA) for their assistance with our consumer research program.

We look forward to continuing our discussions with consumers, consumer representatives, the AER, the ECA and the various network industry associations and businesses.

Our best wishes and thank you to all. The CRG's advice to the AER presented in the two Volumes that comprise this submission has been greatly enhanced by your generous contributions.

Bev Hughson

Chair, Consumer Reference Group

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Abbreviations and short forms

The CRG has adopted the following abbreviations throughout this document.

Abbreviation/short form	Long form/full name
AER	Australian Energy Regulator
CAPM	Capital Asset Pricing Model
CAPM	Capital asset pricing model (Sharpe-Lintner CAPM)
CGS	Commonwealth Government Securities
DGM	Dividend Growth Model
EICSI	Energy Infrastructure Credit Spread Index
ENA	Energy Networks Australia
HER	Historical excess returns
MRP	Market risk premium
NEL	National Electricity Law
NEO	National Electricity Objective
NGL	National Gas Law
NGO	National Gas Objective
NPV	Net present value
NPV=0	Net present value neutrality
Ofgem	Office of Gas and Electricity Markets (a UK regulator)
RAB	Regulatory Asset Base
RoRI	Rate of return instrument
Brattle	The Brattle Group
CEPA	Centre for Efficiency and Productivity Analysis, University of Queensland
WACC	Weighted average cost of capital
WATMI	Weighted Average Term to Maturity at Issuance

1 Strategic overview

The Consumer Reference Group (CRG) thanks the Australian Energy Regulator (AER) for the opportunity to respond to the three *Omnibus draft working papers* published by the AER in July 2021. This chapter consists of three parts:

1. A brief reflection on some of the 'big picture' themes surrounding the 2022 RoRI review
2. Tables outlining the CRG's responses to the matters raised in the three omnibus papers
3. The CRG's advice to the AER, in the form of recommendations.

The CRG looks forward to working with the AER and other parties on the matters outlined in this submission which is presented in two volumes. Volume 1 responds directly and broadly to the matters raised by the three omnibus papers. This includes feedback gathered directly from consumer advocates about those matters. Volume 2 steps back from the detail and explores the context within which this RoRI review is being conducted. The volume describes the perspectives of 'everyday' consumers and experienced investment managers, as garnered through surveys and interviews, respectively.

1.1 The big picture

The estimation of a weighted average cost of capital (WACC) is arguably the most contentious element in the economic regulation of electricity and gas networks in Australia. It has been that way for a long time. As each review of the rate of return demonstrates, the way forward has become no more obvious with the passage of time and the accumulation of experience. As much of the commentary in this submission highlights, few if any of the issues raised in the current review are new.

No breakthrough theoretical insights have emerged since the last review, concluded in 2018. Some new data has emerged (about debt) while other data has been refined, but it is not self-evident how this additional data informs the rate-setting process. And certainly, no new consensus has been struck among experts and regulators about the relevance of the new data and the 'correct' way forward.

The CRG considers the 2018 RoRI has a special place among such reviews because it 'laid the ground rules' following the abolition of limited merits review in 2018. The abolition was accompanied by new laws outlining the conduct of regulatory reviews as well as the 'Pathway' process established by the AER. Under this new framework, the 2018 RoRI review established consumer, investor, and network expectations about how the AER would determine the regulated rate of return having been given absolute authority to do so. Importantly, the AER's 2018 RoRI process was validated by the independent expert panel. Importantly, the AER's 2018 RoRI process was validated by the independent expert panel.

It is for this reason that, soon after it was established, the CRG adopted a "high bar for change" as one of its five guiding principles (see chapter 2).

Consumers have a right to feel confident that the regulatory framework is not the plaything of theoreticians and rent seekers. The complexity of regulatory arrangements already heavily favours the small number of networks and investor groups who are keenly motivated, well-resourced and can readily organise to engage with regulatory processes. In such an environment, consumers rely

on the AER to uphold rigorous evidentiary standards before considering changes to the regulatory framework. Those standards include:

- Persuasive evidence
- Compelling reasoning
- Broad consensus

While the CRG acknowledges the AER's efforts to be open and consultative, this commitment does not oblige it to consider every unsubstantiated claim put before it. So much of the CRG's efforts in compiling this submission have been directed at responding to rehashed arguments rejected in the AER's 2018, 2013 and even the 2009 rate of return reviews. Many of these arguments have also been rejected by the Australian Competition Tribunal (before 2018). Surely, it is time for the parties to move on.

It is somewhat ironic that despite the AER's deep commitment to incentive-based regulation – with its focus on outcomes rather than inputs – its regulatory processes are so heavily dominated by efforts to estimate the precise values of inputs to its WACC formula. Perhaps it is even more ironic that so much effort is expended on estimating inputs that are unobservable in the so-called, 'real world'.

When turning to that 'real world', the CRG observes no:

- Shortage of available capital looking for somewhere to invest
- Lack of interest in owning regulated network businesses and preparedness to pay a significant premium over the RAB to do so.
- Lessening of the benefits of delisting network businesses
- Fire-sale of network businesses, as regulated returns have declined from generous levels
- Structural reduction in service standards
- Lessening of networks' payment security (paid by consumers)

Yet if an inadvertent observer were to stumble upon the 2022 RoRI review, they would be left with a very different impression. But no evidence has been submitted in support of the oft-repeated warnings of a capital strike, and could anything be more nonsensical than networks' claims of potential insolvency? Consumers deserve better than this.

So where is the burning platform for change? Where is the evidence the current approach to determining the regulated rate of return is failing?

The CRG recognises there may be new demands and risks emerging for some network operators. Some of these challenges will materialise, others will not. Others will fade into business as usual, or possibly, a new business as usual. Some of these challenges will emerge over the life of the 2022 RoRI, while the timing of many others remains indeterminate for now.

In any event, the regulatory framework has sufficient capacity (and it provides networks with sufficient flexibility) to deal with many of these challenges without adding to the burden imposed on

consumers by increasing the rate of return on the entire $110 billion[1] RAB. And if not, then that is a matter for policy makers to address – not the regulator.

The CRG urges the AER to step back from the minutiae of estimating unobservable inputs and ask the same question: Where is the burning platform?

There isn't one.

It is simply not clear what is motivating the apparent drift to short-termism in the design of the regulatory framework. Of course, NPV=0 remains the overarching expression of an efficient regulatory framework but why has it suddenly become the AER's imperative for individual regulatory periods? What has changed since 2018? Short-termism is certainly not how investors assess their investments in network assets. They have said so. Repeatedly.

Yet the drift to short-termism appears to be continuing despite the risks that it brings to the regulatory process. These risks include:

- Introducing greater methodological uncertainty and price volatility
- Embedding cyclical market features from 2022 in an instrument that will have effect till 2031
- Presenting greater incentives for stakeholders to seek influence (read: lobbying)
- Turning the AER into a financial forecaster rather than an economic regulator.

The CRG implores the AER to re-engage with the fundamental tenet of economic regulation, namely, a steady focus on long-term outcomes and avoiding the distraction of cyclical movements in economic, business and investment variables.

Whether intended or not, the current RoRI review is sending confusing and worrying signals to consumers – many of whom are still bearing the burden of higher energy bills resulting from the 'great network expansion' of 2009-2014.[2]

The current series of working papers suggests that estimating the value of abstract inputs is viewed as being more important than concerns about real world outcomes. Chasing short-term market fluctuations is viewed as being more important than a steady focus on long-term market fundamentals. At times it even seems the glamour of financial arcana is viewed as being more important than the real concerns of consumers.

Consumers are concerned about stability and predictability in regulatory arrangements. We know because we asked them.

This is not how it was meant to be. This is not how it needs to be.

The CRG is encouraged by the AER:[3]

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1 Which is expected to grow materially over the life of this instrument if all the proposed ISP projects are approved.

2 The 'great network expansion' of 2009-2014 arose from government and regulator focus on 'gold plated 'service standards.

3 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p.22

- committing to "having regard to the materiality of any proposed change, and the longevity or sustainability of new arrangements"
- recognising that "change is not to be adopted lightly in the absence of compelling evidence"
- and that "any case for change must demonstrate there to be a clear improvement or benefit to be realised."

While very welcomed, questions remain about how the AER will interpret and implement concepts such as: "materiality", "compelling evidence", and "clear improvement or benefit".

The CRG contends the answers to these questions can be found in the national energy rules which already establish the principle of the "lowest sustainable cost".[4] While the rules direct the AER to apply that principle when determining a capital allowance, it is only logical that the same principle should be applied when the AER uses its judgement to assess the efficient cost of that capital.

The long-term interests of consumers will only be satisfied if the RoRI seeks to implement the lowest sustainable cost of capital.

Recommendation 1: The AER should apply the principle of "lowest sustainable cost" (as established by the national electricity and gas rules) when exercising its judgement to assess the efficient cost of capital.

The CRG welcomes the opportunity to engage with the AER and other stakeholders on the concerns discussed above. These concerns frame the CRG's response to the three omnibus working papers. The remainder of this submission largely follows the format of those three papers.

Chapter 2 briefly describes the role and activities of the CRG. Chapters 3, 4 and 5 provide the CRG's detailed consideration of the matters raised by the three working papers. Chapter 6 provides a summary of the CRG's consultations with consumer advocates who have expressed deep concerns with the RoRI process and the impacts on their constituencies.

Volume 2 of this submission provides further insights into consumers' preferences and priorities. The significant electricity price shocks of 2009-2014 have left consumers sensitive to energy prices. Arguably, this has led them to making investments that might otherwise have been unnecessary or at least, might have otherwise been delayed. Volume 2 also includes a summary of our interviews with independent investors, including executives of superannuation companies. They have provided the CRG with detailed insights into investor decision-making and the role of network investments in their overall portfolios.

[4] National Gas Rules (NGR 79(1)(a)) and National Electricity Rules (NER, S6.2.2(4))

1.2 Responding to the questions raised by the three omnibus papers

The following three tables summarise the CRG's response to questions asked directly or implicitly by each of the omnibus working papers. Greater detail can be found in Chapters 3, 4 and 5.

1.2.1 CRG responses to the Overall RoR paper

Questions	CRG response
Question 1: Should a nominal vanilla WACC be used to estimate the allowed Rate of return?	Yes. Use of a nominal vanilla WACC is a long-held position, and consistent with the practice of most regulators. See Section 3.3.1
Question 2: what is the appropriate approach for estimating gearing?	The AER should revisit the estimation of gearing based on book values. A common measure used by investors that may assist the AER in this, is the market/book value ratio. A high ratio would indicate that there are underlying factors driving the relatively high market values and that these should be further examined by the AER before making its decision. See Section 3.3.2
Question 3: what is the appropriate value for benchmark gearing?	The CRG advises that before moving down to the proposed 55%, the AER should revisit the estimation of gearing based on book values. It should also consider how this change might impact on the equity beta and whether this is relevant to the AER's approach to adjusting the equity beta for leverage. If the AER gives some weight to using book values for equity, it would be more advisable for the AER to remain at 60% gearing ratio. See Section 3.3.2
Question 4: what is the appropriate treatment of hybrid securities in the gearing estimation methodology?	Hybrids should not form part of the AER's assessment of a benchmark efficient entity with an efficient capital structure in the 2022 RoRI. Networks are free to use these instruments as they see fit, irrespective of the AER's benchmark approach. However, the capital requirements and structures of individual firms should not form the basis of the AER's efficient benchmark which will apply across all firms. See Section 3.3.2
Question 5: what is a suitable method for allocating hybrid securities between debt and equity?	It is difficult to define a simple rule to allocate hybrid securities between debt and equity. As noted above, CRG considers hybrids should not form part of the AER's assessment of a benchmark efficient entity, and by excluding them, no allocation method is required. See Section 3.3.2
Question 6: to what extent should the treatment of hybrid securities in the gearing estimation methodology align with the estimation of equity beta?	As noted above, CRG considers hybrids should not form part of the AER's assessment of a benchmark efficient entity. See Section 3.3.2

Questions	CRG response
Question 7: should the data used to inform gamma in the 2018 Instrument continue to be used?	CRG's preliminary view is that the AER should continue the 2018 approach, absent compelling new evidence that a different approach is warranted. CRG will give gamma issues further consideration in its response to the Information Paper due later in the year. See Section 3.3.1
Question 8: is the data in the ATO's December 2018 note suitable for informing the utilisation rate?	CRG will give gamma issues further consideration in its response to the Information Paper due later in the year.
Question 9: should non-resident investors be assumed to derive no value from imputation credits?	CRG will give gamma issues further consideration in its response to the Information Paper due later in the year.
Question 10: how can profitability measures be used as a possible cross check for informing the overall rate of return?	The AER's decision for the efficient rate of return should not be driven by individual network profit outcomes. The CRG concludes that historical profitability assessments have provided stakeholders with insight into the actual financial performance of the regulated networks. They provide reassurance to the AER that the allowed rate of return is, overall, achieving its regulatory purpose. See Section 3.3.3
Question 11: how can RAB multiples be used as a possible cross check for informing the overall rate of return?	CRG concludes the AER now has sufficient evidence for it to have regard to RAB multiples in its rate of return determination. While RAB multiples are not determinative, it cannot reasonably be claimed that RAB multiples are an irrelevant consideration. In particular, they illustrate the ongoing attractiveness of Australian regulated energy network assets in the light of the 2018 RoRI. They are not plausibly compatible with claims that the 2018 RoRI represented an inadequate rate of return for investors in these networks. See Section 3.3.3
Question 12: how can investment trends be used as a possible cross check to inform the overall rate of return?	Investment metrics do not provide clear signals about the impact of the allowed rate of return. They should be monitored but at this stage have a limited role See Section 3.3.3
Question 13: how can financeability metrics be used as a possible cross check to inform the overall rate of return?	Financeability metrics are not determinative and have limited value for the AER in setting a benchmark rate of return for an efficient business. Individual businesses may have issues that require investigating but are not relevant to the AER determining an efficient rate of return for the sector. See Section 3.3.3
Question 14: can scenario testing be used to inform the overall rate of return?	Based on the information presented by the AER on scenario testing, the CRG agrees that the first step in considering the merits of scenario testing is for a convincing case to be put forward for what sort of test is relevant and how it is applied. Until such time as this occurs, the CRG's position is that scenario testing has no role to play in setting the rate of return.

1.2.2 CRG response to the Equity paper

The *Equity paper* does not contain a list of specific consultation questions. The CRG has derived questions from two sources places in the paper where the AER confirms it is seeking stakeholder views.

These are listed below, along with a summarised response from the CRG. Our detailed views on each of these matters can be found in Chapter 4.

AER Ref	Question or implied Question	CRG position
—	Is it possible to estimate an efficient return on equity?	The AER should establish clear thresholds for how and when it will consider changes to its estimation methodologies. The AER should turn to measuring observable outcomes that result from its regulatory decisions – rather than retaining its current over-reliance on estimating the value of unobservable inputs. See Section 4.1
4.5	Should the AER be seeking to set a forward looking MRP?	The CRG strongly believes the regulatory task should remain focussed on expectations of long-term trends, and that doing so significantly increases the informational value of historical observations. See Section 4.2.1
4.5.4	Should the dividend growth model (DGM) be used to estimate the MRP?	The CRG agrees with the AER that the shortcomings of the DGM are material, prone to biases, and open to subjectivity. No new persuasive *evidence* (theoretical or empirical) has been submitted during this RORI review in support of the DGM. No new compelling *reasoning* has been proffered by the proponents of a DGM. No new broad *consensus* has emerged among experts, regulators or stakeholders. All this suggests the DGM remains as "divisive" as ever. See Section 4.2.2
4.5.3	Should arithmetic or geometric means be used to estimate the MRP?	The CRG is concerned by the disproportionately little attention paid by the AER to the question of how past observations should be averaged. The CRG will consider undertaking further work in this area. See Section 4.2.3
4.5.2	How should the AER calculate the MRP if it switches to a 5-year term for the return on equity?	The AER should maintain its focus on long-terms trends when estimating the MRP and avoid being lured into chasing investors' short-term expectations of the economic cycle. See Section 4.2.4
5.4.4 5.5	Might the MRP and RFR be related?	The CRG is concerned the AER continues to entertain this debate despite no new evidence, theories or consensus emerging since it was reviewed in the 2018 RORI review (and before then). The AER should continue to assume no long-term relationship exists between the MRP and RFR. See Section 4.2.5

AER Ref	Question or implied Question	CRG position
—	Are low interest rates a problem for estimating the MRP?	The role of the RFR in determining the return on equity has been known to investors for a very long time. It should have been factored into their calculations when estimating expected returns from their investments in network infrastructure. The CRG contends that low nominal bond yields present no problem requiring regulatory redress but recognises further work may be required to determine whether negative *real* interest rates are problematic in a regulated environment. If so, the CRG proposes a straightforward solution. See Section 4.2.6
—	Is beta time varying or time consistent?	The CRG considers it reasonable for the AER to assume that beta is broadly stable over the longer-term, though short-term fluctuations may exist. The CRG strongly supports the view expressed by the AER in 2018, and repeated in the Equity paper, that the regulatory task when estimating beta should remain focussed on the long-term nature of investments in networks assets. See Section 4.3.1
6.6	Over what period should the AER estimate the equity beta?	The CRG strongly supports the use of long-term estimates of beta for the purposes of determining the allowed rate of return. Doing so is consistent with the view that beta appears to be broadly constant and that short-term fluctuations do not bear significantly on investors' expected returns over the life of their long-term investments. See Section 4.3.2
6.6	Does the AER need to change its equity beta methodology if it shifts to a 5-year single period for the CAPM?	Unless beta can be shown to be time varying (rather than broadly constant), the AER should continue to be estimated using the longest reliable data set. This conclusion is independent of the estimation term adopted for the return on equity. See Section 4.3.3
6.6	When estimating the equity beta, should the AER continue to include firms that are no longer listed in the comparator set?	The CRG accepts the stability in long-term estimates of beta suggests de-listed firms provide useful information but notes some firms will have been delisted for 25 years by the time the 2022 RORI ceases to have effect. The AER could consider a model in which the weight it attaches to de-listed firms gradually decays over time. See Section 4.3.4
6.6	Should international firms be included in the comparator set for calculating beta?	Given the unanimity of expert views about the problems that would need to be overcome before international firms could be included in the comparator set for estimating a local beta, the CRG supports the ongoing exclusion international firms from the AER's comparator set. See Section 4.3.5
8.5	Should the AER adopt a single benchmark value for beta across electricity and gas businesses?	The CRG supports the ongoing use of a single benchmark value for beta across electricity and gas network businesses. See Section 4.3.6

AER Ref	Question or implied Question	CRG position
Forum	Should the AER be making adjustments for a 'low beta bias'?	The CRG considers no new arguments or evidence have been submitted in support of a 'low beta bias's adjustment. See Section 4.3.7
7.4	What role should cross checks play in the regulatory process?	The CRG supports the AER's ongoing use of cross checks in a non-mechanistic and non-determinative manner. The CRG The AER should use its best endeavours to explain how it has considered cross checks, what role the cross checks have (or have not) played in influencing its estimates, and all the reasons why. See Section 4.4.1
7.4	What information should be used as a cross check?	The CRG supports the ongoing use of the cross checks listed in the Equity paper but recommends the set of cross checks be broadened to include: • outcomes based measures, and • consumer focussed cross checks. See Section 4.4.2
—	How should the AER account for the interaction between the incentive properties of an efficient rate of return on equity with the actions of incentive schemes?	The CRG contends the arguments in support of quarantining the regulated return on equity from regulatory incentive scheme are not as clear cut as the AER and networks suggest. The AER's review of incentive schemes should include consideration of interactions between those schemes and the incentive properties assumed in the allowed return on equity. See Section 4.5

1.2.3 CRG response to the Debt paper

The paper does not contain a list of specific consultation questions. The CRG has derived questions from two sources.

1) A list of questions presented by the AER at the debt omnibus forum[5].
2) There are several places in the paper where the AER confirms it is seeking stakeholder views.

These are listed in the following table, along with a summarised response from the CRG. Our detailed views on each of these matters can be found in Chapter 5.

[5] AER, presentation to debt omnibus forum, August 2021, p15

AER Ref	Question or implied Question	CRG position
Forum	How should the AER use the EICSI in the 2022 instrument?	In principle, it is appropriate for the AER to look at ways to use the EICSI more directly in setting the RoD than in 2018. The proposed approach does so but has issues with complexity and the removal of the benchmark credit rating. The CRG recommends the AER also consider the alternative option set out in Section 5.2.7. The AER should be aware that it will likely face a constant battle with NSPs over the details while other stakeholders will lack resources to effectively participate. To maintain other stakeholders' trust and confidence in the process, the AER will need to take a robust approach to evaluating NSP complaints about the EICSI. See Section 5.2
Forum	Should the AER adopt a weighted trailing average approach?	The CRG wishes to better understand the materiality of the capex-weighting method (whether actual/forecast) and the incentive properties of the three options (including the status quo) before coming to a view on this matter. To this end the CRG recommends the AER carry out further analysis on each of these. The CRG's preliminary view is that if this approach is appropriate, it should be subject to a threshold of unevenness of capex, so it only applies to NSPs where it has a material impact. The CRG notes that this approach may support the continuation of the trailing average approach when interest rates begin to rise. See Section 5.3
Forum	Are the proposed changes to averaging periods appropriate?	Yes See Section 5.5.1
Forum	Are there any further inclusions or exclusions the AER should make to the inclusion/exclusions of the EICSI?	The AER should continue to exclude hybrid instruments from the EISCI and so it should also exclude them from its calculation of market gearing levels. See Section 5.2.5
Forum	Are there any other changes the AER should make on their debt approach?	No See Chapter 4

AER Ref	Question or implied Question	CRG position
2-17	We would like to hear suggestions about other approaches [to setting RoD] that might be superior	The AER should consider further the option outlined in 5.2.7, briefly, a "halo effect" approach where the value of outperformance is deducted from the existing benchmark. See Section 5.2.7
3-24	We seek stakeholder views on how the weights in the weighted average return on debt might be estimated.	The CRG wishes to better understand the materiality of the capex-weighting method (whether actual/forecast) and the incentive properties of the three options (including the status quo) before coming to a view on this matter. To this end the CRG recommends the AER carry out further analysis on each of these. See section 5.3
3-24	We are interested in stakeholder views on whether any transitional arrangements are likely to be required for assuming different changes of approach [changing the weighting], and what these might be?	The transition from on-the-day approach to the trailing average approach for RoD should not be seen as a precedent that must be followed for any change to RoD approach. If the AER considers a new method better meets the regulatory objectives, then it should logically be implemented in full, as soon as possible If a new approach is deemed to be superior, then the default should be to move immediately unless there is a compelling rationale for a transition. See Section 5.4
4-26	We welcome stakeholder comment on this preliminary position [re changes to averaging period].	The CRG has no issue with this approach. See Section 5.5.1
5-29	We are interested to hear views on adding other providers [of bond yield data] or the removal of one of the existing providers.	The CRG considers that three data providers should be adequate for the AER's purposes and is not aware of any material issues raised with the existing providers, noting the anomalies highlighted in the draft debt omnibus paper. If one of the datasets should cease, then the AER may wish to reassess for a future instrument. See Section 0

1.3 CRG recommendations to the three omnibus papers

The following is a summary of the CRG's recommendations in response to the matters raised in the three omnibus working papers.

1.3.1 Overall rate of return paper recommendations

- **Recommendation 1**: The AER should apply the principle of "lowest sustainable cost" (as established by the national electricity and gas rules) when exercising its judgement to assess the efficient cost of that capital (see Section 1.1)
- **Recommendation 2:** The AER extend its decision-making process to fully consider the broader consequences of its decision to encompass broader economic considerations and the impact of their decision on the efficient operation and use of energy (see Section 3.2)
- **Recommendation 3:** The AER explain its decisions within a consistent conceptual framework that considers interrelationships between the rate of return and the overall revenue building blocks (See Section 3.2.3)
- **Recommendation 4:** The AER develop a consistent conceptual framework that, within the context of estimating an overall rate of return clearly addresses: (see Section 3.2.3)
  - (i) the temporal characteristics of each of the parameter estimates
  - (ii) how each parameter aligns with its approach to implementing the NPV=0 principles; and
  - (iii) the inter-temporal relationships between those parameter estimates.
- **Recommendation 5:** The AER formally consider and explain how its processes and decisions will contribute to stability in outcomes and stakeholder confidence in the regulatory process (see Section 3.2.4)
- **Recommendation 6:** When estimating the gearing ratio, the AER should place most reliance on the more recent data and exclude companies that have been delisted 5 or more years ago (see Section 3.3.2)
- **Recommendation 7:** Before changing the benchmark gearing ratio from 60% to 55%, the AER further investigates the more recent trends in market and book gearing (see Section 3.3.2)
- **Recommendation 8**: Before changing the benchmark gearing ratio from 60% to 55%, the AER further consider whether some weight should be placed on book values (see Section 3.3.2)
- **Recommendation 9**: The AER review how changes in the benchmark gearing will impact on equity beta and whether this is relevant to the AER's approach to adjusting the equity beta for leverage (see Section 3.3.2)
- **Recommendation 10:** The AER should not proceed with including hybrid instruments in either the gearing ratio or the EICSI, until the AER has undertaken further analysis of, and consulted stakeholders on: (see Section 3.3.2)
  - (i) whether hybrids should not be considered as a normal part of a benchmark pure-play efficient capital structure, and if so:

(ii) whether it is more effective to develop clear and consistent criteria for allocating hybrids to

- debt and equity, or
- a "third term" in the cost of equity and debt estimates that avoids confusing hybrids with senior debt.

- **Recommendation 11:** The AER has sufficient information to use RAB transaction and trading multiples as a cross check to its overall rate of return decision (see Section 3.3.3)
- **Recommendation 12:** The AER should continue to monitor the network profitability and take this into account when considering arguments claiming the networks have negative returns and cannot invest at efficient levels (see Section 3.3.3)
- **Recommendation 13:** Investment levels are not suitable for the AER to use as a cross check to the overall rate of return (see Section 3.3.3)
- **Recommendation 14:** The proposed financeability tests should not be used as cross checks for the AER when setting a benchmark rate of return for the regulated network sector (see Section 3.3.3)

1.3.2 Equity omnibus paper recommendations

- **Recommendation 1:** The AER should continue to rely primarily on long run historical excess returns when estimating the market risk premium (see Section 4.2.1)
- **Recommendation 2:** The AER must uphold its decision from 2018 to reject using the dividend growth model (DGM) to estimate the market risk premium (MRP**)** (see Section 4.2.2)
- **Recommendation 3:** The AER should rule out further consideration of claims that the market risk premium (MRP) and risk-free rate (RFR) are related unless conclusive evidence is presented in support of those claims (see Section 4.2.5)
- **Recommendation 4:** The AER should rely on long term estimates of beta (see Section 4.3.2)
- **Recommendation 5:** The AER should continue to estimate beta using the longest reliable data even if it decides to curtail the estimation term for equity to 5 years (see Section 4.3.3)
- **Recommendation 6:** International firms should not be included in the comparator set (see Section 4.3.5)
- **Recommendation 7:** Until a compelling case is made suggesting otherwise, a single benchmark value for beta should be applied across electricity and gas businesses (see Section 4.3.6)
- **Recommendation 8:** Cross checks must not be given a mechanistic role in the estimation of the return on equity unless the consequences of doing so are explored fully, subjected to public scrutiny, and demonstrated to be in the long-term interests of consumers (see Section 4.4.1)
- **Recommendation 9:** The AER should immediately commit to developing (in consultation with stakeholders) outcomes-based cross checks that seek to assess whether its regulatory compensation of equity is leading to: (see Section 4.4.2)

(i) over- or under investment in network assets

(ii) distorted consumer prices leading to inefficient consumer decisions

(iii) surfeits or deficits in the equity funds available for investment in networks, and

(iv) an observable or foreseeable diminution of service standards.

- **Recommendation 10**: The AER should develop consumer oriented cross checks (in consultation with consumers and other stakeholders) to inform the exercise of its discretion over the regulated return on equity (see Section 4.4.2)
- **Recommendation 11:** The AER should urgently establish a broad-based review into the design and operation of its incentive schemes. The review should include consideration of interactions between those schemes and the incentive properties assumed in the allowed return on equity. (see Section 4.5)

1.3.3 Debt omnibus paper recommendations

- **Recommendation 1:** The AER should exclude hybrid instruments from the EISCI and from its calculation of market gearing levels (see Section 5.2.5)
- **Recommendation 2:** The AER should further consider the alternative option outlined in 5.2.7 using the EICSI in setting the RoD (see Section 5.2.7)
- **Recommendation 3:** The AER should assess the materiality of the proposed change to capex-weighting the trailing average method (see Section 5.3.2)
- **Recommendation 4:** The AER should analyse the incentive properties of the three options for weighting the trailing average method (see Section 5.3.4)
- **Recommendation 5:** The AER should analyse the extent of evidence that individual NSPs are choosing to replicate the AER's RoD as far as possible (see Section 5.4)
- **Recommendation 6:** The AER should consider (with stakeholder input) the threshold conditions for a transition between two methods for setting RoRI parameters (see Section 5.4)
- **Recommendation 5.7:** The AER should ensure only efficient debt raising costs are included in revenue allowances (see Section 5.7)

1.3.4 Recommendation arising directly from engagement with consumer representatives

- **Recommendation:** The AER should methodically demonstrate any proposed amendments to the RoRI are aligned with its principles in a material and compelling manner. (see Section 6.4)

2 The CRG's principles and consumer and other stakeholder perspectives

2.1 CRG's principles

As documented in previous submissions, the CRG has established five principles to guide its advice to the AER.[6] They are:

- Principle 1 – A regulatory framework serving the long-term interests of consumers must promote behaviours that engender consumer confidence in the framework.
- Principle 2 – Any change to the regulatory model must be tested against detrimentalconsumer impacts in relation to absolute prices and price changes.
- Principle 3 – Any change to the regulatory model must be tested against acceptableconsumer impacts in relation to service standards.
- Principle 4 – Risks should be borne by the party best placed to manage them.
- Principle 5 – There should be a high bar for change.

The CRG considers the five principles set out above as the minimum requirements for the AER to engender consumer confidence in regulatory processes and outcomes, particularly when the AER is proposing a change to an established regime.

2.2 Evidence of consumer perspectives

The CRG's principles are well-supported by energy consumers and representatives as established in the CRG's Consumer Survey 1 (see Volume 2) and from discussions with consumer representatives.

Consequently, the CRG has applied the above principles to its assessment of the AER's preliminary positions on key components of the efficient rate of return, return on equity (in particular, Principle 5) and return on debt.

Beyond the principles, the CRG has also gathered broader evidence of consumers' priorities and preferences by conducting two relatively large sample surveys of residential and business consumers, with the support of Energy Consumers Australia. In particular, these surveys explored and quantified issues around the relationship between price and service reliability expectations, consumers' perceptions of "long-term" and their trust and confidence in regulatory process and outcomes. Evidence from the consumer surveys is contained in Volume 2.

While this consumer research examines aspects of the RoRI at the broadest level and from a necessarily non-technical perspective, it nevertheless provides important contextual evidence to inform the CRG's advice an analysis of more technical aspects of the RoRI. Importantly, as the AER makes its decision, the CRG's evidence can help guide the AER in its work to ensure energy consumer are confident in its decision.

6 CRG, *Submission to AER – return on equity* (October 2020), p 21

3 Overall rate of return

3.1 Introduction

The AER published three papers in July 2021:

- *Rate of return: 'Overall rate of return' Draft working paper (Overall RoR paper)*[7]
- *Rate of return: 'Equity omnibus' Draft working paper (Equity paper)*[8]
- *Rate of return: 'Debt omnibus' Draft working paper (Debt Omnibus paper)*[9]

In the three papers the AER sets out its preliminary position on key components of the efficient rate of return. The AER classifies its positions as follows:

- Preferred position
- Preliminary position
- No position at this time.

This classification has enabled the CRG to focus on the AER's key issues as well as identify areas that in our view warrant further investigation by the AER.

Section 3 of our advice to the AER responds to the first of the three papers, the *Overall RoR paper,* which is presented in two parts, 'Part A 'and 'Part B'.

- Part A provides an overview of the AER's rate of return framework followed by a high-level overview of the three working papers. The AER then describes its decision-making criteria that it applies when exercising its judgement on the rate of return parameters.
- Part B discusses the form of the rate of return and some rate of return issues that do not fit directly into the AER's assessment of the *Equity omnibus paper* or the *Debt omnibus paper*. These are:
    - Gearing
    - Gamma
    - Possible cross checks for the return on equity

The CRG's review of Part B focuses on **gearing** and **cross checks.** The CRG is reserving its comments on gamma in the expectation that more data will become available. The CRG intends to provide a submission on gamma in response to the AER's Information Paper to be published later this year.

3.2 Part A – The AER's framework

In part A, the AER explains the importance of an unbiased assessment of the rate of return and asserts that this will in turn promote efficient investment in, and efficient operation and use of, energy network services in line with the statutory energy objectives.

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7 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021,

8 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*

9 AER, *Rate of return: 'Debt omnibus' Draft working paper, July 2021*

In the CRG's discussion of the AER's proposed framework, the CRG poses the following questions:

- How does the AER interpret and apply an 'unbiased' estimate?
- What is the role of the 2018 RoRI in the AER's assessment process?
- What are the relevant interrelationships in the AER's framework?
- What criteria will the AER use in making its decision?

The CRG concludes, Part A of the *Overall RoR paper* provides a useful insight into how the AER will proceed with this process. The AER discusses its process and decision-making framework. The CRG supports many aspects of Part 1 and considers if the AER follows the approach outlined in Part A it will somewhat achieve its statutory objectives.

The CRG is particularly pleased that the AER has adopted an approach which effectively sees the 2022 RoRI 'anchored' to the 2018 RoRI. The 2018 RoRI provided substantial evidence and reasoning, and this was largely recognised by the Independent Panel[10].

While the 2018 RoRI stabilised network revenues and prices (albeit at historical high price levels) there has been no compelling evidence that network standards have declined, or new capital withdrawn from investors. To the contrary, we see recent sales of regulated network assets at multiples of 1.5 to 1.6 times the regulatory asset base (RAB).

The CRG has promoted its consumer principles to the AER for the past year and is pleased to see the AER reflect on these. Most particularly, the AER has indicated that in addition to its long-standing assessment criteria, it will also have regard to:

- the materiality of any proposed change, and
- the longevity or sustainability of new arrangements.

These additional assessment criteria align with the CRG's principles of promoting trust and confidence in the AER and its decisions and in setting a 'high bar for change'. Adopting these additional criteria will put an onus on proponents of change to provide significant evidence that the change will be in the best interests of consumers.

The CRG would like to discuss further with the AER a number of areas in the AER's overall framework. They are set out in detail in the following sections and include:

- the interpretation of an 'unbiased estimate' of the rate of return
- the role of the 2018 RoRI in the making of the 2022 RoRI
- Interrelationships in the AER's rate of return decision and with the overall building blocks
- Decision making criteria

Overall, the CRG encourages the AER to make its decision and exercise its judgment in a broader context than the narrow bounds of the rate of return. We argue that making an unbiased decision is a reasonable objective but can only be understood in practice in the context of other objectives and events. It is important to better understand the role of the consumption, or utilisation, efficiency

10 Independent Panel, *Review of the Australian Energy Regulator's Draft Guidelines*, 7 September 2018

objective. It is also most important to understand how consumers make trade-offs between the national objectives. As the Independent Panel said with great insight: [11]

> *"The national objectives are achieved not by finance theory but by the rational, informed actions of the firms and individuals who comprise the regulated industries … The Draft Guidelines will be capable of promoting the national objectives only if it wins the trust of, and induces the efficient conduct of, all those parties.*

The Productivity Commission considered the impact of inefficiency in the energy market in its 5-year productivity review.[12] The Commission stressed that:

> *"energy is an input into all industries and households, and so even minor deficiencies in efficiency have **cumulatively large impacts**."*

Recommendation 2: The AER extend its decision-making process to fully consider the broader consequences of its decision to encompass broader economic considerations and the impact of their decision on the efficient operation and use of energy.

3.2.1 How does the AER interpret an 'unbiased estimate'?

In Part A, the AER explains the importance of an unbiased assessment of the rate of return and asserts that this will in turn promote efficient investment in, and efficient operation and use of, energy network services, in line with the statutory energy objectives.

The table below summarises the AER's assessment of either an upward or downward bias. The AER concludes:

> *"Hence, an unbiased estimate of the expected efficient return, consistent with the relevant risks involved in providing regulated network services, is necessary to promote efficient prices in the long-term interests of consumers."* [13]

11 Independent Panel, *Review of the Australian Energy Regulator's Draft Guidelines*, 7 September 2018 p 67

12 Productivity Commission, *Shifting the Dial, 5-year productivity review*, August 2017, p. 158

13 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p.2

Table 3-1: Summary of AER's analysis of the impacts of regulatory bias[14]

Stakeholders	Upward bias	Downward bias
Investors	Investors will be overcompensated for the risk and so will show increased willingness to invest in regulatory assets in comparison with other investments in the economy	Investors will be overcompensated for the risk, so will show reduced willingness to invest in the regulatory assets in comparison with other investment in the economy
Networks	Networks will have an incentive to over-invest in regulated assets over the longer term, increasing the regulatory asset base above the efficient level	Networks will not be able to attract sufficient funds to be able to make the required investments in the networks. Over the longer term, there will be declines in quality, reliability, safety and/or security of supply
Energy consumers	Energy consumers will pay inefficiently higher prices, which will distort consumption decisions, and downstream investment decisions. This will result in efficiency losses where consumers use lese energy network services than otherwise and non-monetary impacts such as disconnection of vulnerable consumers.	Consumers will pay lower prices, at least in the short-term; but will wear the risk of adverse outcomes for quality, reliability, safety and/or security of supply of energy services. Lower prices will also distort energy consumption and downstream investment decision. The new level of downstream investment will be inefficient for the Australian economy.

Table 3.1 illustrates some important developments that follow from the AER's assessment of the impact of its decisions. That is, the AER will need to **explicitly** consider in its decisions:

- the impact on all stakeholders; investors, networks and consumers
- the impact on the efficiency of the economy this reflects the decisions and behaviours of investors, networks and consumers in response to price changes
- consumers are investors too and their investment decisions will be key to meeting the objective of efficient utilisation and consumption of the network.

The CRG therefore encourages the AER to adopt a more holistic, economy wide perspective when it considers the question of bias in its decision. Moreover, the energy laws require the AER to do so. The CRG will further explore this important issue in Volume 2 of our current advice to the AER.

Further questions remains for the AER:

- How will it assess whether, having considered all the factors above, its decision is unbiased overall, and at the parameter level?
- What does unbiased mean?
    - Selecting a mean, or median or mode of a set of empirical data
    - Avoiding adding, or subtracting, a bit to the overall judgement, or some parameters as some regulators appear to have done, 'just to be sure'.
    - Considering equally short- and longer-term effects of its decision, or perhaps giving more weight to short-term impacts.

[14] Adapted from *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p 2

The AER has, for instance, acknowledged that pre-2018 it erred on the high side of the equity beta observations because it was not confident in the data. Consumers could rightly to ask:

- Is that an unbiased decision? Why not err on the low side?"

In other cases, the AER may be swayed by a view that it needs to 'add a bit', because of anticipated need to expand the networks Is that an unbiased decision. Consumers could then equally say that if/when the network is not utilised to its capacity, the AER should 'take off a bit'.

Answering these questions is difficulty the AER faces. The CRG raises them because the concept of an unbiased decision is best understood in a wider context. The important task for the AER is to clearly explain its decision, and how it has taken account of the impacts of its decisions on consumers, networks, and investors over time.

Engagement with consumers is clearly central to making an unbiased decision but doing so in this wider context. The CRG engaged extensively with consumers (as detailed in Volume 2) and consumer representatives over the last 12 months to better understand their preferences and priorities.

The CRG has also expanded this engagement to include one-on-one conversations with independent investors and has met with network representatives to bring a broad understanding of how the AER's decisions will affect their activities (as detailed in Volume 2).

As noted previously we welcome the opportunity to share these findings with the AER.

3.2.2 What is the role of the 2018 RoRI in the AER's assessment framework?

The 2018 RoRI was the first to be established under the 2018 amended National Energy Laws. These new laws addressed several the perceived weaknesses in the operation of the previous energy laws and rule, most particularly the removal of the right of appeal to the Australian Competition Tribunal on the AER's rate of return decisions.

To balance this, the revised laws also required the AER to undertake an extensive consultation process with networks and consumers prior to its Draft Decision. The laws also required the AER to establish:

- two expert consultation bodies to inform and then to review the AER's 2018 RoRI Draft Decision[15]
- a Consumer Reference Group, funded by the AER, to provide ongoing advice to the AER
- reference groups to help facilitate greater engagement with consumers, investors and retailers.

The 2018 RoRI applies to all the AER's revenue decisions for the regulated gas and electricity networks within its jurisdiction for the calendar years 2019 to 2022 (inclusive). In total, the value of the relevant assets subject to the RoRI amounts to some $110 billion.[16]

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15 The Concurrent Evidence Sessions took place prior to the AER's Draft Decision, while the Expert Panel reviewed the AER's Draft Decision to ensure that the AER's decision was based on sound reasoning.

16 AER, *State of the energy market, 2020,* 2020, p. 143 & 231

The CRG considers that the 2018 RoRI does and should act as the 'foundation' for all subsequent rate of return decisions by the AER under the current laws and rules. The CRG has come to this position after considering various factors including:

- The overall integrity of the process including the opportunities for more effective engagement with consumers directly, and through the 2018 CRG and the Consumer Challenge Panel (CCP)
- The extensive and transparent evaluation of the relevant data and research
- The Independent Panel's (Panel) review of the AER's Draft Decision.[17] The Panel reviewed the AER's Draft Decision with the objective of assessing whether the AER's draft decision was based on sound information and reasoning and can promote the achievement of the national gas and electricity objectives. The Panel concluded: [18]

  "Overall, we consider that the AER has undertaken an extensive consultation and engagement process. It has considered a significant amount of information, data and views to assist in developing its approach as set out in the Draft Guidelines and has demonstrated consideration of the range of submissions from practitioners, academics and stakeholders. It has also sought to link its conclusions to the information provided using logical reasoning."

One Panel member with decades of experience as a regulatory litigator and expert witness added that:[19]

> *"He had never seen, in his country, a treatment of any issue more careful, more evidence-based, more analytical and more deserving of replication by other regulatory bodies than the AER's Explanatory Statement."*

- The lack of objective evidence to indicate harm to the networks arising from the AER's decision.[20]
- The importance of stability and predictability in promoting trust and confidence in the AER's decisions, consistent with the CRG's consumer-based principles and consumers' endorsement of these principles, as referenced in Chapter 2.

The CRG is therefore pleased to note that the three rate of return omnibus papers have adopted the same starting point, the 2018 RoRI, and propose to use the same criteria to assess the merits of new evidence. The AER states:[21]

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17 Independent Panel, *Review of the Australian Energy Regulator's Draft Guidelines*, 7 September 2018

18 Independent Panel, *Review of the Australian Energy Regulator's Draft Guidelines*, 7 September 2018, p. 60

19 Independent Panel, *Review of the Australian Energy Regulator's Draft Guidelines*, 7 September 2018, p 60. The Panel's report notes that the relevant member also supported the conclusions presented in the report, including the conclusion that the AER's reasoning was limited in a number of specific areas.

20 The CRG acknowledges that some networks' 2020-21 financial results reflect the AER's decisions pre-2018. However, examination of the most recent network annual reports and presentations to Investors suggest little constraint on networks' ability to raise long-term capital. Similarly, equity investors continue to offer prices for part or whole investment in the networks around 1.5 times the regulatory asset base value (see also Section 3.3 and 4.5 for further information).

21 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p.22

> *"In developing the 2018 Instrument, stakeholders indicated that they valued certainty and predictability. Accordingly, we adopted the same criteria in our assessment of information when making the 2018 Instrument."*

The AER then adds: [22]

> *"However, in assessing possible changes for the 2022 review we will also have regard to:*
>
> - *The materiality of any proposed change, and*
> - *The longevity or sustainability of new arrangements."*

These two developments in the AER's three omnibus papers are important clarifications of the AER's approach. They align with the CRG's consumer-based principle of a 'high bar for change'. Appropriately, the AER's leaves the burden of proof for change to its 2018 RoRI position on those parties that propose the change.

The CRG supports the AER's overall approach of anchoring its assessments in the 2018 RoRI It is consistent with good regulatory practice. It aligns with the clearly expressed preferences of consumers and investors for stability and predictability.

These criteria are consistent with the CRG's consumer-based principles. Together, they will inform the CRG's approach to the issues raised in the three omnibus papers and in assessing future developments.

3.2.3 What interrelationships are relevant to the AER's rate of return decision?

Interrelationships between the rate of return parameters

The CRG previously advised the AER that we found it difficult to support some of the AER's 'preferred positions' without a clear picture of how decisions on one rate of return parameter would impact on the estimation of other parameters.

The CRG is also cognisant of the potential for a cumulative effect on the overall rate of return, for example, if the AER adopts a conservative estimate of each individual parameter.

The CRG's difficulty with the AER's approach prior to July 2021 was also discussed by the 2018 Panel as follows:[23]

> *"While the [draft] Explanatory Statement addresses each technical step in the rate of return calculation, it does not sufficient consider or demonstrate how each of the decisions about individual parameters, when taken together to produce a final estimate of the rate of return and value of imputation credits, will contribute to the achievement of the national gas and electricity objectives."*

In its 2018 *Draft Explanatory* Statement, the AER recognised the cumulative risk of conservative decisions on each individual parameter. The AER stated:[24]

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22 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p.22

23 Independent Panel, *Review of the Australian Energy Regulator's draft guidelines*, 7 September 2018, p IV.

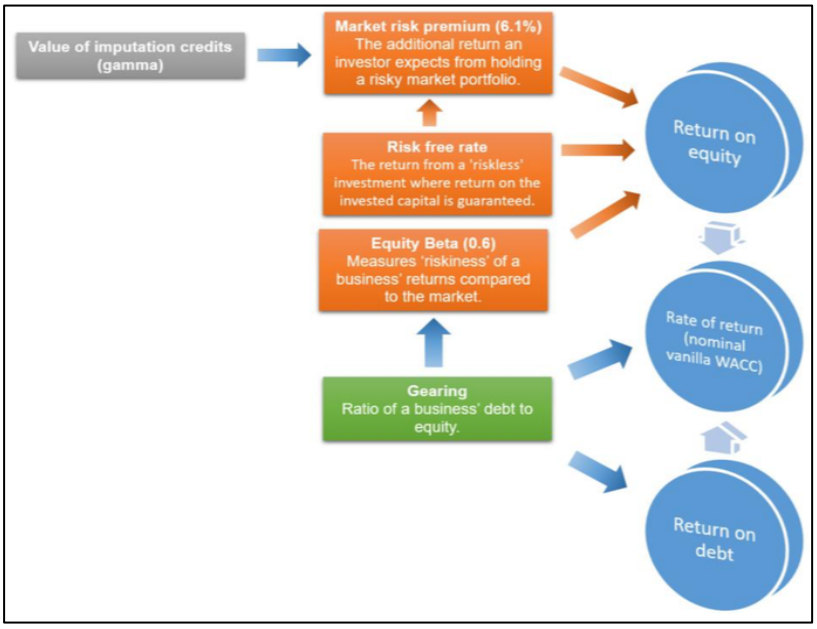
24 AER, *Rate of return instrument, 'Draft Explanatory Statement'*, December 2018, p. 29

> *"Ultimately we are seeking to reach a decision that will promote efficiency in the long-term interests of consumers. We consider this requires a degree of caution when exercising our judgement. Nevertheless, we are cognisant of* ***the cumulative effect of choosing*** *high parameter estimates from a reasonable range of estimates and the risks that might follow."* [emphasis added]

In the current *Overall RoR paper*, the AER partially clarifies the interrelationships between different rate of return parameters. The AER's model of interrelationships is illustrated in Figure 3.1 below. This is a helpful start, but it does not adequately address the issues raised by the Panel, the CRG and the AER itself in 2018.

The CRG concludes that an essential task for the AER in its Information Paper and Draft Decision will be to clearly explain how its decisions on each individual parameter, when taken together, will contribute to the achievement of the national gas and electricity objectives.

Figure 3-1: The Rate of Return Framework[25]



The rate of return is just one component of the total income and benefits returned to investors

Importantly, the rate of return is just one component of the returns to the owners of the network businesses.

The 2018 Independent Panel was directed by the AER to have regard to *"interactions with other building block components"*.[26]

As one independent investor in regulated assets stressed to the CRG:

> *"what we look at is the cash flow to the business over the long-term consistent with the risks"*

25 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021

26 Independent Panel, *Review of the Australian Energy Regulator's draft guidelines*, 7 September 2018, p. 59

Other independent investors interviewed by the CRG expressed similar views. That is, the relevant 'return' that investors are concerned with are the overall returns from the business relative to the risks. For example, one independent investor commented to the CRG:

> *"A further important insight into the legitimate interests of investors is that in my experience investors acquire interests which they expect to retain for the long-term and this is especially true of lower volatility lower return shares such as those in regulated network service providers"*

This is not a new idea. It was made clear during the 2018 RoRI process by the Independent Panel in response to the AER's directions to them. For example, in its assessment of whether the AER's 2018 Draft Determination met the national energy objectives the Panel concluded as follows:[27]

> *"Thus the rate of return is only one contributor to the national objective.* ***The other contributors are the other building blocks*** *…*
> *If the regulator does so [allows sufficient funds to recover all costs], then the rate of return in conjunction with these other revenue flows will, by definition, be able to attract the voluntary debt capital and equity capital sufficient to satisfy the aspects of the national objectives that depend on capital.* ***However, the national objectives also include consumption efficiency, which needs to be addressed as well. In achieving the national objectives, attracting capital is necessary but not sufficient."***

The AER's *2018 Explanatory Statement* respond to the challenge from the Panel and other stakeholders who highlighted the challenges facing consumers and the risks of inefficient utilisation of the network and investment by consumers if networks earn economic profits and prices are too high. The AER, however, concludes as follows:[28]

> *"…for the allowed rate of return to contribute to the achievement of the legislative objectives it should reflect the efficient cost of capital. If it does, then it will (all else equal) promote both efficient investment in, and efficient use of, energy network services."*

The CRG finds this statement does not go far enough. It assumes that consumers are passive recipients of the decisions of networks and investors. The CRG therefore agrees with the 2018 Panel when it concluded:[29]

> *"The national objectives are achieved not by finance theory but by the rational, informed actions of the firms and individuals who comprise the regulated industries: debt investors, equity investors, the managers and employees of the regulated firms, consumers large and small and practitioners who represent their interest before regulatory tribunals.* ***The Draft Guidelines will be capable of promoting the national objectives only if it wins the trust of, and induces the efficient conduct of, all those parties.***

The CRG has plans to undertake further research to better understand aspects of investment efficiency and consumption efficiency more fully and to purse these matters with the AER (see

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27 Independent Panel, *Review of the Australian Energy Regulator's draft guidelines*, 7 September 2018, p. 67

28 AER, *Rate of return instrument, 'Draft Explanatory Statement'*, December 2018, p. 40

29 Independent Panel, *Review of the Australian Energy Regulator's draft guidelines*, 7 September 2018, p. 67

Volume 2). The CRG not clear how the AER has taken the Panel's comments into account. The CRG encourages the AER to do so during the next stages of the 2022 Pathway.

The importance of a consistent conceptual framework

The CRG believes the AER's assessment of the overall RoR, the individual parameters and their interrelationships, would benefit from a clearer statement of some overarching conceptual framework.

The AER has proposed that the efficiency investment and consumption objectives can best be met by focusing on the NPV=0 objective. For example, the AER justified its proposed change from a 10-year to a 5-year term for the risk-free rate on the basis that it best satisfied its NPV=0 criteria.

The CRG again finds this interpretation of the national objectives too narrow. It is based in finance theory alone. As highlighted above, the 2018 Panel observed that the energy objectives are not met just because finance theory says so. The energy objectives are achieved by accounting for the actions of all the users of energy services.

An alternative approach is that the NPV=0 efficiency outcome is best achieved by considering the actions of all the participants over the longer term. Feedback from CRG interviews with independent investors indicates this approach is consistent with that adopted by professional investors and is more consistent with both investors and consumers expressing a preference for regulatory stability and predictability. One independent investor went further when describing to the CRG why investors would include infrastructure investments such as regulated energy networks in their portfolio:

> *"These [infrastructure investments] typically have monopoly like characteristics; strong market positions; a predictable regulatory environment; high barriers to entry; limited demand elasticity and long lives".*

In this efficiency paradigm, the AER's task is to 'look through' the shorter-term business cycles and various economic disruptions. Instead, the AER's task is to recognise and respond to the longer-term expectations and behaviours of investors and consumers. As one independent investor remarked:

> *"Investments of this character are often on a much longer term than other investments."*

The CRG therefore advises the AER to develop a consistent conceptual framework to assist its and consideration of the interrelationships between parameters in the rate of return, and between the rate of return and the overall regulatory building blocks.

Recommendation 3: The AER explain its decisions within a consistent conceptual framework that considers interrelationships between the rate of return and the overall revenue building blocks.

This does not per se make the AER's preference to move to a 5-year term for the risk-free rate wrong, but it does require the AER to carefully explain why it has shifted its thinking so that it now assumes the long term consists of a series of 50year time-blocks.

Moreover, such a move requires the AER to clearly examine and explain the impact of moving to a shorter-term outlook on how it defines and estimates all elements of the rate of return calculation.

Recommendation 4: The AER develop a consistent conceptual framework that, within the context of estimating an overall rate of return clearly addresses:

(i) the temporal characteristics of each of the parameter estimates

(ii) how each parameter aligns with its approach to implementing the NPV=0 principles; and

(iii) the inter-temporal relationships between those parameter estimates.

3.2.4 Decision-making framework – exercising discretion

The AER states that it is both a legislative requirement and good practice to periodically review its models, information sets and parameters. These reviews need to take account of various factors, including:[30]

- new theoretical developments, for example in relation to estimation methodologies
- recently published data used to update parameter estimates
- changing market practices.

The AER further states that its approach to the 2022 review is to:[31]

- take the 2018 Instrument as an initial reference point
- scope all components of the rate of return for potential change, having regard to stakeholder feedback on subjects they consider of interest or importance, and
- assess relative merits of any new evidence before us, being open to consider any new issues that stakeholders raise as relevant

The AER then concludes:[32]

> *"We are of the view that this approach has the advantage of consistency and provides stakeholders with stability across regulatory periods."*

The CRG supports the AER's desired outcome of consistency and stability. We do have concerns that the AER's approach may not achieve this outcome.

That is, the AER's approach does not per se lead to consistency and stability.

Rather the AER's approach appears to encourage stakeholders to open up positions that were thoroughly considered and settled in 2018, and to do so without necessarily providing substantive new evidence to demonstrate why a change is required.

Moreover, these debates about data or methodologies have been debated for many years (take the DGM), and have been tested in the Tribunal and the Supreme Court. The 2018 Independent Panel has also carefully considered the AER's reasoning. Further, the AER has stated at the outset that it

30 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 19

31 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 19

32 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 19

requires any proponent of a change to the 2018 methodologies to de demonstrate how it would promote significantly better long-term outcomes for consumers.[33]

Opening such topics up to another round of debates with little or no evidence does not engender consumer confidence in the regulatory process, and unhelpfully raises anxiety levels about the consistency and stability of the framework across regulatory reviews. In turn, this loss of confidence may lead consumers to make investment decisions that undermine the AER's efficiency objectives.

Recommendation 5: The AER formally consider and explain how its processes and decisions will contribute to stability in outcomes and stakeholder confidence in the regulatory process.

3.2.5 Decision-making framework – assessment criteria

The amendments to the energy laws and rules in 2013 provided additional scope for the AER to exercise its discretion in determining the approach, methodologies, and data that it would use in setting the rate of return.

In the 2013 Rate of Return Guideline, the AER set out six criteria to inform its judgement on rate of return inputs.[34] This approach provided more transparency, certainty and predictability about how the AER would exercise its judgement within the law and rules.

The AER states in the current *Overall RoR paper*:[35]

> *"In developing the 2018 Instrument, stakeholders indicated that they valued certainty and predictability. Accordingly, we adopted the same criteria in our assessment of information when making the 2018 Instrument."*

The AER then indicates that it will adopt these same criteria to assess the merits of new evidence that has become available since 2018.

The CRG supports this approach to evaluating new evidence. As noted above (section xxx), the CRG also strongly supports the AER's adoption of additional criteria for the 2022 RoRI. That is, the AER states that for the 2022 rate of return decision, it will also have regard to:[36]

- The materiality of any proposed change; and
- The longevity or sustainability of new arrangements.

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33 CRG, *Submission to the AER Return on Equity*, October 2020, p 31.
For example, for the network to demonstrate how it has taken account of the consumer trade-offs between price and reliability, and/or to what extent the network would allow network service performance levels to degrade below the current legislated reliability standards.

34 AER, *Better Regulation, Explanatory statement rate of return guideline*, December 2013, pp. 23-24

35 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 22

36 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 22

The AER concludes that:[37]

> *"These additional criteria ensure that change is not to be adopted lightly in the absence of compelling evidence. Importantly, any case for change must demonstrate there to be a clear improvement or a benefit to be realised."*

An unbiased estimate in the context of the 2018 RoRI

The AER describes this in terms of avoiding a *"conscious bias towards a higher or lower expected rate of return".* The AER then concludes:

> *"we undertook to aim for the best possible estimate in an environment of uncertainty, given the best available information."*[38]

As highlighted in Section ccc above, the CRG agrees that an unbiased assessment is an appropriate objective. However, it does not go far enough, and requires further investigation. In Section xxx the CRG highlighted the importance of considering bias in a wider context that includes consideration of consumption efficiency, the efficient use of the network and the impact of its decision over time on all stakeholders.

More practically, and given the AER (and the CRG's) preference to anchor the 2022 RoRI to the 2018 RoRI, there are additional questions to be considered:

- are the current levels of consumer investment efficient from an economic perspective?
- is there evidence of financial distress (assuming a benchmark pure play entity)?
- is there evidence of a shortage of capital in Australia and internationally?
- is there evidence that owners of networks have difficulty in obtaining equity or debt financing?
- what are the risks for investors and consumers, and which parties are best placed to manage these risks?

3.3 Part B rate of return topics

In Part B, the AER's first question is whether the nominal vanilla WACC continues to be the appropriate measure to determine the efficient rate of return for an efficient benchmark entity. Part B then considers topics that affect the overall rate of return but have not been considered elsewhere. They include the assessment of the efficient benchmark gearing and the value of imputation credits.

The AER also investigates possible cross checks that might be used to assess whether the **overall** rate of return decision promotes the achievement of the energy objectives. This leads to a second question – in what way should the AER use such cross checks?

In line with its overall approach, the AER's analysis begins with a description of the 2018 rate of return decision for each of the rate of return parameters. The AER then considers whether any new data has emerged that is material enough for the AER to change its approach.

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37 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 22

38 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 23

The CRG has indicated in Part A above that we support the AER using the 2018 rate of return decision as an 'anchor' to its assessment of the need for change. This approach is consistent with the AER's criteria and the CRG's consumer principles.

3.3.1 Is the form of the rate of return still appropriate?

The AER's first question is whether the nominal vanilla WACC should be retained as the basic form of the overall rate of return assessment. [39] The AER states its preliminary position is to continue to use a nominal vanilla WACC as set out in the 2018 RoRI.

The AER explains that the nominal vanilla WACC is relatively simple, transparent and consistent with the AER's estimation of gamma. The CRG agrees with the AER's decision. The CRG also notes that the nominal vanilla WACC is widely used by Australian regulators[40] and accepted by practitioners and most stakeholders.

The remaining discussion in Part B will focus on addressing the matters raised in Table 1 of the *Overall RoR paper* with respect an efficient benchmark gearing ratio, and total returns cross-checks.[41]

3.3.2 Efficient benchmark gearing ratio

What approach did the AER's adopt in its 2018 RoRI?

The AER adopted a benchmark gearing ratio of 60%. In coming to this decision, the AER examined the gearing ratios of ASX listed network companies some of whom were no longer in operation.

In coming to the figure of 60% gearing, the AER investigated whether it should base this ratio on market values or book values. The AER also considered whether, and how, it should hybrid instruments in their calculation of the gearing ratio.

In the 2018 RoRI, the AER adopted the following approach:

- calculated the gearing ratio with "primary" reliance on long-term market value estimates for equity and debt, although the primary source of difference between the market values and book values is equity.[42]

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39 The nominal vanilla WACC is a target return based on the weighted average of the pre-tax cost of debt and the post-tax cost of equity. The AER's assessment takes account of the Australian imputation credit scheme, although it does so by an adjustment to the tax building block rather than the cost of equity. The value of imputation credits is also used as an 'adjustment' factor when measuring historical excess returns.

40 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, pp.20 & 22
Brattle suggests that the target return of a real pre-tax return, is also widely used in their referenced international studies. Brattle also consider that because the AER's revenue allowances are adjusted for actual out-turn inflation and the RAB is indexed for actual inflation (ex-post), the AER's approach can better be characterized as targeting a real vanilla WACC.

41 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, pp. 15-16

42 Generally, the market value for debt is like the book value of debt.

- recognised that 60% gearing reflected the average gearing of the comparator set over 10-years, despite some recent decline in the market-value gearing ratios
- noted that the 10-year average gearing ratio based on market values was quite volatile across the comparator set, ranging from 51% to 70%
- accepted some more traditional forms of hybrid instruments such as non-convertible sub-ordinated debt but rejected other hybrid instruments with features of equity such as stapled securities.

The Independent Panel accepted the AER's assessment was reasonable including its reasons for accepting or rejecting different hybrid instruments. The Panel recommended that the AER address whether consistency is necessary in the treatment of hybrids for gearing as compared to its treatment for estimating equity beta because of leverage risk on the equity beta [43] and on credit ratings.

The AER confirmed that in its final rate of return decision, the gearing estimates used in its benchmark gearing ratio analysis were "identical" to those used in estimating the equity beta.[44]

The AER's preliminary view in the 2022 RoRI

The AER has updated its data on gearing to 2020 based on the same set of comparator regulated network companies. The AER commissioned a report by The Brattle Group (**Brattle (2020**) to provide additional information on international regulators' approach to estimating gearing.

The following table sets out the AER's updated information on market and book gearing, noting that only three companies remained listed on the ASX.

Table 3.1: Annual update of rate of return[45]

	2018 RORI	2019 Update	2020 Update
Market gearing: 5 year average	54%	53%	52%
Market gearing: 10 year average	60%	57%	55%
Book gearing: 5 year average	69%	69%	71%
Book gearing: 10 year average	70%	69%	70%

Note: We use the methodology from the 2018 Instrument to estimate gearing.

Market gearing is estimated using the market values of equity and the book value of debt (book value is used as a proxy for market value of debt). Book gearing is estimated using the book value of equity and debt

The AER's preferred measure, the 10-year average based on market values, continues the trend identified in the 2018 RoRI of a declining gearing ratio. However, this trend was not apparent in either the 5-year average market data or the book gearing data.

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43 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 20

44 AER, *Rate of return instrument, 'Draft Explanatory Statement'*, December 2018, p. 72

45 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 30

The AER's preliminary view is to set the benchmark gearing level in line with market value estimates. The AER proposes to:

- rely on market-values rather than book values
- consider adjusting gearing to better align with market data, leading to a change in the gearing ratio from 60% to 55%.
- adopt greater consistency in its treatment of hybrids but continue to seek views on this.

The AER also recognised that the level of gearing is interrelated with equity beta and credit rating due to leverage effects.

The CRG's assessment of the AER's proposal

To better assess the AER's preferred position, the CRG has examined the more detailed gearing tables provided in the AER's 2020 annual update of the rate of return parameters[46] as set out in the following table. The table also summarises the average book values.

Table 3.2: Gearing based on market values (2006-2020)[47]

Year	ENV	APA	DUE	AST	SKI	Average
2006	66%	51%	79%	56%	60%	62%
2007	65%	59%	67%	55%	57%	61%
2008	77%	73%	76%	59%	70%	71%
2009	75%	68%	80%	70%	70%	73%
2010	74%	61%	80%	64%	65%	69%
2011	66%	53%	79%	64%	62%	65%
2012	63%	47%	72%	59%	59%	60%
2013	53%	46%	71%	57%	62%	58%
2014	47%	45%	64%	58%	55%	54%
2015		50%	62%	59%	56%	57%
2016		49%	51%	57%	51%	52%
2017		49%		52%	50%	50%
2018		45%		56%	54%	52%
2019		45%		55%	57%	52%
2020		45%		59%		52%
5 year average		**47%**	**51%**	**56%**	**53%**	**52%**
10 year average	**57%**	**47%**	**66%**	**58%**	**56%**	**55%**

Comparator: Table 4 (page 65) of the 2018 explanatory statement.

Notes: Spark Infrastructure (SKI) estimates are as at 31 December each year. AusNet Services (AST) estimates are as at 31 March each year. Duet Group (DUE), APA Group (APA) and Envestra (ENV) estimates are as at 30 June each year. The average for all firms in a year does not make any adjustment for these timing differences.

Source: Annual reports, AER analysis; AusNet services, *Annual report 2020*, March 2020, p. 53, 121; APA, *Annual report 2020*, August 2020, p. 9, 49, 103; Spark Infrastructure, *2019 Annual report*, February 2020, p. 3, 63, 104; Spark Infrastructure, *31 December 2019 Full year factbook*, February 2020, p. 8, 12, 16; other data is the same as published with the explanatory statement.

5 year average		**73%**	**65%**	**69%**	**69%**	**71%**
10 year average	**75%**	**69%**	**75%**	**66%**	**69%**	**70%**

46 AER, *Rate of return, Annual update*, December 2020

47 AER, *Rate of return, Annual update*, December 2020, p. 7

The above table uses the same gearing estimation method as the AER used in 2018. The AER has come to its preferred position on gearing of 55% based on the 5 and 10-year average book values across the sector.

In reviewing this conclusion, the CRG notes the following:

- There is a very significant difference between the market and the book values. For example, the difference between the 5-year average of the market and book values is some 16-percentage points.
- After excluding the two companies that are no longer listed, Envestra and Duet, the average market and book values remain close to the averages in Table 3.2
- Of the listed companies, only AusNet Services (AST) and SKI have the majority of their company assets subject to the AER's revenue regulation framework. APA specialises in gas networks, and the great majority of its assets (approximately 90%) are not subject to the AER's regulatory framework
- APA's aggregate company risk profile is therefore quite different from AST and SKI and may explain its lower gearing ratio, particularly over the last 5 years.
- APA therefore lowers the average of the three listed companies as illustrated in Table 3.3 below.

Table 3-2: Annual rate of return gearing ratios – existing listed companies only

	2 Companies (AST & SKI)	3 Companies (APA, AST, SKI)
Market gearing: 5-year average	54.5%	52%
Market gearing: 10-year average	57%	54%
Book gearing: 5-year average	69%	70%
Book gearing: 10-year average	70%	68%

CRG concludes that the AER should place most reliance on the AST and SKI market gearing ratios when estimating the benchmark efficient gearing ratio for a pure-play regulated network. In addition, given the overall trend for a decline in the gearing ratios using market values, the 5-year average is probably preferable.

Recommendation 6: When estimating the gearing ratio the AER should place most reliance on the more recent data and exclude companies that have been delisted 5 or more years ago

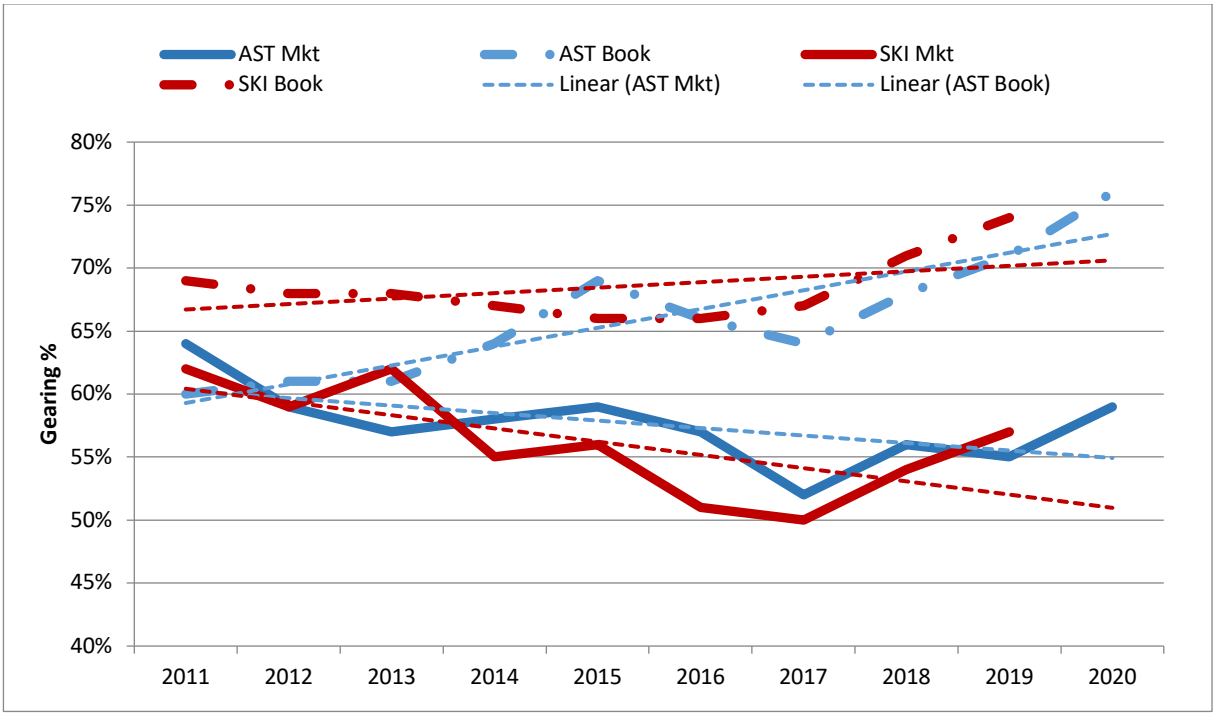
The growing gap between market and book values

The CRG has concerns with the AER's proposal to exclusively rely on market value data. The updated gearing ratios based on book values has remained reasonably constant over time for each of these two companies. If anything, the trend over the last five years has been towards an increase an in the book values. For example, and as shown in Figure 3-2:[48]

[48] AER, *Rate of return, Annual update*, December 2020, p. 7

- AusNet (AST) book value: 2016 – 66%; and 2020 – 76%
- Spark Infrastructure (SKI) book value: 2016 – 66%; and 2019 – 74%

Figure 3-2: Market & book values: trends in gearing 2011-2020, AST and SKI



One possible explanation for this finding is the sensitivity of the equity market values to overall share price movements. This would not in fully explain why market value based gearing ratio has trended downwards, the book based gearing ratio has trended upwards, at least for the remaining listed regulated companies.

The AER has indicated that it will rely only on market values when estimating the benchmark gearing ratio. In 2018, the AER was more measured, saying it would place 'primary' reliance on market values.

The CRG's analysis above suggests that the AER's reliance only on market values is somewhat premature. Before doing this, it is important that the AER investigates why the market and book values are trending in opposite directions. The inclusion of ANS's two hybrid instruments in data from 2016 may complicate this analysis.

Recommendation 7: Before changing the benchmark gearing ratio from 60% to 55%, the AER further investigates the more recent trends in market and book gearing.

Should the AER rely solely on market based gearing estimates for the benchmark?

In addition, there are other features of the book value of the firm that suggest the AER should give at least some consideration to the book value data before changing the benchmark gearing based solely on market value data: The following summary compares market and book values and highlights the issues raised by the CRG above: [49]

- Book value is the net value of a firm's assets found on its balance sheet. It is approximately equal to the total amount all shareholders would get if they liquidated the company.
- Market value is the company's worth based on the total value of its outstanding shares in the market (market capitalisation). **It is normally greater than the book value because it captures profitability, intangibles and future growth prospects**. [emphasis added]
- Book value per share is a way to measure the net asset value investors get when they buy a share.
- As the book value is anchored in the value of the net assets **it is less volatile** than market value that is linked to prices of shares on the market. [emphasis added]

To conclude, the CRG acknowledges the AER's reasons for relying on market values. These reasons include the practice of other regulators in Australia, the recommendations of Partington and Satchell and the fact that other parameters in the rate of return are estimated with reference to market-based data. [50]

However, given the volatility of the equity markets, and the contradictory trends between market and book values, the CRG questions whether the AER should rely solely on market value data when considering a change in the gearing ratio.

Recommendation 8: Before changing the benchmark gearing ratio from 60% to 55%, the AER further consider whether some weight should be placed on book values

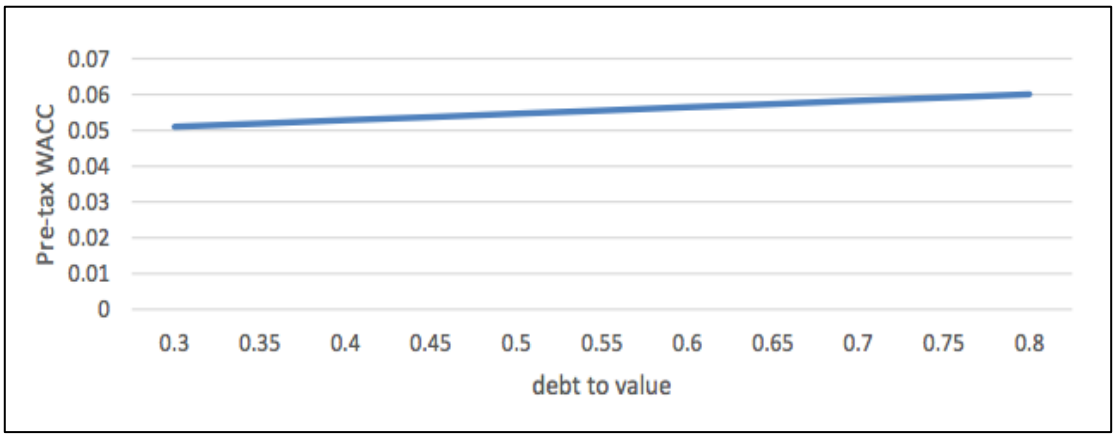
Does the benchmark gearing ratio matter?

The AER has also accumulated a body of empirical and theoretical evidence around the sensitivity of the pre-tax WACC to the gearing ratio. In 2018, Lally observed that the rate of return is relatively invariant to changes in gearing, as illustrated below.

49 Investopedia, *Book Value vs. Market Value: What's the Difference?*, 17 January 2021

50 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 32

Figure 3-3: Impact of gearing on pre-tax WACC[51]



Partington and Satchell report similar findings in their May 2021 report to the AER.[52] For example, they cite the work of Welch (2017) who produced a conceptual plot for the WACC/debt ratio and concluded that apart from some special exceptions, for large publicly traded firms, the capital structure functions seem to be quite flat. Partington and Satchell conclude:[53]

> *"Other than at extreme levels of leverage, a relatively flat value function with respect to leverage is quite feasible for the regulated networks. We would expect that small changes in leverage would not much, if at all, affect their cost of capital, and that over quite a wide range of leverage the effect would be quite small."*

Partington and Satchell also cite other studies that considered levels of leverage for regulated firms such as electric and gas utilities. The studies found a strong positive relation between regulation and both leverage and dividend payouts and that this could occur as a result of the more stable cash flows, which would support higher leverage.[54]

Overall, the CRG agrees with the AER. Service providers have been able to adjust their gearing to meet their financial needs despite a 60% benchmark gearing ratio. These adjustments do not appear to have led to changes in their credit ratings. To the contrary, both ANS and SKI have credit ratings of A-, despite gearing ratios of 55% to 60%.

The CRG therefore concludes that changes in gearing within a reasonable range, such as that being considered by the AER, will not impact on the credit ratings of a benchmark network business in either way.

The main impact of the AER's decision will be on the benchmark equity beta, assuming the AER continues its current de-levering and re-levering beta formula. Section 4 further considers the AER's equity beta estimate.

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51 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 67

52 Partington, Graham and Satchell, Stephen, *Report to the AER – WACC and leverage*, May 2021, pp. 19-20

53 Partington, Graham and Satchell, Stephen, *Report to the AER – WACC and leverage*, May 2021, p. 20

54 Partington, Graham and Satchell, Stephen, *Report to the AER – WACC and leverage*, May 2021, p 22

Recommendation 9: The AER review how changes in the benchmark gearing will impact on equity beta and whether this is relevant to the AER's approach to adjusting the equity beta for leverage.

The treatment of hybrids in assessing the gearing ratio

Summary of the CRG advice and recommendations to the AER

In the 2018 RoRI, the AER excluded some hybrid instruments from the gearing estimate but included others. It did this on the basis of assessing whether the individual instruments were more like debt or more like equity in their detail, irrespective of the businesses' treatment of them in their financial statements.

For the 2022 RoRI, the AER's preliminary position is that a more consistent approach is required because of the increased issuance of these instruments by regulated businesses.

The CRG has concluded that there are many difficulties in understanding and allocating hybrids between debt and equity and assessing the variety of instruments developed to suit individual network financing needs.

In addition, it is questionable whether hybrids should be considered part of the efficient financing of the benchmark pure play efficient network, given their greater complexity and higher cost to the network. While some networks may use hybrid instruments of various forms, hybrids do not appear to be a fundamental requirement to efficiently finance a regulated business.

The CRG therefore suggests that the AER does not include any hybrids in its assessment of gearing or in the EICSI, unless a consistent allocation methodology can be developed and it is empirically demonstrated that this is a core part of funding of a benchmark regulated pure-play network

What was the AER's approach to the treatment of hybrids in the 2018 RoRI?

In 2018, the AER noted that hybrid securities are different to typical debt securities and decisions on their treatment require an understanding of the terms and conditions of each security.

The AER then examined the hybrid instruments used by Envestra, Spark Infrastructure and AusNet Services. The AER came to the following conclusions: [55]

- AusNet Services' (AusNet's) two hybrid instruments were in the form of non-convertible subordinated notes and dated from 2016. On this basis, the AER *included t*hese hybrids in its estimate of AusNet's gearing. The AER also included the two instruments in the AER's (EICSI).
- Envestra's and Spark Infrastructure's shareholder loan notes had some characteristics of equity. The AER *excluded* these in its gearing calculation (and in the EICSI) because they were not sufficiently similar to debt. In both instances, these funding arrangements were initiated before 2010.

What evidence is there to change the treatment of hybrids for the 2022 RoRI?

55 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, pp. 34-35

The AER observed an increase in the use of hybrid securities by the regulated businesses in 2020 and 2021.

- AusNet issued two non-convertible subordinated notes in the 2020-21 period. They were:
    - AUD 650 million, 60-year AUD denominated hybrid security; and
    - EUR 700 million, 60-year EUR hybrid security.
- TransGrid secured an AUD $295 million hybrid security in the form of subordinated notes from the Clean Energy Finance Corporation (CEFC). Spark Infrastructure holds a 15% ownership share in TransGrid. The funds were obtained to support TransGrid's financing of Project Energy Connect, that is being developed as part of AEMO's Integrated System Plan (ISP).

While subordinated debt may play a role in the funding of the networks' capex programs, it generally comes at a higher cost than the senior debt instruments that have typically been the basis of the AER's allowance for the cost of debt.

As the AER suggests, these instruments *"do not satisfy simple debt criteria because the inclusion of debt with equity or equity with non-debt characteristics could lead us to incorrectly assess the realised cost of debt".* For this reason, the AER proposed to exclude these instruments in the EICSI in its 2020 update of the EISCI.[56]

The CRG also highlights that AusNet's non-convertible subordinated notes are 60-year instruments, notionally maturing in 2077. It is difficult to see how such instruments could be included in the EISCI assessment of the average tenor of debt.

The CRG further discusses the use of the EICSI, and the inclusion or exclusion of hybrids, in Section 5 of this Volume 1.

[56] AER, *Rate of return, Energy network debt data, Final working paper*, November 2020, p. 25

What is the AER's current position on inclusion of hybrids in the gearing estimates?

The AER has not set out a preferred position on the treatment of hybrids. The AER does, however, state that it is looking for a more consistent approach than it adopted in 2018 because of increased issuances by regulated businesses. The AER states:[57]

> *"The 2018 Instrument adopted different approaches depending upon the circumstances and we now consider that a consistent approach is needed for the 2022 Instrument. This is because of increased issuance by regulated businesses."*

The AER's other key issue is how to apportion hybrid securities between debt and equity. The AER is looking for stakeholders to suggest methods that could be used to estimate a consistent benchmark treatment of hybrid instruments.

The AER provided a table of arguments for and against the inclusion of hybrid securities in the assessment of gearing and has undertaken a 'sensitivity' analysis to test different treatments of hybrid securities. In brief, the AER's arguments for and against inclusion of hybrid securities are: [58]

- ***For inclusion:***
    - Hybrids contain characteristics of both debt and equity. The market value of gearing (see above) is likely to reflect some valuation of hybrid securities used by each business
    - AusNet's hybrid securities were not removed from the 2018 gearing estimate for ANS
    - A simple solution to the allocation issue may be to follow ANS's approach of recognising hybrid as debt if it is reflected as debt in their financial statements.
- ***For exclusion:***
    - Difficult to adjust for hybrid securities because they are very different to typical debt securities and it would require investigation of each individual hybrid instrument
    - Evidence that convertible securities have been excluded from equity by Standard & Poor's and by the US regulators until converted to equity
    - Recommendation that Envestra's shareholder loan notes be treated as equity, and removed from the value of debt when estimating gearing from market values
    - The West Australian Economic Regulatory Authority (ERA) removed hybrid securities which had equity characteristics from debt from its gearing estimates
    - The AER proposes to exclude hybrid securities from the EICSI. Removing hybrids from gearing would promote consistency with the EICSI.

Further complicating the analysis, the AER notes that while AusNet classified its pre-2018 hybrids as debt in its annual reports, credit agencies have recently indicated they may treat at least some hybrid issuances as part equity.[59]

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57 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 35

58 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 36

59 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 36

The AER's sensitivity analysis

The AER's sensitivity analysis considers four scenarios. The scenarios provide an upper and lower bound for the inclusion of hybrids. They are:

- the 2018 approach;
- hybrids as 100% debt;
- hybrids as 100% equity; and
- exclude hybrids from both equity and debt.

At this stage, the outcome of each of the scenarios is very similar, particularly in the context of the evidence (see Section 3.3.2) which demonstrated gearing ratios make little difference to credit ratings of regulated network businesses over a reasonably wide range of gearing levels. Other factors are more important.

CRG's position: Should the AER include hybrid securities in gearing, and if so how should they be allocated?

The CRG's first observation is that hybrid securities have many different characteristics and serve many different financing purposes. As a result:

- It is difficult to define a simple rule to allocate hybrid securities between debt and equity
- It is similarly difficult to understand what would be an 'efficient' benchmark capital strategy that included using various forms of hybrids
- Individual networks may need to raise subordinate debt under certain conditions, but this should not drive the AER's approach to setting an efficient benchmark capital structure to apply to the all the regulated asset base in the NEM. For example, TransGrid's 31 May ASX Release states in relationship to the CEFC funding contribution to the PEC:[60]

  *"This is an **innovative and bespoke** solution …The hybrid security instrument will form part of TransGrids' ongoing capital structure and attracts **partial equity credit** treatment with Moody's. "*

- It is not clear what proportion of hybrid funding is being raised to support the regulated networks' proposals to expand their competitive, non-regulated businesses. For example, one independent investor commented to the CRG:

  "In enterprises with regulated and non-regulated revenue, the business would be paying more for its money than a pureplay business. On that basis if you're paying the actuals, you're potentially subsidising the other aspects of their business.''

- We do not have data on the use of hybrid funding by owners of non-listed networks and if they do, whether this funding would be used to support only its regulated network activities in Australia.

60 Spark Infrastructure, *'TransGrid to build new electricity interconnector to facilitate Australia's Renewables Transition'*, ASX Release, 31 May 2021

Given these concerns, the CRG believes it will be difficult for the AER to achieve its intent of adopting a 'consistent' treatment of hybrid instruments. The AER implicitly recognises this in its November 2020 *EISCI final working paper*.[61]

In the working paper, the AER sets out some useful 'overarching' criteria for determining whether a hybrid instrument should be treated as debt. The AER suggests: [62]

> *"Any instrument that has the purpose of debt and does not meet one of the exclusion criteria may be included in debt".*
>
> *…*
>
> *We propose to exclude any instruments that do not have simple debt characteristics or are used for other purposes".*[63]

Proposed inclusions include instruments such as simple bond issuances, bank loans, US placements and medium-term notes. Exclusions include commercial papers, non-convertible subordinated hybrids, short term facilities, and anything with a term under 12 months.

Having established these criteria, the AER then notes that it cannot make a 'hard and fast' rule and can't anticipate novel instruments. Therefore, the AER states: "*it may still be necessary to exercise judgement*". [64]

While the AER raised these issues in the context of the EISCI, these issues apply equally to the treatment of hybrids in the gearing ratio. Judgement will always be required and will need to be based on the characteristics of ever more complicated instruments.

In summary, the CRG observed:

- Hybrids take many different forms and are likely to get more complicated in their structure and terms and conditions over time.
- It is not clear that networks are raising hybrids for the sole purpose of supporting their regulated businesses.
- From the CRG's perspective, the regulated businesses have sufficient capacity to raise secure, lower cost debt to meet their existing obligations to invest in their regulated networks.
- The CRG does not see a simple method for robust and consistent allocation of hybrids between debt and equity.

Individual networks may in practice, and for their own financing reasons raise capital, using some form of hybrid instrument. That is their choice, and they make this choice in the knowledge of the regulator's settings for debt costs.

The CRG also recognises that businesses such as TransGrid are raising sub-ordinated debt to support its share of the Project EnergyConnect (PEC), which is being developed as part of AEMO's Integrated

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61 AER, *Rate of return, Energy network debt data, Final working paper*, November 2020, p.

62 AER, *Rate of return, Energy network debt data, Final working paper*, November 2020, p. 24

63 AER, *Rate of return, Energy network debt data, Final working paper*, November 2020, p. 25

64 AER, *Rate of return, Energy network debt data, Final working paper*, November 2020, p. 24

System Plan (ISP). This is a special circumstance and has involved lower cost funding from the Clean Energy Financing Corporation (CEFC).

The CRG's interviews with the independent investors revealed mixed views on the relevance of hybrids. One investor suggested that if hybrids become a "*substantive thing that's ongoing*", then it should be allowed for in the estimate of the cost of debt. Other investors stressed the increased risk and cost associated with these instruments, for example:

> *"The use of hybrid debt instruments increases the riskiness of investments. Subordinated debt takes on more risk than senior debt and is relevant to how to assess equity pricing and equity risk".*

However, all this does not mean that hybrid instruments should be regarded by the AER as a standard financing strategy for a benchmark pure-play efficient network business providing regulated network services.

The networks have not provided evidence that their own individual financing requirements are relevant to setting a benchmark approach that applies to the rate of return for $112 billion dollars of assets. Networks are free to use these instruments as they see fit, irrespective of the AER's benchmark approach. However, the capital requirements and structures of individual firms should not form the basis of the AER's efficient benchmark gearing, which will apply across all firms.

Recommendation 10: The AER should not proceed with including hybrid instruments in either the gearing ratio or the EICSI, until the AER has undertaken further analysis of, and consulted stakeholders on:

(i) whether hybrids should not be considered as a normal part of a benchmark pure-play efficient capital structure, and if so:

(ii) whether it is more effective to develop clear and consistent criteria for allocating hybrids to

a. debt and equity, or

b. a "third term" in the cost of equity and debt estimates that avoids confusing hybrids with senior debt.

3.3.3 Possible cross checks for the overall rate of return

Summary of the CRG's advice to the AER

Of the four cross checks considered by the AER in 2018, and in the current *Overall RoR paper*, the CRG advises as follows:

- RAB multiples are not determinative but have an important role to play in the AER's understanding of market expectations. Notwithstanding comments from the networks to the contrary, the RAB multiples indicate that capital is available. Investors remain interested in acquiring regulated network assets in the knowledge of the AER's regulatory settings, including the rate of return.

- RAB multiples well in excess of one also indicate an expectation of out-earning the AER's allowed return on equity, whether through outperformance of incentives, cheaper debt than assumed by the AER or earnings from unregulated income streams. In general, the latter are minor compared to the RAB and the allowed rate of return, so appear unlikely to explain in full the reasons for high RAB multiples.
- Historical financial performance metrics are not determinative but do provide useful information on the actual financial position of the networks under the regulatory settings. Taken over time, they provide a signal as to whether the AER's allowed rate of return is systemically either overly generous or too low allowing returns that are too generous or too low relative to the AER's expectations and the networks funding capacity.
- Investment metrics do not provide clear signals about the impact of the allowed rate of return. They should be monitored over time. However, at this stage they are difficult to interpret and should be given no direct role in the rate of return process.
- Financeability metrics are not determinative and have limited value for the AER in setting a benchmark rate of return for an efficient business. Individual businesses may have issues that require investigating perhaps addressed in other parts of the AER's revenue building block model, but these are not generally relevant to the AER's determination of an efficient an efficient benchmark rate of return for the sector.

Background to the CRG's advice

Fundamentally, the AER and many other regulators approach the estimation of the rate of return from a financial theory perspective. Even when the AER uses market data to inform its decisions, it does so in the context of a theoretically constructed rate of return framework and applies the results to a theoretical benchmark efficient entity.

The AER states that cross checks can be used at the overall rate of return level and at the return on equity level. The AER's *Overall RoR paper* focuses on cross checks at the overall rate of return level.

The possible cross checks on the return on equity are set out in the AER's *Equity Omnibus paper*. The CRG discusses the return on equity cross checks in Section 4.5 of this Volume.

Cross checks provide the opportunity to test theory against real world outcomes. The CRG has previously suggested that a careful selection of cross checks does have a role in assessing the AER's overall rate of return decisions, albeit they are not determinative.[65]

The AER appears to acknowledge this when its states:[66]

> *"Cross checks involve comparing estimates against other relevant information sources. They may provide a sense check that the calculated estimates are reasonable and consistent with other sources of information."*

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65 CRG, *Submission to AER, Return on equity,* 14 August 2020

66 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p 46

The issue becomes even more apparent when networks use the theoretical model to 'demonstrate' to the AER that their business will be exposed to losses and even insolvency if the AER adopts a particular approach.

Consumers are rightly sceptical when they observe that those same businesses are making reasonable profits and forecast continued positive compound annual growth rates and dividends to their shareholders. Examples include statements from Spark Infrastructure's half-year presentation to investors (24 August 2021):[67]

- low cost of capital, investment grade balance sheets, predictable yield, long-life assets (p 5)
- RAB growth supported by regulatory determinations (p 38)
- intention to grow distributions at or around CPI over the next 5-years to 2025(p 40); distribution payout ratio of 92% (2020) (p 9)
- distribution sustainability based on cumulative operating cash flows across the periods (p 40)
- the Dividend Reinvestment Plan (DRP) to be reinstated to fund equity commitments for growth pipeline (p 40)
- credit rating A- for the two established electricity distribution businesses (Victoria Power Networks (VPN) and South Australia Power Networks (SAPN)) (p 42)
- net debt/RAB of (71.9%, 72.7% and 84.4% for VPN, SAPN and TransGrid respectively (p 42), while sustaining an A- credit rating for VPN and SAPN, and Baa2 for TransGrid.

Similarly, consumers are rightly sceptical when they see the networks submitting robust capital forecasts to the regulator for approval. Business consumers see the network businesses enjoying capital protection through annual RAB indexation and other protections that are not available to businesses operating in an internationally exposed competitive market.

Cross checks therefore provide a valuable source of information that can give assurance to the regulator that the network businesses remain in reasonable financial health (assuming efficient management).

At the same time, the regulator, and consumers can take some comfort that the AER's decisions are not upwardly biased because of reliance on theoretical models. The cross check can therefore assist in building confidence in the AER's decision making.

The CRG does not discuss development of consumer based cross checks Volume 1. However, the CRG considers this is an important area for further investigation by the AER. Appendix B in Volume 2 of the CRG's advice provides some information about the CRG's plans to gather evidence in relation to this matter.

67 Spark Infrastructure, *30 June 2021 Half Year Results – Investor presentation*, 24 August 2021

The 2018 RoRI and additional evidence on cross checks

What cross checks were considered by the AER in 2018?

In 2018, the AER extensively reviewed the following cross checks:[68]

- RAB multiples
- historical profitability measures
- investment trends
- financeability

In the 2018 RoRI process, the AER did not give cross checks a role in informing the overall rate of return. The AER considered that the appropriateness of rate of return parameters should continue to be based on the evidence examined in determining these parameters.[69]

The AER's reasons for rejecting each of the potential overall cross checks in 2018 are briefly described below. These reasons are, in most part, still relevant to the assessment of cross-checks for the 2022 RoRI except for the AER's treatment of RAB multiples in 2018 and, to a lesser extent, its treatment of historical profitability cross-checks.

RAB Multiples

RAB multiples are, in principle, a measure of a buyer's expectations for future returns. RAB multiples are forward–looking measures of expected returns and potentially have some heuristic benefit in assessing investors' internal expectations for future returns.

The AER's rejection of RAB multiples as having any role in its decision was principally based on its view that RAB multiples reflect multiple factors such as outperformance in regulatory benchmarks (e.g. capex, opex, tax allowances), potential growth in unregulated revenue and cost efficiencies, economic circumstances of the time, control premium and over-optimism in the buyer's assumptions.[70]

The AER then notes that there is much subjectivity and no agreement from experts on the appropriate assumptions to use to disaggregate historical RAB multiples. In addition, transaction multiples are relatively infrequent and there is a risk of generalising from single instances to all service providers. Nevertheless, the AER goes on to say:[71]

> *"…we consider that the size of recent RAB multiples and historical profitability measures, together with a continued ability of services providers to raise capital suggest that realised returns have at least been sufficient."*
>
> …
>
> *"We will also monitor trading multiples and acquisition multiples that may occur from time to*

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68 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, pp. 382-405

69 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 46

70 AER, *Rate of return instrument. Explanatory statement*, December 2018, p. 386

71 AER, *Rate of return instrument. Explanatory statement*, December 2018, p. 387

time. Over time we expect that this can help inform us on the effectiveness of our regulatory framework and identify areas that require further investigation."

Notably, the Independent Panel found the AER's 2018 Draft Decision did not adequately explain why it ignored the information available on RAB multiples. The Panel commented that:[72]

"While the AER has explained the RAB multiples can arise from varied causes, the difficulty of sorting out and weighting those causes does not make any one of them irrelevant".

The Panel recommended:

"The AER should explain why it intends to disregard RAB multiples as they are relevant to the return on equity prospective investors require to make investments".

Historical profitability

The AER's *RoRI 2018 Explanatory Statement* comes to a similar set of conclusions about the value of historical profitability results and the difficulty in interpreting these results in the context of the rate of return decision.

The AER also makes the same commitment to continue to collect information on the actual profitability of the businesses they regulate. As an example, the AER comments that careful consideration of historical profitability measures may be 'helpful' in identifying whether the actual cost of debt has been systematically higher or lower than the cost of debt applied in the rate of return.[73]

Investment trends

The debate in 2018 centred on whether trends in capital investment were relevant to the rate of return allowance.[74]

A number of the network submissions highlighted that networks generally spend less than their capital investment (capex) allowances. They proposed that this was a sign networks have not over-invested as suggested by consumers. Rather, underinvestment was a sign that the AER's 2013 rate of return allowance was not sufficient to encourage efficient investment.

The consumer groups, including the 2018 CRG, disputed this networks' proposition that underspending (compared to the AER's allowance) was a sign that the rate of return allowances after 2013 was too low. There were multiple reasons why the networks would underspend their allowance, including inaccurate demand forecasts and the effect of the capital expenditure sharing scheme were likely to be contributing factors.[75]

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72 Independent Panel, *Review of the Australian Energy Regulator's draft guidelines*, 7 September 2018, pp. 16-17

73 AER, *Rate of return instrument. Explanatory statement*, December 2018, p. 387

74 AER, *Rate of return instrument. Explanatory statement*, December 2018, pp. 388-390

75 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021

The AER concluded that the currently available evidence on investment trends cannot reliably be used to inform the allowed rate of return in any deterministic way. On the other hand, it may provide contextual information.[76]

Financeability metrics

The AER defines financeability as a *"service provider's ability to meet its financing requirements and to efficiently raise new capital".*[77] In a regulatory context it may refer to the service provider's ability to achieve the benchmark credit rating and is typically assessed through examining the key financial ratios used by credit agencies based on the allowed cash flows.

The AER undertook an extensive analysis of the criteria used by the credit agencies and the actual outcome for the businesses based on the AER's proposed rate of return. The metric examined by the AER was one nominated by the businesses, namely 'Funds from operations to net debt' (FFO/Net Debt). The AER observed:[78]

- The rating agencies assess firms' expected actual (not regulated) cash flows against firms' actual debt and expected cash flows will vary from regulated cash flows for multiple reasons.
- The rating agencies using multiple factors in addition to the FFO/net debt metric to assess the credit ratings of businesses operating in the regulated electricity and gas network sector
- The analysis of the regulated firms over the period 2016 to 2018 demonstrated that most firms appear within acceptable credit metrics when assessed using the 2018 proposed rate of return and 60%
- For firms with relatively low regulated FFO/Net Debt metrics, this is primarily driven by relative low net deprecation to net debt in their regulated asset base
- Firms with low regulated FFO/Net Debt metrics at a given point in time can address this by reducing their gearing. Firms that reduce their gearing will still have sufficient cash flow
- Most firms were decreasing gearing to below the allowed 60%.

The AER therefore concluded that it would not use financeability assessment to inform its rate of return.[79]

The Independent Panel found that:

> *"the AER considered the available information and evidence and explained sufficiently is reasoning".*[80]

What are the developments since 2018 RoRI?

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76 AER, *Rate of return instrument. Explanatory statement*, December 2018, p. 392

77 AER, *Rate of return instrument. Explanatory statement*, December 2018, p. 392

78 AER, *Rate of return instrument. Explanatory statement*, December 2018, pp. 395-405

79 AER, *Rate of return instrument. Explanatory statement*, December 2018, p. 405

80 Independent Panel, *Review of the Australian Energy Regulator's draft guidelines*, 7 September 2018, pp. 19

Consistent with its commitments in 2018, in 2020 the AER released its first electricity network performance annual report on network performance,[81] which included an analysis of key outcomes and trends in the operational and financial performance of the regulated electricity businesses.

The AER considers this report could act as an additional source of information to assist the AER and stakeholders in reviewing the effectiveness of the regulatory regime.[82] The AER also indicates that it has continued to refine its methodologies particularly with respect to the profitability measures.[83]

The AER has also examined how other regulators use measures such as RAB multiples. The AER also commissioned a report by Darryl Biggar that provided insights into the benefits and limitations of using RAB multiples in the regulatory context.[84] Biggar suggests that RAB multiples have two strengths:[85]

- They are relatively easy to compute and are often cited in the financial press
- They are an objective, market-based measure of the present value of the expected future cash flows.

Despite these advantages, Biggar and others have identified several factors other than the allowed rate of return that may lead to a RAB multiple greater than one. Nevertheless, Biggar concludes that:[86]

> *"..this does not mean that RAB multiples have no role in regulatory processes. A high RAB multiple is a reasonable trigger for further investigation, to rule out potential flaws or defects in the regulatory regime. If, after accounting for other possible factors, the RAB multiple is materially and persistently above on, the analysis in this note suggests that this RAB multiple information can be used in regulatory proceedings to* ***adjust the regulatory-allowed cost of capital downwards.*** [emphasis added]

Given the uncertainties and complexities in the regulatory process and in the process of estimating enterprise value (EV) and the RAB, Biggar suggested that:[87]

> *"… an EV/RAB outside the range of 0.9 to 1.3 might give cause for further investigation".*

The CRG's advice on the use of cross checks on the total returns to networks

The CRG's discussion below on cross checks recognises that RAB multiples are forward looking measures while the profitability measures assess existing financial outcomes for the businesses.

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81 AER, *Electricity Network Performance Report 2020*, September 2020

82 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 51

83 AER, *Electricity Network Performance Report 2020*, September 2020, p. 42

84 Biggar, Darryl, *Understanding the role of RAB multiples in the regulatory process*, February 2018

85 Biggar, Darryl, *Understanding the role of RAB multiples in the regulatory process*, February 2018

86 Biggar, Darryl, *Understanding the role of RAB multiples in the regulatory process*, February 2018, pp. 1-2

87 Biggar, Darryl, *Understanding the role of RAB multiples in the regulatory process*, February 2018, n.p.

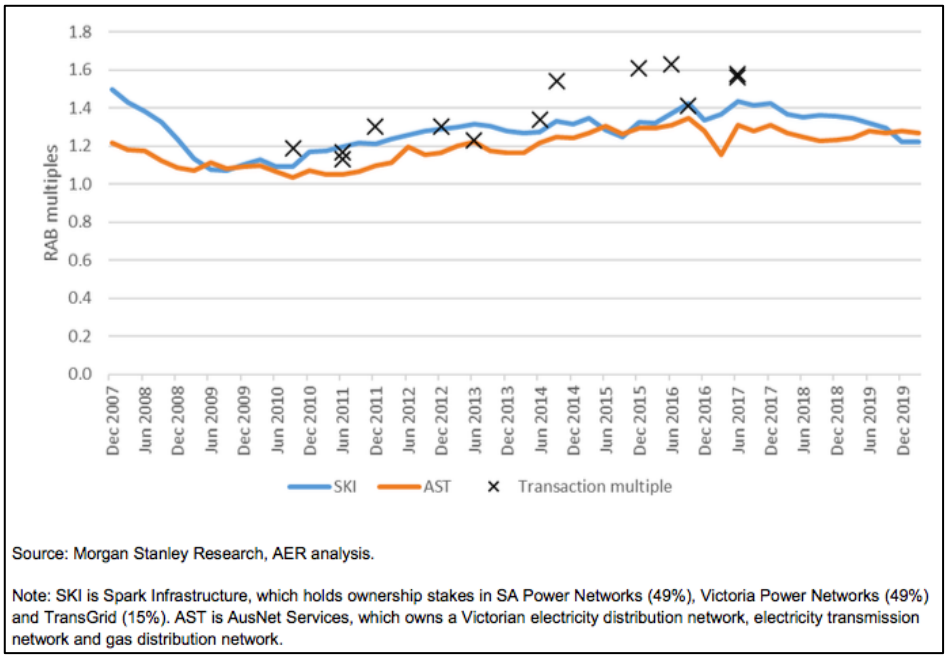
Of these two measures, the CRG considers RAB multiples provide the most 'information' and recent transactions are particularly relevant as they have been made in the knowledge of the AER's 2018 rate of return approach and potential changes to that approach.

RAB multiples cross checks

RAB multiples are important indicators as they are the only cross check proposed that is forward looking.

The AER's *2020 Electricity Network Performance Report* considers both transaction multiples and trading multiples to provide the largest possible body of market evidence.[88] The following figure combines the AER's time series of both trading and transaction RAB multiples.

Figure 3-4: AER's regulated NSPs – transaction and trading multiples[89]



Source: Morgan Stanley Research, AER analysis.

Note: SKI is Spark Infrastructure, which holds ownership stakes in SA Power Networks (49%), Victoria Power Networks (49%) and TransGrid (15%). AST is AusNet Services, which owns a Victorian electricity distribution network, electricity transmission network and gas distribution network.

The chart illustrates that transaction multiples have been consistently above 1.4, and well above Biggar's range of 0.9 to 1.3 from around 2014 to mid-2017 (the last observation on the chart). Similarly, trading multiples have been relatively steady and sitting between 1.2 and 1.4 since 2014 despite the significant declines in the allowed rate of return as interest rates declined.

There were two more recent transactions in 2020 and 2021 involving regulated assets, namely:

88 AER, *Electricity Network Performance Report 2020*, September 2020, p 49.
The transaction multiples arise from the transaction of a discrete component of an ownership group including regulated NSPs. Trading multiples are a RAB multiple generated using market value data on the enterprise value of publicly listed entities.

89 AER, *Electricity Network Performance Report 2020*, September 2020, p. 50

- the sale in July 2020 of a significant (approximately 20%) equity holding in TransGrid to a Canadian pension fund at an estimated 1.6 times the regulated RAB[90]; and
- the recent approval by the Board of the Spark Infrastructure to sell its portfolio of electricity network assets to a consortium of international investors led by private equity Kohlberg Kravis Roberts and the Ontario teachers' pension fund. The offer is estimated to be around 1.5 times the regulated RAB.[91]

The RAB multiples in these transactions do include a component of expectations on future RAB and earnings growth from ISP and renewable energy projects. The expected regulated rate of return, however, remains an important consideration:

- TransGrid's ISP projects built under the ISP will still be subject to the AER's revenue regulation
- Renewable energy projects are generally regarded as higher risk and that component of expected cash flows would have a higher discount rate.
- TransGrid's commercial arm faces competition to be involved in building ISP assets in Victoria.[92]

These two transactions have taken place in the full knowledge of the current 2018 rate of return settings and in the reasonable expectation that the AER's 2022 rate of return might be like 2018. They also illustrate the on-going international demand for quality Australian infrastructure assets. In particular, they illustrate considerable liquidity in international money markets, with many parties seeking to balance their investment portfolio by investing in regulated network assets.

The independent investors interviewed by the CRG highlight this point, with comments such as:

> *"There are pools of capital, increasingly in the private market searching for assets."*
>
> *"Should the AER take account of high RAB ratios? The answer is yes in as sellers' market … I would even say under the current rate of return if transactions are being done at 1.5 times RAB, you are obviously paying enough"* [in the rate of return]

Similarly, a significant shareholder in Spark Infrastructure said following the Board sign off on the sale of Spark:

> *" .. there's lots of hot money running around the world."*[93]

This sentiment was reflected in the independent investors' comments, for example:

> *"There is actually a lot of capital sloshing around looking for a home"*

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90 Asian Power, *Canadian pension fund buys 20% stake in TransGrid*, 2020

91 Fowler, Elouise, *Financial Review*, 'Investors cheer Spark Infrastructure's $5.2 billion takeover' 23 August 2021 The deal is subject to shareholder approval and the Foreign Investment Board.

92 In Victoria, the Australian Energy Market Operator is responsible for planning and issuing competitive tends for the construction of major transmission projects such as those proposed by the ISP program. Presumably, TransGrid's commercial arm, TransGrid Services, will have to compete with AusNet Services 'Mondo' and other parties to build the assets.

93 Fowler, Elouise, *Financial Review*, 'Investors cheer Spark Infrastructure's $5.2 billion takeover' 23 August 2021

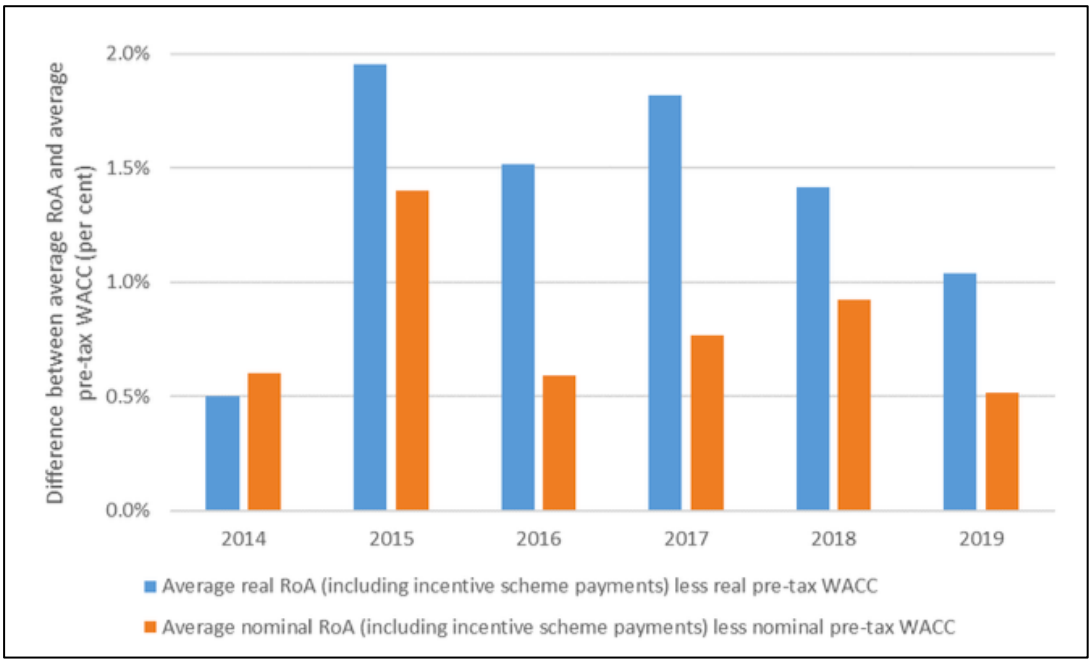
Recommendation 11: The AER has sufficient information to use RAB transaction and trading multiples as a cross check to its overall rate of return decision.

Historical Profitability Cross Checks

To date, the AER's network performance reporting has focussed on the observed return on assets against the AER's allowed WACC. This is a 'global' measure that does not allow the AER to assess the drivers of network profit other than the impact of the incentive schemes.

The Figure 3.xxx below compares the actual returns against allowed returns in real and nominal terms for both distribution and transmission networks. The analysis excludes the beneficial impacts of RAB indexation in preserving investor capital.

Figure 3-5: Networks' real and nominal returns are above allowed returns[94]



The AER notes that while real returns have consistently exceeded the regulatory target returns, the margins for outperformance on nominal returns are generally smaller.

This does not suggest a fundamental problem with the AER's allowance given the AER's approach targets real returns. The main reason for the lower nominal returns relates to the forecast of expected inflation and the actual out-turn inflation. This factor sits outside the rate of return assessment and has in any case been revised by the AER effective for decisions from January 2021.[95]

Importantly, the AER's performance report indicates that there are some differences across networks on the actual returns achieved by the networks that cannot be accounted for by differences in incentive payments. For example, while the actual return on assets for Essential

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94 AER, *Electricity Network Performance Report 2020*, September 2020, p. 50

95 The change to the AER's inflation methodology came into effect from the start of 2021, two years prior to the 2022 RoRI coming into effect.

Energy and TasNetworks distribution appear to be less than the AER's allowance, Evoenergy Distribution's actual return on assets is some 4% above the allowance.[96]

It is likely that these outcomes are driven by factors unique to those companies. The AER's rate of return decision, however, relates to the benchmark efficient entity and applies across the whole sector. The AER's decision for the efficient rate of return should not be driven by individual network profit outcomes.

The CRG concludes that historical profitability assessments have provided stakeholders with insight into the actual financial performance of the regulated networks. They also provide reassurance to the AER that the allowed rate of return is, overall, achieving its regulatory purpose.

Taken as a whole, they indicate the importance of cross checking the financial models, and the claims by networks of realised negative returns on their investment. However, the CRG does not consider historical profitability should be determinative, rather it is a useful ex-post check on the AER's decision making and on the claims of the networks.

Recommendation 12: The AER should continue to monitor the network profitability and take this into account when considering arguments claiming the networks have negative returns and cannot invest at efficient levels.

Investment levels as a cross check

The CRG notes the 2018 commentary on investment as a cross-check and supports the AER's 2018 conclusion that it would be difficult to use investment levels as a cross check to assess whether the rate of return is over or under the efficient level to attract the appropriate investment capital.

In particular, the CRG strongly rejects the suggestion made at an earlier AER public forum that the decline in capital expenditure by the networks is a function of an inadequate allowed rate of return.[97]

The clearest explanation of this downward trend in total capex is that it reflects the decline in demand and the overall excess capacity in the system in most regions of the networks. As a result, the need for capital expenditure on augmenting the network system has rapidly declined to minimal levels. The investment focus of the networks is now very largely on replacement capex and information technology.

The AER's 2020 network performance report makes this very clear, as illustrated below in Figure 3…

While the CRG concludes that investment levels are not suitable to use as a cross check in the AER's decisions for the reasons outlined above, consumer representatives in particular, believe they tell an important story about the regulatory framework.

For example, the consumer representatives legitimately asked: if the rate of return is below the efficient cost of capital for the networks, why do networks continue to submit regulatory proposals

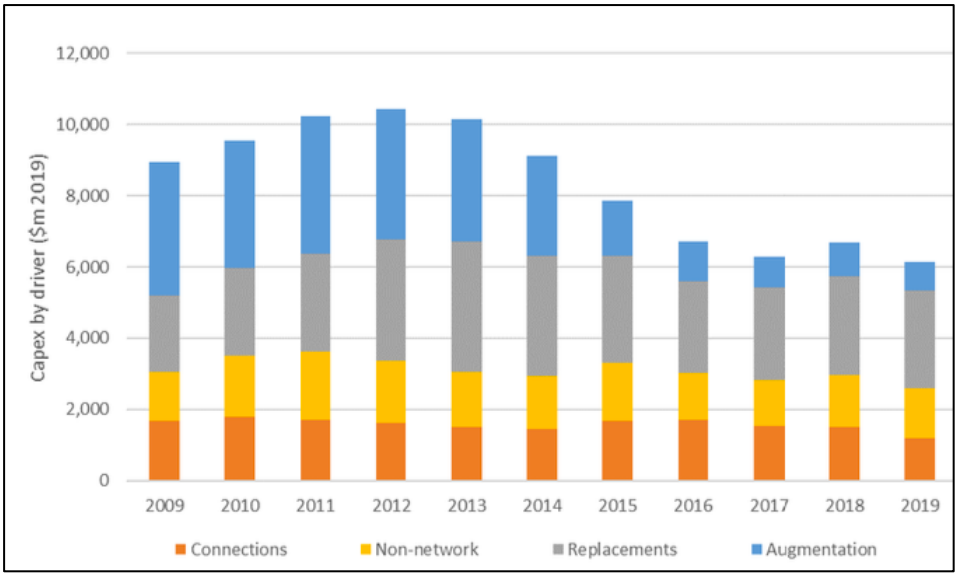
96 AER, *Electricity Network Performance Report 2020*, September 2020, p. 44

97 Network Shareholders Group, *Presentation to the AER's webinar on term*, 14 June 2021

to the AER that include high capital expenditure forecasts, which the AER generally decreases in its final determinations.

The CRG considers this is a reasonable concern, and highlights issues with the AER's incentive framework. However, it is not as clear that the networks' capex proposals are a direct reflection of their view on the actual cost of capital, and the CRG expects there are other factors at play here.

Figure 3-6: The changing mix of network capital expenditures[98]



Recommendation 13: Investment levels are not suitable for the AER to use as a cross check to the overall rate of return.

Financeability tests as a cross check

In the CRG's response to the AER's working paper on the low interest environment, the CRG supported the AER's position that:[99]

> *"financeability considerations should not be used to directly adjust our rate of return parameters and further consideration has not altered our views based on the information currently before us."*

The CRG is not aware of any new evidence presented to the AER that is likely to change that view. The position expressed in that response that response that *"if the AER revises its position, the CRG emphasises that it is essential the AER consults further on this potential revised position,"*[100] This remains our view.

98 AER, *Electricity Network Performance Report 2020*, September 2020

99 CRG, *Advice to the Australian energy Regulator on the Rate of Return and Cashflows in a Low Interest Rate Environment*, July 2021

100 CRG, *Advice to the Australian energy Regulator on the Rate of Return and Cashflows in a Low Interest Rate Environment*, July 2021, p. 26

The CRG concludes that the current proposals put to the AER regarding the need for a financeability test are inadequate for the AER's purposes. More specifically, the CRG comments as follows:

- The proposals focus on one measure of financeability only, the FFO/Net Debt metric. As the AER and others have noted, the credit rating agencies consider a much broader range of indices, they do not rely on the one FFO/Net Debt metric when grading the companies
- As the CRG highlights above, the objective of the AER is to set a benchmark rate of return for the whole sector. Individual networks may have challenges in funding a given capex proposal. This should not be resolved by imposing higher rates of return across the whole regulated network sector.
- The TransGrid experience with PEC funding highlights that nation-building projects can successfully seek funding from other sources such as the CEFC or governments. Commenting on its contribution to the PEC and other ISP projects, the CEFC said:

  "Project EnergyConnect reflects our strong focus on investing in essential grid augmentation as part of Australia's important renewable energy transition.
  …
  With the investment in Project EnergyConnect, the CEFC has committed $420 million to nation-building grid infrastructure including our landmark $125 million investment in grid infrastructure which is critical to the delivery of the Snowy 2.0 pumped hydro project."

- In turn, Spark Infrastructure talks of the approval of the Board as signifying a *"significant step in delivering Spark's 'growth plus yield' value proposition to our investors",* and states that its equity commitment to the PEC *"will be covered via the Company's Distribution Reinvestment Plan".*[101] TransGrid appears confident that current investors will support this project and are not deterred by the AER's rate of return decisions.

Recommendation 14: The proposed financeability tests should not be used as cross checks for the AER when setting a benchmark rate of return for the regulated network sector.

101 Spark Infrastructure, *'Transgrid to build new electricity interconnector to facilitate Australia's renewables transition'*, 31 May 2021

4 Return on equity

4.1 Introduction

Estimating the regulated return on equity is the most contentious and contested component in the rate of return instrument (RoRI). This is hardly surprising. As Energy Networks Australia (ENA) observes:[102]

> *"the true cost of capital (i.e. the minimum return required by investors in order to commit capital) can never be observed"*

Countless millions of words have been written without any hint of irony about how this invisible value ought to be estimated efficiently. These debates have spanned decades and continents, and they continue with no loss of vigour in the current RoRI review.

These debates bring to mind the cautionary note issued by Werner Heisenberg, the physicist and Nobel laureate.[103]

> *"What we observe is not nature itself, but nature exposed to our method of questioning."*

Werner was speaking about quantum mechanics (a field he helped found) and highlighting how some things in nature can never be observed in their true state. His caution is eerily apt for economic regulation as well – at least if "nature" is replaced with "market expectations" in the above quote.

For reasons that are not entirely clear, this limiting feature of economic regulation and its implications are rarely examined in the reviews conducted by regulators. At most they are recognised, and then set aside so the arguments can resume about the right way of estimating the various input to the regulatory model. The same is true for this RoRI review.

The CRG contends the failure to confront this central defect of economic regulation has led to too many specious debates that have not served the long-term interests of consumers. Nowhere are the limitations created by pursuing an unobservable truth greater than in the regulatory quest to estimate the return on equity. Section 4.1 confronts these limitations head on.

The remainder of this Chapter is structured as follows. Section 4.2 reflects on the role of the market risk premium and how it should be estimated as an input to estimating the return on equity. The CRG is extremely wary of the use of discounted cashflow models (such as the dividend growth model) as a determinant of the allowed return on equity. Section 4.3 reflects on the estimation of the equity beta. For the main part, the CRG supports the approaches to estimating beta outlined in the *Equity omnibus paper*. Section 4.4 briefly reflects on the use of cross-checks and proposes the AER adopt additional measures that would be more meaningful to consumers. The CRG makes recommendations reflecting its proposed way forward.

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102 ENA, *Rate of return and cashflows in a low interest rate environment, Response to Draft AER Working Paper, 2* July 2021, p.45

103 Heisenberg, W., *Physics and philosophy: the revolution in modern science*. Lectures delivered at University of St. Andrews, Scotland, Winter 1955-56, 1958

4.2 The particularly peculiar task of estimating a regulated return on equity

This section reflects on the AER's role in estimating an efficient, regulated return on equity. The discussion explores the challenges faced by the AER and the opportunities for an improved approach in the future.

4.2.1 The AER's benchmark approach

Estimating the applicable return on equity is perhaps the most contentious element of the regulatory rate of return model. Investors required and expected return on equity cannot be observed ex ante and regulatory estimates of those requirements or expectations cannot be verified ex post.

In a recent final working paper, the AER unsurprisingly observes.[104]

> *"Estimating the return on equity is complex and contentious, with experts and regulators reaching different positions on the strengths and weaknesses of different models, how those models should be implemented, and return on equity outcomes. There is no one 'right answer' to be found."*

The CRG certainly concurs with the initial observation made by the AER about the multiplicity of experts and opinions, but the CRG contends the AER's latter observation is incorrectly specified. As stated, the AER's observation suggests that although there is "no one right answer", there may be *multiple* right answers. This is not correct. There is no single, true estimate of an efficient return on equity.

Every network is different in terms of its operational environment, the risks it faces and its capital requirements. Different investors will assess and respond to these environments, risks and requirements in different ways when costing their equity expectations.

While there will be many expectations formed about many different networks by many different investors at many different points in time, it is not the AER's task to estimate each of these expectations – let alone compensate each of those expectations. That is not how incentive-based regulation works. Nor is it the task assigned to the AER under the national energy laws and rules. As the AER explains (albeit in the context of the overall rate of return, rather than the estimated return on equity):[105]

> *"The service providers' actual returns could differ from the benchmark regulatory allowance depending on how efficiently it finances and operates its business. This is consistent with incentive regulation."*

While the benchmark efficient entity no longer exists in the energy rules, it lives on in spirit in the AER's regulatory methodology. For example:[106,107]

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104 AER, *Rate of return, CAPM and alternative return on equity models. Final working paper*, December 2020, p.2

105 AER, *Better regulation, Explanatory statement rate of return guideline*, December 2013, p.34

106 AER, *Rate of return, CAPM and alternative return on equity models. Final working paper*, December 2020, p.2

107 Repeated in: AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p.11

> *"The building blocks—return on capital, return of capital, operating expenditure and tax — reflect the expected costs that would be incurred by a benchmark efficient entity operating the network."*

Defining the characteristics of this notional firm is left entirely to the AER.[108]

> *"The legislative framework does not prescribe methodologies or lock in specific benchmark characteristics for the estimation of the various components of the rate of return. Rather, it provides discretion and requires us to exercise judgement about the analytical techniques and evidence to use to make an estimate that is commensurate with efficient financing costs."*

The last reference indicates the AER expects the benchmark efficient firm to face efficient financing costs. The current three omnibus papers provide some insight into what the AER means by "efficient financing costs".

> *"In our view, the guiding principle is: an unbiased estimate of the expected efficient return, consistent with the relevant risks involved in providing regulated network services."* [109]

and

> *"[T]he rate of return needs to reflect the cost of capital of an efficient firm in the supply of regulated energy services."*[110]

At no point, however, does the AER seek to identify the benchmark operational environment, a benchmark set of risks, or a benchmark set of capital requirements. Nor in its pursuit of a benchmark efficient firm, does the AER attempt to generate a distribution curve reflecting the estimated cost of equity faced by each of the firms it regulates. This indicates the benchmark efficient entity does not (and is not intended to) reflect the mean, median or mode of all the networks regulated by the AER. Indeed, the benchmark efficient entity need not bear any similarity to any one or more of these regulated networks, as reflected in the quote above about incentive-based regulation.

Several of the AER's recent working papers describe the consequences of providing a regulatory rate of return that is not commensurate with the "efficient financing costs".[111] These consequences can be summarised as:

(i) over- or under-investment in network assets

(ii) distorted consumer prices leading to inefficient consumer decisions

(iii) inability to attract funds (if the rate of return is underestimated)

The AER has not demonstrated or even suggested these inefficient outcomes have manifested from the returns set under the 2018 RoRI. There is no indication in any of the working papers that the AER has sort evidence of any of the possible causes of inefficient financing costs.

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108 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p.20

109 AER, *Rate of return, 'Assessing the long-term interests of consumers', Position paper,* May 2021, p.1

110 AER, *Rate of return, 'Term of the rate of return'. Draft working paper, May 2021*, p.33

111 AER, *Rate of return, 'Term of the rate of return'. Draft working paper, May 2021*, p.2 and Chapter 6

The absence of this evidence and analysis indicates the AER is not taking an outcomes-based approach to assessing how it estimates an "expected efficient return".

These observations suggest the benchmark efficient entity is neither a reflection of the environment, risks, or capital requirement of existing networks. But at the same time, the AER has not sought to assess whether existing networks are delivering outcomes that are consistent with those it would expect from a benchmark efficient network.

In other words, neither inputs nor outputs appear to define the features of a benchmark efficient network.

4.2.2 Regulators are not forecasters

The benchmark efficient entity appears to represent a notional network facing a notional operational environment, set of risks and capital requirements – none of which are defined. The entity is assumed to respond to each of these undefined demands efficiently; and it efficiently finances its operations by raising equity from notional investors who efficiently price their notional equity.

The ongoing application of the Capital Asset Pricing Model (CAPM) as the foundation model must be interpreted against this background of an imaginary benchmark network raising funds from hypothetical investors.

The CAPM has not been chosen as a foundation model by regulators around the world because of any claim it has to precision. As the AER has openly acknowledged:[112]

> *"We recognise that the SL CAPM [Sharpe-Lintener CAPM] —like all asset pricing models—does have its limitations, and necessarily relies on simplifications that will not capture all aspects of real-world complexity."*

and

> *"Our assessment of the (standard) SL CAPM as the preeminent model has appropriate regard to the SL CAPM's weaknesses, but also its strengths—as well as the strengths and weaknesses of the alternative candidate models."*

These statements are self-evidently true. How could they not be true for a model based on only three independent inputs to capture all the complexities, idiosyncrasies and animal spirits of equity markets?

The relevant question, therefore, becomes: What then is the role of the CAPM within a regulatory setting and how does this differ from the CAPM's role in non-regulatory settings (for example, its use by market analysts)?

There are many differences between the role of the CAPM as a regulatory tool and as a tool for market analysis. For example:

112 AER, *Rate of return, CAPM and alternative return on equity models. Final working paper*, December 2020, p.23

- Unlike regulators, market analysts are dealing with real entities (not notional benchmark efficient entities) with real and identifiable operational environments, risks and capital requirements.
- CAPM and other asset pricing models are used by market analysts to help identify whether stocks are under- or overpriced. Regulators have no direct interest in the market value of the firms they regulate and use the CAPM to establish revenue (not market value).[113]
- Market analysts use their asset pricing models to "out predict" their competitors and are punished when they fail to do so. Regulators use the CAPM to estimate allowed returns for a hypothetical firm and face no threat of sanction.
- Investors can withdraw their funds from the hands of a market analyst misusing an asset pricing model, but consumers' funds remain tied to their regulator.

The CRG contends that not enough attention is given to these fundamental differences. As a result, regulators, including the AER, have increasingly drifted into defining their role as using asset pricing models to divine the 'truth' about the cost of capital from market data. This pursuit of the truth is most often expressed in terms of identifying the prevailing or opportunity cost of capital.

> *"We consider employing the rate of return that is commensurate with the prevailing market cost of capital is consistent with the zero NPV investment condition. A return on debt that better reflects prevailing market cost of debt more closely imitates the outcomes of a competitive market."*[114]

and

> *"In the draft decision we were conscious that the rate of return should be set in a manner that is sufficient to attract capital on a long-term sustainable basis, given the opportunity costs, if we are to achieve the legislative objectives."*[115]

The CRG contends that having a regulator stalking the markets for its hidden secrets – in much the same way market analysts might – misrepresents the role of the regulator and the role of the CAPM within the regulatory task. It is understandable that networks and network investors have encouraged regulators to stray down this path.[116]

> *"ENA agrees that the RPP and NEO and NGO are best promoted by setting the allowed return to be commensurate with the efficient market cost of capital – the return that real-world market investors require from an investment in regulated assets."*

Encouraging the regulator down this path provides networks with countless opportunities to allege the regulator has failed to accurately reflect the prevailing or opportunity cost of capital. Better yet for the networks, they never need to substantiate those allegations.

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113 While RAB multiples may be used as a regulatory cross check (see Section 4.4), the AER does not use the CAPM to assess whether a regulated firm is over or under valued by the market.

114 AER, *Rate of return and cashflows in a low interest rate environment. Draft working paper*, May) 2021, p.23

115 AER, *Better regulation, Explanatory statement rate of return guideline*, December 2013, p. 408

116 ENA, *The term of the rate of return. Response to Draft AER working paper,* July 2021, p.27

At the same time, the regulator is claiming to be using its models to estimate those investors' expectations of the future (which are unobservable) about the opportunity cost of capital in a firm in which those investors cannot invest (because it does not exist). No wonder the methodological and evidentiary debates and allegations continue endlessly.

Such endlessness could not possibly have been the objective behind making electricity and gas networks subject to economic regulation by the AER. The CRG and consumer representatives (see chapter 6) consider this seemingly endless rehashing of arguments not to be in keeping with the spirit (if not the letter) of the NEO/NGO and the laws which prescribe how the RoRI is to be made.

The AER was not established to be forecaster of the cost of capital, rather, it was empowered to determine that cost. Allowing these two functions to be interpreted as one, has led to the endless and irresolvable debates that dog the AER's regulatory reviews into estimating the cost of equity.

4.2.3 The role of the CAPM in a regulatory setting

In a regulatory context (unlike when it is used by a market analyst), the CAPM is not a forecasting tool. It is a signalling device. It serves to inform investors about how the regulator will determine the returns they can expect to earn on their investments into the distant future. Conversely, it serves to inform consumers about the compensation they will continue to pay to those investors over the term of their investments.

Efficient markets require stable and predictable price signals, including about the compensation to be paid to, and earned by, invested capital. Within a regulatory setting, the CAPM plays no greater role than providing that signal. It has been adopted as a foundation model worldwide for that purpose because of its simplicity and transparency. Partington and Satchell explain the ubiquity of the CAPM.[117]

> *"For the purpose of regulation, it is a pre-requisite that the model be implementable, and it is desirable that the use of the model is widely accepted. Widespread use in the practice of estimating the return on equity is relevant here. Such use is evidence that the model is widely accepted, that implementation is not excessively difficult and that the model has practical usefulness."*

Herein lies the explanation for the regulatory popularity of the CAPM. It has emerged as a popular foundation model because, to paraphrase Keynes, it has been shown to be broadly right rather than precisely wrong. None of the submissions or consultant reports received by the AER have contested this feature of the CAPM.

Within a regulatory context, the relevant question becomes: In what regard is the CAPM "broadly right" given it is estimating something that is neither observable nor verifiable? The answer is twofold.

First, the CAPM sends clear and consistent regulatory signals to investors and consumers about how future returns will be determined. The simplicity of the model means investors efforts at estimating future returns over the life of their investments will be "broadly right" (or at least as right as their

117 Partington, Graham and Satchell, Stephen, *Report to the AER: Alternative asset pricing models*, June 2020, p.10

estimates of the AER's future inputs to the CAPM). The importance of clear and consistent regulatory signals about future returns has been acknowledged by the ENA.[118]

> *"Specifically, investor valuation models typically forecast the AER's regulatory allowances over many future regulatory periods. That is, investors forecast AER regulatory allowances and then discount those cash flows at what they consider to be an appropriate rate of return. The AER's task is to set regulatory allowances for each year and the market practice is to estimate the present value of those same regulatory allowances."*

When viewed in this light, it is not clear what can be achieved by complicating the AER's use of the CAPM by adding more inputs to its estimation methodology (for example, by using a dividend growth model to estimate the market risk premium)[119]. The pursuit of false precision offers no additional guarantee of accurately estimating an unobservable and unverifiable value. It simply introduces more opportunities for investors and consumers to misjudge the value of future regulated returns to be earned by investors and paid for by consumers.

The second way in which a stable revenue model should be judged as being "broadly right" is by the outcomes it produces. As noted above, the AER has identified these consequences as:

(i) over- or under investment in network assets

(ii) distorted consumer prices leading to inefficient consumer decisions

(iii) inability to attract funds (if the rate of return is underestimated)

The CRG suggests two additional adverse outcomes should be added to this list

(iv) over or underutilisation of network assets[120]

(v) observable or foreseeable diminution of service standards.[121]

Getting the regulated return on equity "broadly right" means these outcomes are avoided.

Importantly, the CRG cautions that were any of the above outcomes to materialise, the AER would need to review the efficacy of all aspects of its regulatory framework (including other elements of the building block model, regulated service standards and regulatory enforcement) before it could conclude the shortcoming lay with the setting of the allowed return on equity.

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118 ENA, *The term of the rate of return. Response to Draft AER working paper,* July 2021, p.45

119 See Section 4.2.2 for a detailed discussion about the use of a dividend growth model (GDM) for estimating the market risk premium (MRP) in the CAPM.

120 As per the New South Wales Consolidated Acts, *National Electricity (NSW) Law - Sect 7A, n.d.*

121 After all, the NEO and NGO are framed around promoting efficient delivery of service outcomes in terms of quality, safety and reliability and security.

4.2.4 Conclusion

A popular television series from the late 1990s ran with the tagline, "The truth is out there." Despite the show running for ten seasons, the sought-after 'truth' was never found.

Many of the debates over how to estimate the return on equity conjure memories of that tagline. Arguments over alternative or technically more precise estimation methods are alleged to reveal a 'truth' about the benchmark efficient entity which can never be confirmed.

The CRG contends the truth is not 'out there'. It lies with the regulator. The AER, or more specifically, its chosen methodology, is the source of truth. As the quote above from the ENA highlights, investors will take whatever model the AER adopts and use it to forecast their expectations of regulated cashflows over the term of their investments.

When it comes to network assets, the term of those investments runs across decades. Investors have confirmed the obvious with the CRG, namely, that when determining the expected discounted cashflows on their investments, investors care little for short-term market volatility. Instead, they look through those cycles at long-term, market fundamentals to forecast the cashflows expected from a regulator's revenue model.

The AER (and its state-based predecessors) have adopted the CAPM and various estimation methodologies as the chosen source of truth in the economic regulation of energy networks. The AER should have greater confidence in its determinative authority for doing so. The AER's choices are the source of truth, not the bottomless well-spring of data that endlessly bubbles out of the market.

There is nothing in the NEO, NGO or Revenue and pricing principles (RPP) that obliges the AER to forecast the opportunity cost of capital using that endless stream of market data when setting the return on equity. That interpretation is one the AER has adopted over the course of time with the encouragement of the networks. It need not do so. Indeed, it cannot do so because it can never observe that cost. It can only observe the consequences of its regulatory decisions.

It is for these reasons, the CRG has concluded there is little merit to be gained from revisiting the same methodological debates every four years. Instead, the CRG contends the AER should establish clear evidentiary thresholds that must be satisfied before it re-examines established elements of the RoRI, and most notably its approach to estimating the return on equity. These thresholds must be satisfied by any proponents of change, including the AER, before change is contemplated.[122]

Beyond establishing these thresholds for how and when it will consider changes to its estimation methodologies, the AER's primary focus should turn to measuring what is, in fact, observable – namely, the outcomes that result from its regulatory decisions. In other words, the CRG requests

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122 CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return*, 2 July 2021
The CRG's response identifies four areas in which thresholds should be established. These are:
(i) the theoretical foundations for an alternative approach
(ii) any practical limitations that would diminish the net benefit of adopting an alternative approach
(iii) clarity about the circumstances necessitating a proposed change in approach, and
(iv) a clear exposition and analysis of the consequences of adopting an alternative approach, particularly for the long-term interests of consumers.

the AER return to its foundation principle (as encompassed in the objective of incentive-based regulation) of focussing on tangible outcomes rather than unobservable inputs.

Between now and the beginning of the 2026 RoRI review, the AER is urged to develop sophisticated outcome-based measures that will shed light on whether it has satisfied the outcomes envisaged in the NEO, NGO and RPP.[123]

In the meantime, the remainder of this chapter responds to the many issues raised in the AER's *Equity omnibus paper*.

4.3 Estimating the market risk premium

While estimating the return on equity might be the most contentious element in the overall rate of return, the market risk premium is probably the most controversial element within the contentious estimate of the return on equity. As the Brattle Group (Brattle) notes:[124]

> *"the magnitude of the [Market Risk Premium] MRP has a significant impact on the CAPM results, but the determination of the MRP remains controversial."*

This section responds to matters relating to the estimation of a market risk premium. These matters are discussed in chapters 4 and 5 of the *Equity omnibus paper*.[125] Chapter 4 raises questions about the use of a forward-looking market risk premium while chapter 5 reflects on whether there may be a relationship between the risk-free rate (RFR) and the market risk premium (MRP). The main concerns on which the AER appears to be seeking feedback are:

- Should the AER be seeking to set a forward looking MRP?
- Should the dividend growth model (DGM) be used to estimate the MRP?
- Should arithmetic or geometric means be used to estimate the MRP?
- How should the AER calculate the MRP if it switches to a 5-year term for the return on equity?
- Might the MRP and RFR be related?

Sections 4.2.1 to 4.2.5 respond to each of these questions. Section 4.2.6 concludes the CRG's discussion on the MRP by stepping back from the detail and questioning: What is the problem needing a solution? The CRG contends low risk-free rates have prompted the current round of debates on estimating the MRP. Section 4.2.6 examines whether a low risk-free rate requires a regulatory response. It also questions whether negative real interest rates create a problem in need

123 *National Electricity (South Australia) (New National Electricity Law) Amendment Act 2005*. South Australia. 2005. *National Gas (South Australia) Act 2008*. South Australia. 2008
The Revenue and Pricing Principles appear in Section 7A of the NEL and rate of return clauses are in section 24 of the National Gas Law. Clause (2) states networks "should be provided with a reasonable opportunity to recover at least the efficient costs the operator incur"; Clause (5) states the regulator "should allow for a return commensurate with the regulatory and commercial risks involved"; clause (6) states "regard should be had to the economic costs and risks of the potential for under and over investment"; and clause (7) states "regard should be had to the economic costs and risks of over and under-utilisation of networks".

124 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.37

125 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*

of a regulatory solution. In the event negative real interest rates are problematic, the CRG offers a simple and principled solution.

4.3.1 Is the AER estimating a forward looking MRP?

In applying the SL-CAPM, the AER interprets its duties under the NEO and NGO as requiring a forward-looking estimate of the market risk premium.[126]

> *"As part of this, we have to estimate a forward-looking market risk premium that compensates an investor for the systematic risk of investing in the Australian market portfolio. The forward looking MRP is the difference between the expected return on the market portfolio and the return on the risk-free asset."*

This interpretation of the AER's duties is not contested by stakeholders or any of the expert reports commissioned by the AER. Opinions differ, however, over how the AER should fulfil this duty when market participants' expectations about the MRP are not observable. As the AER notes: [127]

> *"The expected MRP is not directly observable. As a result, a number of different methods have been put forward to estimate the expected MRP."*

To date, the AER has relied on historical excess returns (HER) to estimate the MRP.[128] This has led Brattle to claim the AER does not apply a forward-looking approach.[129]

> *"[T]he AER does not incorporate forward-looking evidence into the cost of equity to the same extent as some other regulators."*
>
> and
>
> *"the CAPM using a historical MRP relies on backward-looking information"*

The AER strongly rejects this argument claiming that the use of historical data does not imply a backward-looking approach to estimating the MRP.[130]

> *"Using historical excess returns does not mean our MRP estimate is backward-looking. Historical excess return data is commonly used in both regulators, and by market practitioners to inform their estimates of the market risk premium within a forward-looking rate of return."*

CEPA makes the broader point that many forward-looking approaches still use historical data to produce their estimates.[131]

> *"Despite the name, forward looking approaches often set their forecasts based on history."*

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126 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.17

127 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.17

128 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.19
Here the HER is defined as "*Annual historical excess returns = Return on market – 10-yearCGS (December average)*"

129 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p. 1 and p.35

130 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.22

131 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.4

Nonetheless, CEPA still reaches the conclusion:[132]

> *"[W]e take the approach that the historical data is a measure of the realised MRP, and does not measure forward looking expectations."*

Brattle and CEPA also expressed concerns that, because the MRP varies over time, estimates based on historical data will not reflect contemporary market sentiment. The consultants respectively observed:

> *"The AER, like most of the reviewed regulators, relies on a MRP that is essentially backwards-looking. The advantage of the approach is that it makes the parameter stable and predictable, but it may fail to capture recent developments in the market."*[133]

and

> *"The direct estimates of the MRP using the averages of the historic realised MRP cannot therefore be used to assess whether the MRP changes through time, as they do not measure what the forward looking MRP was at the time."*[134]

Although Partington and Satchell note that using (very) long run market data risks including data points that may not be particularly relevant to current conditions, they caution against relying on statistically questionable short run observations.[135]

> *"Because of the considerable volatility in realised returns, a very long run average is required in estimating the market risk premium. As a consequence of the volatility, standard errors of the market risk premium computed from short run data are large. In other words, the confidence interval admits such a wide range of values for the market risk premium that the estimate is of little practical use."*

These concerns lead Partington and Satchell to also caution against using short run data to modify conclusions drawn from long run observations – as currently practised by the AER.[136]

> *"Unfortunately, we know of no reliable method to detect recent changes in the risk premium and hence determine whether an adjustment to the long run average is necessary and in what direction."*

In reviewing these arguments, the CRG considers the Brattle conclusion excessively narrow and unhelpful. It is hard to identify any quantitative economic models that are not informed by historical observations, as CEPA observes. Modellers will almost always assume (whether by desire or necessity) that historical observations contain relevant information about the future, or at least expectations about the future. There is no reason modelling the MRP would be immune from this approach.

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132 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.6

133 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.58

134 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.36

135 Partington, Graham and Satchell, Stephen, *Report to the AER: Alternative asset pricing models*, June 2020, p.23

136 Partington, Graham and Satchell, Stephen, *Report to the AER: Alternative asset pricing models*, June 2020, p.23

The only relevant questions then, are whether historical observations are sufficient for estimating expectations of the future; and whether other models might be better placed to estimate those expectations. The CRG responds to the latter question in subsequent sections, but for now, focusses on the relevance and weight that can be placed on historical observations.

The CRG contends this question cannot be contemplated in the abstract. It needs to be considered within the AER's overall objective in estimating a return on equity. This matter has not been openly addressed in this RoRI review – as critically highlighted in the CRG's submission in response to the AER's paper on the term of its estimates.[137]

In that submission, the CRG argues that the power of historical observations is closely linked to the AER's objectives in estimating a return on equity. That is, the weight that can be attached to historical observations depends on whether the AER is seeking to reflect investors' expectations over the life of long-term investments, or whether the regulator is only interested in expectations over short-term economic cycles.

The CRG strongly believes the regulatory task should remain focussed on expectations of long-term trends, and that doing so significantly increases the informational value of historical observations.[138]

> *"Given long-term expectations look through present circumstances and individual events, they are likely to be more stable than short-term expectations. This implies more information about investors' long-term expectations will be embedded in historical market observations than for their short-term expectations.*
> *For the main part, the AER has made this argument over the past decade or two to support its reliance on historical data when estimating CAPM inputs such as beta and the MRP."*

The benefit of remaining focussed on long-term trends, rather than each regulatory review chasing expectations about economic cycles, is further borne out by the results reported in Table 2 in the *Equity omnibus paper* which demonstrates the relative stability of the estimated MRP using historical excess return estimates.[139]

The CRG notes that CEPA and Brattle's concerns about unstable forward-looking estimates of the MRP are based on estimates generated using so-called 'forward looking' models like the DGM. These estimates are highly dependent on the assumptions required when applying a DGM (See Section 4.2.2). The CRG contends it is unclear whether the instability discussed by Brattle and CEPA is a genuine reflection of short-term market sentiment or simply an artefact of the DGMs they prefer.

Moreover, as the CRG's discussions with investor representatives have highlighted, investors' models focus on long-term returns informed by their expectations of long-term market fundamentals. Investors in networks are not continuously rebalancing their network holdings in response to expected short-term market or economic fluctuations. This is consistent with the

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137 CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return*, 2 July 2021

138 CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return*, 2 July 2021 p.19

139 AER, *Rate of return: 'Equity omnibus' Draft working paper,* July 2021, p.42

preferred method of network ownership – recent events indicate that soon only one company whose main business is owning and operating regulated networks will be a listed company.[140]

The longevity of the 2022 RoRI must also be acknowledged. Regulatory determinations will be made under this instrument affecting consumer prices through to 2031. Those distant future prices should not be made hostage to market circumstances in 2021-22.

The CRG supports the AER maintaining its focus on long-term trends in the MRP and avoid being lured into chasing market expectation of the economic cycle using questionable methodologies. As discussed in Section 4.2.4, the AER should maintain this disciplined focus on long-term returns even if it ultimately adopts a shorter term for the return on equity.

Recommendation 1: The AER should continue to rely primarily on long run historical excess returns when estimating the market risk premium.

4.3.2 Should a DGM be used to estimate the MRP?

It would seem that everything that needs to be written about the dividend growth model (DGM) has probably been written already. This model has been reviewed and rejected repeatedly by the AER in 2009, 2013 and 2018.[141]

> *"We consider the issues with the DGM to be material. With potential biases and subjectivity increasing concerns about the model's results, we do not consider there is sufficient evidence to give DGM significant weight in estimating the MRP."*

More recently, the AER all but ruled out adopting a DGM in its estimates.[142]

> *"We do not propose to include the dividend growth model as a secondary model at the return on equity level. We consider there are substantial challenges to be overcome before the dividend growth model could be used as an alternative or companion to the SL CAPM."*

It is not surprising, then, that the *Equity paper* in 2021 finds nothing new to say about the usefulness of the DGM as a regulatory tool. No new evidence has been proffered since 2018 to assuage the AER's concerns.[143]

> *"A significant issue surrounding DGMs is that they are highly sensitive to input assumptions regarding short and long-term dividend growth rates. There are a wide range of potential dividend growth rates deemed appropriate for use in the DGM, which provide an equally wide range of results."*

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140 Fowler, Elouise, *Financial Review*, 'Investors cheer Spark Infrastructure's $5.2 billion takeover' 23 August 2021

141 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.263

142 AER, *Rate of return, CAPM and alternative return on equity models. Final working paper*, December 2020, p.24

143 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.26

In response, network submissions and presentations have repeatedly referred to the advice commissioned from Brattle by the AER as evidence supporting the adoption of a DGM. For example:[144]

> *"Brattle has advised – and ENA agrees – that a superior estimate of the market risk premium (MRP) can be obtained by giving some weight to forward-looking evidence such as the DGM."*

The CRG has deep concerns with Brattle's report and contends the AER cannot place significant weight on its advice. In summary, these concerns include:

- The Brattle report advocates for a DGM but does not shed any further light on how the AER's longstanding concerns with the DGM (as summarised above) could be addressed efficiently, transparently and non-contentiously.
- Brattle does not assess whether the MRP is likely to be time varying or broadly constant through time. In the absence of this analysis its dismissal of the HER as being backward looking, and therefore inadequate for regulatory purposes, is nothing more than an assertion. (CEPA also does not address this matter.[145])
- Brattle is openly committed to the use of multiple models to estimate the MRP on the basis that doing so "provides additional information".[146] Brattle's commitment to a mixed model approach makes its support of the DGM a foregone conclusion – rather than a conclusion derived from the evidence. In addition:
  - Brattle does not address how that additional information ought to be assessed for its relevance and reliability before being included by the regulator.
  - Brattle does not examine the factors that would determine the weight that should be attached to the DGM under a multiple model approach.
  - The AER has comprehensively dismissed the use of a multiple model approach to estimating the return on equity.[147] The CRG supports this decision.
- While Brattle's review of regulatory practices around the world is thorough, its assessment and conclusions do not take local history into account. Investor and consumer expectations are formed in the knowledge of the regulator's approach to estimating the allowed return. The mere observation that different regulators apply different approaches does not ipso facto imply a convergence of regulatory approaches should be pursued.

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144 ENA, *Rate of return and cashflows in a low interest rate environment, Response to Draft AER Working Paper, 2* July 2021, p.3

145 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021
For example, CEPA p.36 states, *"The MRP is a forward-looking concept: it is the expected return on the market less the RfR. The direct estimates of the MRP using the averages of the historic realised MRP cannot therefore be used to assess whether the MRP changes through time, as they do not measure what the forward looking MRP was at the time."*

146 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.59

147 AER, *Rate of return, CAPM and alternative return on equity models. Final working paper*, December 2020

- Brattle's conclusions are expressed simply as opinions.[148] This is evidenced by repeated use of terms such as, "we think". Brattle does not use terms such as "the evidence demonstrates". To be clear, the CRG has no concerns with Brattle expressing an opinion. This appears to be what it was commissioned to do. But its advice must be treated as an opinion only and it cannot be granted the special status suggested by the networks.

In its paper, CEPA is forthright in identifying the challenges that accompany the use of DGMs, namely the broad suite of assumptions that must be made about the specifications of the model to be used and the data to be inputted to that model.[149]

> *"There are a range of detailed assumptions that are typically required to implement DGMs: the number of stages; the sources of estimates of growth and whether there are biases in these estimates; how injections and withdrawals of equity are taken account of; and the relationship between long-term dividend growth and economic growth."*

CEPA encountered these problems firsthand when it attempted to build a relatively simple version of the DGM leading it to caveat its findings:[150]

> *"We do not consider that the cost of equity estimates that we have constructed would provide reliable estimates suitable for use in a determination. However, we consider them suitable for the task of this paper … It is however worth noting that our analysis is exploratory in nature and should be seen as a preliminary assessment of the empirical evidence."*

Despite this clear disclaimer, the CEPA results were picked apart by the AER in its recent *Equity paper*.[151] This was not intended as a criticism of CEPA's efforts, but it does highlight the seemingly intractable limitation of specifying a DGM. The DGM will always rely on contestable assumption. As the AER has previously concluded:[152]

> *"[T]here are multiple assumptions and constructions in use when it comes to the DGM. When there is no significant or deciding evidence to signal which models are appropriate any choice made may be subjective in nature."*

In a similar vein Partington and Satchell have cautioned:[153]

> *"On the basis of our analysis we conclude that the risk of error and bias in the use of the DGM are substantial."*

The substantial risks against which Partington and Satchell warn come into view when observing the AER's preferred DGM (which, fortunately, has no determinative role in the AER's setting of the return on equity). That DGM has the following specification:[154]

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148 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, pp.58-62

149 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.36

150 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.6

151 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.34

152 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.267

153 Partington, Graham and Satchell, Stephen, *Report to the AER: Alternative asset pricing models*, June 2020, p.64

154 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.255

$$P_c = \frac{m \times E(D_c)}{(1+k)^{m/2}} + \sum_{t=1}^{N} \frac{E(D_t)}{(1+k)^{m+t-0.5}} + \frac{\frac{E(D_N)(1+g)}{k-g}}{(1+k)^{m+N-0.5}}$$

Were such a model to be afforded a determinative role, it would raise questions of logical consistency. Does it make sense for a subsidiary model to be so much more sophisticated than the foundation model into which it is feeding? There seems to be something incongruous about using such a complex non-linear DGM (with six independent variables) to determine the value of one input to a very simple linear SL-CAPM (with its three independent variables). Does the CAPM become a more precise model because of a seemingly more sophisticated approach to estimating one of its inputs? The CRG is doubtful.

Beyond its concerns about how the AER could confidently specify an appropriate DGM, the CRG is deeply concerned about the reliability of the inputs required to operate a DGM. As CEPA observes:[155]

> *"The range of plausible assumptions mean that implementations of the DGM can produce a wide range of estimates of the cost of equity."*

This limiting feature has clearly concerned the AER in its considerations of the DGM in past rate of return reviews.[156]

> *"The growth rate plays a key part in the MRP estimates produced by the DGM. As we are searching for a robust estimate of the MRP for use in our rate of return we consider it is important that all assumptions and inputs require a strong level of confidence."*

and

> *"Academics and regulators use a wide range of dividend growth rates, suggesting subjectivity."*

At recent forums hosted by the AER and ENA, respectively, the ENA has presented a "calibrated DGM" developed by Frontier Economics. The CRG understands this model calibrates the long-term growth rate for dividends so that the long-term average MRP estimated by the model is equivalent to the long-term average MRP estimated by the AER using HER. Although the CRG cannot comment on the inner workings of the calibrated DGM until details of the model are published, it is perplexed about why the ENA would be proposing a DGM that is calibrated against the HER results which it so vehemently rejects. Whatever the merits of this calibration might be, the other parameters in the calibrated DGM remain subject to the subjectivity about which Partington and Satchell, CEPA and the AER have cautioned.

The CRG is also very concerned about how future dividends are estimated – for example, $E(D_t)$ and $E(D_N)$ in the AER's preferred DGM shown above. The *Equity paper* repeats some of those concerns, including: an upward bias in analyst forecasts, and slow changing or 'sticky' dividends.[157] Moreover, the Australian share market is dominated by a few large sectors (and companies), most prominently mining and banking. Developments unique to those sectors could have disproportionate

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155 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.36

156 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.257

157 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.26

consequences for forecast of market-wide dividends that are not related to shifts in broader economic fundamentals.[158]

For now, it remains clear that the DGM produces estimates that are both notably higher and significantly more variable than estimates based on HER, as shown in the following table. Were such estimates to be adopted, the AER would be significantly increasing the cost of networks services for consumers with no offsetting improvement in service levels.

Table 4-1: Market Risk Premium: HER and DGM estimates (per cent)[159]

Method	2018	2019	2020
HER – Arithmetic mean	6.0 – 6.6	5.8 – 6.4	6.0 – 6.5
HER – Geometric mean * excluding 1883-2017 estimates	4.2 – 4.6	4.1 – 4.3	4.2 –4.5
HER – Geometric mean ** all estimated ranges	4.2 – 5.0	4.1 – 4.9	4.2 –4.9
DGM	5.96 – 8.59	6.42 – 9.83	7.07 – 10.79

** The HER geometric estimates for the longest estimation period (1883-2017) are consistently outliers*

Beyond matters of a methodological nature, the CRG is deeply concerned about the stakeholder dynamics that will be unleashed if the AER adopts the DGM as part of its approach for estimating the return on equity. The seemingly irreducible subjectivity of the DGM will invite endless rounds of claims and counterclaims that even exceed current efforts. Partington and Satchell do not mince their words when warning of the likely consequence of adopting a DGM.[160]

> *"The range of choices to be made in implementing the DGM opens significant opportunities for gaming by the stakeholders."*

The complexity of the regulatory playing field already heavily favours networks and the few investor groups who are well-resourced and readily capable of engaging with regulatory processes. Opening the regulatory process to new "significant opportunities for gaming" will further tilt the playing field away from consumers – effectively making it impossible for the AER to fulfil its strategic vision of building trust in Australia's energy system.[161]

Only three years ago, the AER described the DGM as:[162]

> *"arguably the most divisive of topics among stakeholders and their views on the MRP."*

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158 For example, in the wake of the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry, banks and other financial institutions severely reduced their dividend payouts largely to avoid public and political criticism rather than in response to a shift in economic fundamentals.

159 AER, *Rate of return, Annual update*, December 2020, pp.14-15

160 Partington, Graham and Satchell, Stephen, *Report to the AER: Alternative asset pricing models*, June 2020, p.59

161 AER, *Strategic Plan 2020–2025*, 2020, p.3

162 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.253

On four occasions, the AER also openly referred to the Independent Panel's observations about "the AER's current mistrust of DGM's."[163] The CRG has not been able to establish whether the term "mistrust" was used by the AER or whether it originated with the Independent Panel. Even if it were the latter, there would be no better placed observer to interpret the AER's true opinion regarding the DGM.

No new persuasive *evidence* (theoretical or empirical) has been submitted during the course of this RoRI review in support of the DGM. No new compelling *reasoning* has been proffered by the proponents of a DGM. No new broad *consensus* has emerged among experts, regulators or stakeholders. All this suggests the DGM remains as "divisive" as ever.

On that basis, the AER must uphold its decision from 2018:[164]

> *"We consider the issues with the DGM to be material. With potential biases and subjectivity increasing concerns about the model's results, we do not consider there is sufficient evidence to give DGM significant weight in estimating the MRP."*

Recommendation 2: The AER must uphold its decision from 2018 to reject using the dividend growth model (DGM) to estimate the market risk premium (MRP).

4.3.3 Arithmetic or geometric means?

The appropriate averaging methodology is one of the less prominent considerations in the debates that swirl around the estimation of the return on equity. As Table 4.1 in Section 4.3.2 shows, the choice of averaging methodology is not a trivial matter. The arithmetic mean is almost 2 per cent higher than the geometric mean. Applying the higher arithmetic mean, rather than the geometric mean, to the overall RAB of all networks regulated by the AER implies over $500 million in additional network revenue every year.[165,166]

The mere half a page devoted to this topic in the *Equity paper* is highly disproportionate to the very significant consequences for consumers resting on the AER's decision over which averaging approach to apply.

Arithmetic means will be higher than geometric means, but which is the appropriate approach remains in dispute. The *Equity paper* notes there are uncertain and mixed views about which of the two methodologies provides the better estimate.[167]

> *"There remains uncertainty over whether an arithmetic or geometric average (or some combination of the two) provides a better estimate of the expected excess returns due to the variability of returns from year to year.*

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163 AER, *Rate of return instrument. Explanatory statement*, December 2018, pp.256, 258, 263 & 266

164 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.262

165 This amount ($528 million) equals a RAB of $110 billion multiplied by additional 2 per cent multiplied by beta of 0.6 and a gearing ratio of 0.4.

166 Noting, some of this revenue will be capitalised in the regulatory asset base (RAB).

167 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.24

> *There are studies and academic examples showing there are periods the geometric average is the best estimator. Others show that the arithmetic average could be superior."*

The *Equity paper* simply states the AER will "continue to use the arithmetic and geometric annual averages in estimating the MRP" without further explanation.[168]

The AER's 2018 RoRI explanatory statement provides a somewhat more detailed exposition of the respective merits of arithmetic and geometric averaging approaches. On numerous occasions, the *Equity paper* refers to each methodology's capacity to produce an "unbiased estimate" but does not explain what this term means in the context of an averaging methodology.[169]

> *"As shown by academic work giving weight to both, with more weight on the arithmetic average, is more likely to arrive at an unbiased estimate than exclusively using one."*

The explanatory statement also makes the peculiar observation that geometric averaging "can be used only for positive numbers".[170,171]

In 2018, the AER determined it should apply an estimate from the lower end of its range of estimated arithmetic means.[172]

> *"We place more weight on arithmetic returns however these geometric averages indicate the forward looking MRP value is most likely to be towards the bottom of the range given by the arithmetic averages."*

Given the inconclusive nature of the academic literature, the AER's decision invites the obvious question: Why doesn't the AER take the reverse approach? Why not place more weight on geometric returns but select a value from the upper end of the geometric range to account for the higher estimates produced by arithmetic averaging?

The CRG is concerned by the disproportionately little attention paid by the AER to the question of how past observations should be averaged. The CRG will consider undertaking further work in this area.

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168 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.24

169 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.250

170 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.250

171 AER, *Rate of return instrument. Explanatory statement*, December 2018
This statement seems to suggest the AER considers the geometric mean of, say, 4 and 10 per cent would be 6.32 per cent [= (4x10)^0.5] rather than 6.96 per cent [= ((1.04x1.1)^0.5) - 1]. And in the case of a combination with a negative value, say, -4 and 10 per cent, there was no geometric mean, rather than a geometric mean of 2.76 per cent [= ((0.96*1.1)^0.5) - 1].

172 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.94

4.3.4 How would switching to a 5-year term affect the estimation of the MRP?

In its working paper on the term of the rate of return, the AER signals its interest in moving to a shorter term for estimating the return on equity.[173] In its submission responding to that working paper, the CRG highlighted its concerns about the lack of detail about what such a shift would entail, particularly its impact on the revenues networks would earn and the prices consumers would face.[174]

The *Equity paper* describes the consequences of switching to a 5-yearterm in Section 4.5.2, but in abstract terms only. The paper does not seek stakeholder feedback on this matter. This is despite indicating the appropriate methodology for estimating the MRP will need to be considered if it switches to a shorter term for the return on equity.[175]

> *"[O]ur current view is that this would require the use of a 5-yearforward estimate of the MRP… As a result, it could be argued that we should use a 5-yearrisk-free rate rather than a 10-yearrisk-free rate to calculate the historical excess returns."*

The CRG notes that if the AER proceeds with its proposal to adopt a shorter term for the risk-free rate, it is self-evident that it must also apply a shorter risk-free rate when calculating the market risk premium. This can be seen when the CAPM is written in its original balanced portfolio format.

$$R_i = (1-\beta)\, R_f + \beta\, R_m$$

There is only one risk-free rate (R_f) in the CAPM so it is not clear what other "view" the AER might have in mind.[176] The CRG requests the AER clarify what other approaches it is considering.

The CRG is concerned by the Equity paper's silence on whether switching to a shorter estimation term for equity would also affect the observation period it used when estimating HER. As the CRG noted in its response to the working paper on the term of the rate of return, the role of historical data is much clearer when the model has a long-term (10 year) outlook.[177]

Section 4.2.1 of this submission concludes with the observation that the AER should maintain its focus on long-terms trends in the MRP and avoid being lured into chasing investors' short-term expectations of the economic cycle. The CRG reaffirms its recommendation at the end of that section even if the AER determines to shorten the estimation term for the return on equity – namely, the AER should continue to rely on long run historical excess returns when estimating the market risk premium.

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173 AER, *Rate of return, 'Term of the rate of return'. Draft working paper, May 2021*

174 CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return*, 2 July 2021

175 AER, *Rate of return: 'Equity omnibus' Draft working paper,* July 2021, p.23

176 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.40, para 158, Brattle observes "[I]t is important that the maturity of the risk-free rate and that used to determine the MRP match".

177 CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return*, 2 July 2021, p.21, footnote 29

4.3.5 Might the MRP and RFR be related?

There is a spectre haunting network regulation in Australia – the spectre of whether the RFR and MRP are related in some manner. It is a debate that continues to traverse the same arguments with no clear pathway to resolution. Despite this, the *Equity paper* again pokes the spectre.

In 2018, the AER examined the possibility of a full or partial relationship between the RFR and MRP. It reached unequivocal conclusions that there was neither a perfect nor partial negative correlation between these two parameters.[178]

> *"Our final decision is to reject the Wright approach to estimating the MRP, which estimates the MRP as the difference between the estimate of return on equity and the prevailing risk-free rate. This approach implies a perfectly negative correlation between the risk-free rate and the MRP as well as a largely stable return on equity."*

and

> *"We did not find significant evidence to support an estimable relationship between the MRP and the risk-free rate. Given our regulatory framework, we consider a fixed MRP based on a relevant risk-free rate, determined at the beginning of the regulatory period, provides a more appropriate reflection of the risks businesses face over the regulatory period."*

The *Equity paper* lists the additional work that has been undertaken since that time and invites further comments from stakeholders.[179] The listed further work includes:

- additional stakeholder feedback during this RoRI review.
- consultant reports by Partington and Satchell, and CEPA, and
- an earlier working paper which provided some "initial considerations of the potential for a relationship between the risk-free rate and MRP"[180]

The CRG offers some observation on each of these inputs in turn.

In its response to the low interest rate environment working paper, the ENA submitted:[181]

> *"ENA is unaware of any regulator or any market professional adopting a positive relationship between the risk-free rate and the MRP. By contrast, there are many examples of regulators and market professionals who adopt a negative relationship."*

Unfortunately, the ENA does not elaborate on the many examples to which it is referring by this observation. Brattle (2020) and CEPA (2021) identify only the UK Office of Gas and Electricity

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178 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.231

179 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.29-35

180 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.31

181 ENA, *Rate of return and cashflows in a low interest rate environment, Response to Draft AER Working Paper, 2* July 2021, p.39

Markets (Ofgem) when discussing regulators whose models assume a negative correlation. The *Equity paper* also refers to regulators in Ireland but does not identify them.[182]

In their commentary on the Wright approach, Partington and Satchell conclude:[183]

> *"We have previously argued that we find this implausible and it causes problems. For example, when Australian government bond rates were of the order of 15%, using the Wright approach would have resulted in a substantial negative estimate of the market risk premium. In the most elementary models of investor behaviour, negative risk premiums are not possible for risk averse investors."*

Partington and Satchell have also previously pointed to evidence that there could be either a negative or positive relationship at different points in time.[184]

The CEPA (2021) report was commissioned by the AER specifically in support of the Equity paper which notes it provides "summaries of academic work, financial practice, regulatory use and some preliminary econometric analysis."[185] After reviewing the literature on this topic, CEPA concludes the evidence is inconclusive:[186]

> *"There also appears to be as strong a theoretical basis for the argument that the RfR and the MRP are perfectively negatively correlated (the "Wright" approach) as there is for the argument that the RfR and total equity market returns are perfectly positively correlated (the fixed MRP approach)."*

In a footnote, CEPA references earlier research reaching the same conclusion.[187]

> *"McKenzie and Partington (2013) come to a similar conclusion … "that it is entirely possible that the relationship between the market risk premium and the risk-free rate could be either pro- or counter-cyclical and that this relationship may even oscillate over time.""*

While CEPA's modelling effort (using a DGM) is heavily caveated, it suggests a negative relationship between the RFR and MRP may be present. However, as noted in Section 4.2.2 of this submission, the CEPA modelling is picked apart by the AER in the *Equity paper*.[188]

CEPA summarises its overall conclusions in four observations:[189]

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182 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.57.
The CRG understands this is a reference to the Utility Regulatory in Northern Ireland.

183 Partington, Graham and Satchell, Stephen, *Report to the AER: Alternative asset pricing models*, June 2020, p.23

184 Partington, Graham and Satchell, Stephen *Report to the AER: Allowed rate of return 2018 guideline review,* May 2021, pp. 34-35

185 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.35

186 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.14

187 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.14, footnote 31

188 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.34

189 CEPA, *Relationship between RFR and MRP, Australian Energy Regulator, Final Report*, 16 June 2021, p.44

> *"Our assessment is that (i) there is acceptance that MRP is not stable and (ii) it is possible that there is an inverse relationship between the forward looking MRP and the risk-free rate, (iii) there is no good evidence that the MRP should be assumed to be independent of the RfR the current assumption of the AER, and (iv) there is no conclusive theoretical basis for an assumption of independence or dependence."*

In other words, CEPA is unable to rule in or rule out whether a zero or negative relationship exists between the RFR and MRP. On that basis, it concludes that because a negative relationship cannot be ruled out the AER should consider either assuming a negative relationship or a hybrid model (allowing for both a zero and negative relationship). CEPA does not discuss how a hybrid approach might be implemented or what weighting should be applied to each assumption.

Finally, the *Equity paper* cross references the AER's earlier working paper on cashflows in a low interest rate environment as providing "some initial considerations of the potential for a relationship between the risk-free rate and MRP."[190] In reality, the earlier paper provides a helpful summary of the known arguments rather than contributing new research or original insights. The earlier working paper also committed to the further work the AER would be undertaking to investigate whether there was a relationship between the RFR and MRP.[191]

> *"As part of our work on this topic we will consider the approach of the United Kingdom regulators and the rationale for their findings. This will include considering:*
>
> - *The initial 2003 work of Smithers and Company that proposed that the real market cost of capital should be assumed constant on the basis of UK data from long-term historic averages of realised stock returns.*
> - *The 2013 and 2018 consulting work that concluded that the approach of assuming the total market return is relatively constant that had been adopted by the UK regulators remained appropriate.*
> - *The decisions of Ofgem and other regulators where they determined to apply a constant total market return approach.*
>
> *Whether we consider any relationship found in the United Kingdom is likely to apply in Australia and could be determined with sufficient validity and stability to warrant Australian regulatory use."*

The *Equity paper* did not provide substantially further insight into the AER's consideration of these matters. The CRG looks forward to reviewing this further analysis from the AER.

The CRG also remains concerned about the implications of assuming the MRP is related to the RFR – that is, the MRP is a function of the RFR. Were this to be true, the AER's foundation model would be reduced from a function of three independent inputs (RFR, beta and MRP) to a function with only two independent inputs (RFR and beta). The CRG is not aware of any asset pricing models based on these two variables only. The proponents for a relationship between the MRP and RFR should

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190 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.31

191 AER, *Rate of return and cashflows in a low interest rate environment. Draft working paper,* May 2021, p.29

identify the theoretical foundations of the two-variable model for which they appear to be advocating. As Partington and Satchell wrote in their advice to the AER in 2020:[192]

> *"It is desirable for there to be a well-accepted theory that explains how and why an asset pricing model determines required returns."*

None of the matters discussed above has furthered the debate over the relationship between the RFR and MRP. For every piece of analysis, there is a contradicting piece of analysis. For every argument, there is a counterargument. For every opinion, there is an alternative opinion.

The CRG has deep reservations about whether there is a 'scientific' solution to this dilemma – whether, in fact, "the truth is out there". As the AER notes in the low interest rate environment working paper:[193]

> *"We note that a key challenge is the non-observable nature of the equity risk premium and the fact it is likely to be unstable through time."*

Pursuing the truth about something that is unobservable must surely be a quixotic quest. Any claim to having found that truth can be neither verified nor falsified.

The caution from Heisenberg at the start of this Chapter rings more loudly in this discussion than in any other part of this submission. It seems to the CRG that it will never be possible to ascertain whether any observation about the relationship between the RFR and MRP is a "true" reflection of that relationship, or whether it is simply an artefact of the modelling technique being applied.

As noted above, debates about a relationship between the MRP and RFR hang over the AER's regulatory reviews like a homeless spectre – neither provable nor refutable. It is time the AER exorcised this spectre and focussed networks on delivering outcomes in the long-term interests of consumers.

Recommendation 3: The AER should rule out further consideration of claims that the market risk premium (MRP) and risk-free rate (RFR) are related unless conclusive evidence is presented in support of those claims.

4.3.6 Are low interest rates a problem for estimating the MRP?

In a May 2021 working paper, the AER declared it was operating in a low interest rate environment.[194] In its *Overall RoR paper*, it identified some "preferred positions" in response to that earlier observation. Most notably for the purposes of this submission, the AER has concluded government bonds continue to be the best available proxy for the risk-free rate (RFR) despite the low interest rate environment.[195]

> *"Commonwealth Government Securities are an appropriate proxy for the riskless investment for our purposes."*

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192 Partington, Graham and Satchell, Stephen, *Report to the AER: Alternative asset pricing models*, June 2020, p.9

193 AER, *Rate of return and cashflows in a low interest rate environment. Draft working paper,* May 2021, p.27

194 AER, *Rate of return and cashflows in a low interest rate environment. Draft working paper,* May 2021

195 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p.14

The ENA has challenged this conclusion claiming:[196]

- current bond yields are the consequence of "unprecedented market intervention" by the Reserve Bank of Australia (RBA)
- government bonds possess "special safety and liquidity characteristics compared to other securities"
- government bonds provide "additional benefits, referred to by some scholars as the 'convenience yield', over and above their low default probability".

The CRG views these arguments as completely specious and totally irrelevant to the AER's application of the SL-CAPM for determining the allowed return on equity. The CAPM is a portfolio choice model anchored on the return available on a notional risk-free asset. As all the consultant reports commissioned by the AER indicate, economic regulators' longstanding practice has been to apply long-dated government bond yields as the best available proxy for the risk-free rate. The CRG notes none of the arguments made in the ENA submission suggest that investors are unable to access the risk-free asset (in this case, Commonwealth Government Securities (CGS)) when determining the desired composition of their portfolio holdings.

The AER expresses a similar view.[197]

> *"We remain of the view that a nominal return for 10 years can still be achieved with a minimum amount of risk by buying and holding the 10-yearCommonwealth Government Securities until maturity. The ability for investors to receive this return does not change if additional demand is introduced from the Central Bank, if there is additional supply produced by Federal Government to enable stimulus or from increased demand from Banks due to Basel III liquidity requirements."*

Even Brattle, much favoured by the networks, observes:[198]

> *"Importantly, all regulators rely on a long-term government bond for the risk-free rate with the most commonly used maturity being 10 years (AER, ACM, ARERA). The horizon of Ofwat, STB and Ofgem, and FERC is longer at 15, 20, and 30 years, respectively, and NZCC uses a shorter period (5 years)."*

Since the inception of independent network regulation in Australia, state regulators and then the AER have relied on 10-year CGS to set the risk-free rate.[199] The yield on these securities was comparatively stable between 1997 and 2011, which coincides with the establishment years of network regulation in Australia. Between 2011 and 2020, yields tracked downwards. Whether some

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196 ENA, *Rate of return and cashflows in a low interest rate environment, Response to Draft AER Working Paper, 2* July 2021 p.22-24

197 AER, *Rate of return and cashflows in a low interest rate environment. Draft working paper*, p.25

198 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.39

199 The only exception being the Economic Regulation Authority in Western Australia which switched to a 5-yeargovernment bond yields from 2013.

sort of recovery is in the offing remains to be seen. These trends can be seen in Figure 3 from the AER's working paper on the low interest rate environment, reproduced below[200].

Figure 4-1 Holistic Australian interest rates on 10-year Government bond yields

Source: RBA

It is this fall in the risk-free rate (RFR) and not the market risk premium (MRP) that has seen the regulated return on equity fall in recent years. Does this decline in the RFR present a problem for the AER's regulatory framework?

The role of the RFR in determining the return on equity has been known to investors for a very long time. It should have been factored into their calculations when estimating the returns they can expect to earn from their investments in network infrastructure. Whether investors correctly foreshadowed that the risk-free rate would fall to its current levels is completely irrelevant.

In other words, the CRG contends that low yields on Commonwealth Government Securities are not a problem requiring regulatory redress. As Partington and Satchell observe:[201]

> *"[C]urrent interest rates in Australia are at record lows in nominal terms, but not necessarily in real terms, and that low nominal interest rates are the new normal. Relatively low interest rates and a downward trend in those rates have been with us for a decade and the term structure at the time of writing suggests that very low interest rates will be with us for another decade or two."*

What remains open to debate is whether negative *real* interest rates present a regulatory problem for the determination of the allowed return on equity. If it is established that negative real interest rates are problematic, then the CRG contends there is a single, simple solution – namely, placing a floor under the *nominal* risk-free rate. The floor would prevent the value of the risk-free rate (R_f) falling below the value of expected inflation ($\mathrm{E}(\pi)$) in the CAPM formula. This proposed solution is expressed algebraically as:[202]

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200 AER, *Rate of return and cashflows in a low interest rate environment. Draft working paper*

201 Partington, Graham and Satchell, Stephen, *Report to the AER: Alternative asset pricing models*, June 2020, p.23

202 This adjusted version of the CAPM is derived by replacing and Rf with E(π) in the standard model and rearranging.

$$Return\ on\ equity = R_f + \beta\,(R_m - R_f) - (1-\beta)\,r_f$$

where: $r_f = R_f - \mathrm{E}(\pi)$ if $R_f < \mathrm{E}(\pi)$

$r_f = 0$ if $R_f \geq \mathrm{E}(\pi)$

This formulation can be interpreted as follows: When the risk-free rate is negative, the allowed rate of return is increased by $(1-\beta)\,r_f$ compared to what it would have been under the standard CAPM. When the real interest rate is non-negative, the model reverts to the standard CAPM.

The merits of such an approach include:

- It responds to a clearly defined situation, rather than vaguely specified complaints about the return on equity being too low.
- It can be expressed as a formula that can be readily written into the RoRI to apply over the life of the instrument.
- The adjustment kicks-in automatically, and only, when circumstances dictate rather than requiring the exercise of regulatory discretion.
- It requires no new variables to be introduced into the regulatory framework.
- It is incentive-neutral.

Networks' concerns about the decline in the allowed rate of return have been prompted by the decline yields on Commonwealth Government Securities in the risk-free rate – though this does not prevent them from seeking uplifts to the market risk premium (as discussed throughout this chapter). The CRG contends that low nominal bond yields present no problem requiring regulatory redress but recognises further work may be required to determine whether negative *real* interest rates are problematic in a regulated environment. If so, the solution is straightforward.

4.4 Estimating beta

This section responds to matters pertaining to the estimation of beta, as identified by the AER in Chapter 6 of the *Equity paper*.[203] These matters include:

- Over what period should the AER estimate the equity beta?
- Does the AER need to change its equity beta methodology if it shifts to a five-year single period for the CAPM?
- When estimating the equity beta, should the AER continue to include firms that are no longer listed in the comparator set?
- Should international firms be included in the comparator set for calculating beta?

Chapter 8 in the *Equity paper* raises one additional matter:

- Should the AER adopt a single benchmark value for beta across electricity and gas businesses?

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203 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*,

Section 4.3.1 initially reflects on beta's time consistency. Sections 4.3.2 to 4.3.6 respond to the above questions while Section 4.3.7 reflects on another matter not addressed in the *Equity paper*, but which networks have raised repeatedly during this RoRI review – namely, claims of a low beta bias. Section 4.3.8 summarises other matters addressed in analysis commissioned by the CRG from Sapere.

4.4.1 Preliminary reflection on the time consistency of beta

It seems the answer to many of the questions relating to the estimation of beta, as posed by the *Equity paper*, depend on a prior question regarding whether beta is time-varying or broadly constant through time. As Sapere states:[204]

> *"If data evidence suggests beta is a constant or fluctuates randomly around a constant, then the estimation period should be set as long as possible; if instead data evidence suggests beta is time-varying and mean-reverting, then the choice is more complicated and depends on the underlying cause of the reversion."*

Needless to say, while such an observation is perfectly reasonable, it invites endless debates about how such a matter would be resolved – for example, what data should be used, over what period and applying which methodology. These questions echo, but ought to precede, the questions posed by the *Equity paper*.

Different commentators have reached their own tentative conclusions on the time-based nature of beta. Insight Economics' cautiously observes:[205]

> *"beta is likely to be time dependent although the extent of any impact is uncertain."*

Brattle does not directly address this question of time consistency but, in keeping with its general predilection for shorter term estimates, it concludes:[206]

> *"Using a five-year window (or longer) risks that AER's beta measure fails to give sufficient weight to current financial conditions."*

Sapere is equally tentative but concludes on a pragmatic note:[207]

> *"What happens if, as is quite possible, such tests provide no unambiguous conclusion? In our view, if regulators are unable to definitively identify and measure rational variation in beta through time, then vague and ad-hoc attempts to incorporate time variation may end up being counter-productive. As such,* ***acting as if beta is constant may well be a reasonable working assumption for regulators****."* [highlight added]

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204 Sapere Research Group, *Systematic risk and the role and measure of equity beta*, 2021, Executive Summary, paragraph IV,

205 Economic Insights, *Methodological issues in estimating the equity beta for Australian network energy businesses*, Report prepared for Australian Competition and Consumer Commission and Australian Energy Regulator, 30 June 2021, p. v

206 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, paragraph 232

207 Sapere Research Group, *Systematic risk and the role and measure of equity beta*, 2021, paragraph 74

The **Equity paper** does not engage directly with the question of whether beta is time varying or broadly constant, however, the AER's preference for *"giv[ing] most weight to estimates from the longest estimation period to inform equity beta"* indicates it leans towards the latter view. Greater insight into the AER's rationale is provided by the explanatory note accompanying its 2018 RoRI decision.[208]

> *"Shorter estimates may be influenced by factors such as one-off events (for example, the GFC), shocks and interest rate movements. These factors can (temporarily) obscure the systematic risk of a firm supplying Australian regulated energy services whose exposure is mitigated by regulation and the monopoly nature of the service it provides."*

As noted by Economic Insights,[209] the AER's empirical testing does not find material statistical evidence of beta instability for long time periods and no new evidence has been submitted by networks (or investor groups) indicating beta is time varying.

On balance, the CRG considers it reasonable for the AER to assume that beta is broadly stable over the longer-term, though short-term fluctuations may exist. The CRG strongly supports the view expressed by the AER in 2018, and repeated verbatim in the **Equity paper**, that the regulatory task when estimating beta should remain focussed on the long-term nature of investments in networks assets.[210,211]

> *"We set the forward-looking rate of return for relatively long-lived assets. Therefore, the investment horizon (and risks) needs to be compatible with these assets (which is better met by estimates from the longest estimation period)."*

Many of the CRG's responses in the following sub-sections support the AER remaining focussed on the long-term nature of investments in network assets.

4.4.2 Over what period should the equity beta be estimated?

For the reasons outlined in Section 4.3.1, the CRG strongly supports the use of long-term estimates of beta for the purposes of determining the allowed rate of return. Doing so is consistent with the view that beta appears to be broadly constant and that short-term fluctuations do not bear significantly on investors' expected returns over the life of their long-term investments. Likewise, this approach is consistent with the advice provided by Sapere and Economic Insights.

Despite its adverse conclusions about the merits of using short-term estimates, the AER proposes to construct an "empirical range based upon estimates from two estimation periods: the longest period

208 AER, *Rate of return instrument. Explanatory statement*, December 2018, p,162

209 Economic Insights, *Methodological issues in estimating the equity beta for Australian network energy businesses*, Report prepared for Australian Competition and Consumer Commission and Australian Energy Regulator, 30 June 2021, p .v

210 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.162

211 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.43

available, [and] the last five years of available data."[212] It then proposes to "give most weight to estimates from the longest estimation period to inform equity beta."[213]

In other words, the AER intends to give some weight to shorter term estimates even though it has highlighted their theoretical and statistical weakness. It proposes to do so by using long- and short-term estimates of beta to form a range from which its final estimate of beta will be drawn.[214]

> *"Recognising this trade-off we form our range from these two estimation periods to reflect longer term and shorter term estimates of equity beta."*

The *Equity paper* does not explain what "trade-off" the AER is seeking to resolve by constructing a range, why any weight should be assigned to shorter term estimate, or how it will determine the weight it places on shorter term estimates. The CRG notes that determining such a weighting factor is an unavoidably arbitrary matter for regulatory judgment and therefore, represents another opportunity for endless dispute by networks and investor groups.

Curiously, the AER appears to justify its proposed use of shorter-term estimates by claiming a blend of long and short estimates produces a superior estimate.[215]

> *"This provides for the most robust and statistically reliable estimates."*

The AER needs to explain how blending a reliable estimate with an acknowledged less reliable estimate produces the "most robust and statistically reliable estimate".

The AER's proposed approach to estimating beta is inconsistent with its own arguments. It has provided neither the theoretical nor statistical justifications for considering short-term estimates of beta. Nor has it explained how it will take these estimates into account. At most, short-term estimates of beta might be useful when viewed over *multiple* regulatory cycles (that is, to test whether there is a persistent bias in the AER's longer term estimates of beta).

Recommendation 4: The AER should rely on long-term estimates of beta.

4.4.3 How should the AER estimate equity beta if the term for equity is 5 years?

It is unfortunate that the *Equity paper* provides no discussion on this matter, and simply raises it as a passing thought on which stakeholders may wish to comment.[216]

It is not clear how the AER expects stakeholders to respond to a proposal for which it has provided no further discussion of the options and their merits, challenges or consequences. This lack of transparency is concerning and inconsistent with good regulatory practice.

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212 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.43

213 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.43

214 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.43

215 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.9

216 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.44

The CRG's response to the AER's *Term paper*, clearly outlines its concerns with the AER 'flying kites' about how it might estimate beta if it moves to a shorter term for equity.[217]

> *"The AER has expressed a preference to change the term without considering the relationship between the term of the risk-free rate and how it will estimate the other SL-CAPM parameters, namely the equity beta and the MRP."*

Such an approach lacks rigour, openness and transparency, and risks undermining consumers' confidence in the regulatory process.

In the absence of further detail from the AER, the CRG maintains the positions outlined in Section 4.3.1 and Section 4.3.2 of this submission – namely, unless beta can be shown to be time varying (rather than broadly constant), the AER should continue to be estimated using the longest reliable data set. This conclusion is independent of the estimation term adopted for the return on equity.

The CRG notes the ENA agrees with the contention that the estimation period for beta is independent of the estimation term for the return on equity (specifically, the risk-free rate).[218]

> *"The equity beta parameter is independent of the term that is adopted for the risk-free rate. To be clear, it is econometrically appropriate to estimate beta using historical periods that are independent of the term adopted for the risk-free rate."*

Recommendation 5: The AER should continue to estimate beta using the longest reliable data even if it decides to curtail the estimation term for equity to 5 years.

4.4.4 Should de-listed firms be included in the comparator set?

Chapter 6 in the *Equity paper* summarises the various options considered by Economic Insights for how de-listed firms should be treated when estimating beta. Economic Insights reflects on the advantages and disadvantages of each option but does not outline a preferred approach. The CRG did not ask Sapere to comment on this matter.

The *Equity paper* explains the AER continues to hold the view that:[219]

> *"de-listed firms carry useful and (historically) reliable information. They provide information on the systematic risk of firms that are most comparable to the firms we regulate."*

The AER supports this position by referring to the relative stability of the systematic risk faced by firms supplying Australian regulated energy networks services.[220]

The CRG considers the AER's proposed approach to be reasonable given the stability in long-term estimates of beta. That said, it does seem a little ungainly to continue including firms that will have been delisted for 15 years by the time the 2022 RoRI is made and 25 years by the time the 2022 RoRI ceases to have effect. Nonetheless, summarily discarding these firms would upend a long-standing practice that will be well-embedded in how stakeholders form their expectation of regulatory

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217 CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return*, 2 July 2021, p.4

218 ENA, *The term of the rate of return. Response to Draft AER working paper,* July 2021, p.21

219 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.41

220 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.41

estimates. The AER could consider a model in which the weight it attaches to de-listed firms gradually decays over time, however such an approach risks introducing another arbitrary element into the regulatory model.

4.4.5 Should international firms be included in the comparator set?

Section 6.6 of the *Equity paper* briefly reflects on the merits of including international firms in the comparator set for estimating beta. A much more comprehensive discussion is provided in section 7.5 of the AER's 2018 RoRI explanatory note. For the reasons outlined in those two documents, the AER concludes:[221]

> *"[W]e are not inclined to include international firms into our comparator set, because we have a different regulatory framework, and it will be problematic to establish equity beta estimates that are sufficiently comparable. While increased statistical reliability is desirable, it would not be preferable if it substantially reduces the relevance of data."*

Economic Insights succinctly summarises the challenges of including international firms in the comparator data set:[222]

> *"there are no simple adjustments to take account of different business and regulatory characteristics [faced by utilities operating in international markets]"*

After undertaking a similar review of the merits and challenges of relying on international data to estimate the beta for local firms, Sapere concludes:[223]

> *"Overall, the problems created by the use of foreign comparators in estimating beta suggest it would be preferable, wherever possible, to rely primarily, if not solely, on data from local firms."*

Given the unanimity of expert views about the problems that would need to be overcome before international firms could be included in the comparator set for estimating a local beta – and the ongoing absence of new theories and models for overcoming these problems – the CRG supports the AER's view that it should not include international firms in the comparator set.

Recommendation 6: International firms should not be included in the comparator set.

4.4.6 Should a single benchmark value for beta be applied to electricity and gas businesses?

While the *Equity paper* offers little discussion of the relevant considerations in deciding whether a single benchmark value for beta should be applied to electricity and gas businesses, the 2018 Explanatory Note provides an extensive review of the matter. Recalling the analysis in that earlier paper, the *Equity paper* states:[224]

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221 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.41

222 Economic Insights, *Methodological issues in estimating the equity beta for Australian network energy businesses*, Report prepared for Australian Competition and Consumer Commission and Australian Energy Regulator, 30 June 2021, p. xi

223 Sapere Research Group, *Systematic risk and the role and measure of equity beta*, 2021, p.32

224 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.49

> *"Our analysis found that equity beta for regulated gas and electricity firms was likely to be similar because they are regulated natural monopolies with similar regulatory frameworks which limit systematic risk exposure."*

The CRG fully supports the AER's response to claims about the relevance of falling demand and potential stranding faced by gas pipeline operators, namely:[225]

> *"[W]e do not consider these risks likely to be systematic in nature. Therefore, we do not consider they should be accounted for in the equity beta or the regulated rate of return."*

The gas networks have argued that they face unique demand and asset-stranding risks over coming decades and therefore should be provided a higher regulated rate of return – affected via a higher value for beta.

In reflecting on which matters that should and should not be considered in setting a regulated rate of return, Brattle observes:

> *"In the jurisdictions we review in this report, we are not aware of any examples of the regulator deliberately setting a rate of return above the cost of capital to address the risk of stranding assets."* [226]

and

> *"the risk of stranding or disallowance in most instances is diversifiable" 227*

As the *Equity paper* notes, no new evidence has been submitted to date to suggest different betas should be applied across the two sectors. Moreover, careful consideration needs to be given to whether concerns about demand and stranding are, in fact, matters for policy consideration rather than regulatory redress.

In the absence of a compelling argument and evidence to the contrary, the CRG supports the AER view that it should continue to adopt a single benchmark value for beta across electricity and gas network businesses.

Recommendation 7: Until a compelling case is made suggesting otherwise, a single benchmark value for beta should be applied across electricity and gas businesses.

4.4.7 Other matters related to the estimation of beta: Low beta bias

Numerous other matters relating to the estimation of beta are not addressed in the *Equity paper*. The CRG notes that these matters were comprehensively addressed by the AER in its 2018 RoRI Explanatory Statement.[228] Nonetheless, they continue to be raised during this review.

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225 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.50

226 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.7

227 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.10

228 AER, *Rate of return instrument. Explanatory statement*, December 2018,

One topic continues to be mentioned by networks at the public forums hosted by the AER – namely, the notion of a low beta bias. The low beta bias is explained by the AER as:[229]

> *"The low beta bias is an observation that ex post returns from low beta stocks tend to outperform expected returns implied by the Sharpe-Lintner CAPM."*

The so-called, 'Black CAPM', represents an alternative to the SL-CAPM which produces a flatter relationship between beta and the return on equity than the latter model. The arguments for and against the Black CAPM are outlined in the 2018 RoRI Explanatory Statement, which definitively concludes:[230]

> *"Observations of higher actual returns than the Sharpe-Lintner CAPM estimates for low beta stocks do not necessarily imply low beta bias or that the bias should warrant increasing the allowed rate of return. A range of reasons can explain these observations and it is not clear investors expect a higher return from low beta stocks."*

and

> *"The Black CAPM has empirical issues including instability, sensitivity to the choice of inputs, lack of consensus, and nonsensical and counter-intuitive results."*

Neither Economic Insights nor Sapere suggest the AER should adopt the Black CAPM. Sapere also cautions strongly against arbitrary adjustments being made to the SL-CAPM to compensate for an alleged low beta bias in the AER's estimates of the return on equity.[231]

> *"Because the problem lies not in the estimation of beta per se, we are sceptical about such an approach. First, a flatter slope actually implies a lower market risk premium and a higher riskless rate, not a higher beta. Second, any such adjustment must either be ad hoc with no theoretical justification, or it must be reverse-engineered to produce the expected return generated by another model, in which case it is more sensible and transparent just to use that model directly."*

The CRG is not aware of proponents of a low beta bias in the RoRI providing new evidence to support that contention or offering a model with strong theoretical and empirical foundations. Unless an alternative model and new evidence is submitted for expert review and public scrutiny, the CRG contends that no further consideration should be given to claims of a low beta bias in the AER's estimates.

4.4.8 Other matters related to the estimation of beta: Sapere Report

There are numerous other issues that are discussed by consultants, including Sapere, which are not mentioned in the Equity Paper. Other topics considered by Sapere include:

- The choice of raw or excess returns
- Data frequency
- The merits of a world index

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229 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.195

230 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.195

231 Sapere Research Group, *Systematic risk and the role and measure of equity beta*, 2021, p.33

- Setting beta every four years for five-year determinations
- Company-specific risks should not be accommodated by adjusting beta
- Beta shrinkage
- Indirect estimates of beta
- Beta circularity

Parties interested in these matters are referred to the advice commissioned by the CRG from Sapere (included as a supplement to this submission).

4.5 Cross-checks

This section briefly discusses the appropriate use and choice of cross-checks by the AER when determining the return on equity. The *Equity paper* explains:[232]

> *"Cross checks involve comparing estimates other relevant information sources."*

and

> *"[C]ross checks are not binding but provides a sense check for the AER's decision"*

In effect, Chapter 7 of the *Equity paper* seeks stakeholder feedback on two questions:

- What role should cross checks play in the regulatory process?
- What information should be used as a cross check?

The CRG responds to these two questions below.

4.5.1 The role of cross checks

As discussed in Section 4.1, expected return on equity cannot be observed ex ante and regulatory estimates of those requirements or expectations cannot be verified ex post. This implies the regulatory process is not attempting to estimate the market's expected return on equity. After all, the market's expectations are neither observable to, nor verifiable by, the regulator.

As the earlier discussion outlined, the role of the regulatory process is to transparently signal to investors how the *regulator* estimates an allowed return on equity. It is a little odd to think about how a regulator might apply cross-checks to "sense check" its expectations of itself. Perhaps this is why, as Brattle observe, the use of cross checks is not a universal practice among regulators.[233]

Nonetheless, the AER's use of cross checks has become an established practice and the CRG acknowledges cross checks will continue to hold a place in the AER's approach when determining an allowed return on equity.

Perhaps the AER's use of cross checks is best understood in the context of the discretion it is provided when adopting an estimate for the regulated return on equity. This discretion is

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232 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.45

233 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.35 and p.59

necessitated because the approach adopted by the AER produces a range rather than a point estimate for the return on equity.

As noted above, the AER views the cross checks as a "sense check" within the discretion its approach assigns to itself. Unfortunately, the term "sense check" is not precise and the AER has not provided a clear explanation of what it means other than with reference to the "reasonableness of the point estimate" it adopts.[234] The 2018 RoRI explanatory note provides some qualified insight (see reference to "may").[235]

> *"In undertaking this evaluation, we may have regard to matters including:*
>
> - *patterns shown in other information*
> - *the strengths and limitations of the other information*
> - *the magnitude by which the other information suggests that the foundation model point estimate under or overestimates the expected return on equity (if at all)."*

The CRG notes the networks appear to have accepted the primacy of the AER's foundation model (the CAPM) and the non-determinative role of cross checks. For example, the ENA recently observed:[236]

> *"At no stage in their application are the cross-checks 'displacing' or overriding the foundation model indeed, they are assisting its application."*

Conversely, and in apparent contradiction to the above statement, the networks have repeatedly argued over the course of the current RoRI review that, when faced with a contradicting cross check, the AER must reconsider its judgement in a way that accounts for that contradictory observation. The *Equity paper* neatly captures the networks' position.[237]

> *"Networks highlighted the importance of cross checks and suggested…Establishing a clear framework for how cross checks will apply and the consequences if one was breached."*

The CRG contends that were such "consequences" to be prescribed in the manner being pursued by the networks, the effect of cross checks would be to displace (at least partially) the foundation model. Alternatively stated, it would imply alternative methods or models for estimating the return on equity would be granted a formal role in producing the AER's final estimate. The AER has already rejected the use of a "multiple model" approach.[238]

> *"We also do not endorse the use of a multiple model approach. Our current assessment is that using multiple models in combination appears difficult to justify and there are a number of significant challenges to be overcome before a multiple model approach could be employed."*

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234 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.47

235 AER, *Rate of return instrument. Explanatory statement*, December 2018, p.102

236 ENA, *Presentation to AER stakeholder forum on the return on equity*, 11 August 2021, slide 11

237 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.45

238 AER, *Rate of return, CAPM and alternative return on equity models. Final working paper*, December 2020, p.24

Having already reached this position, it is not surprising the *Equity paper* proposes to reject assigning a more mechanistic role to cross checks.[239]

> *"At this point of time, we propose to maintain and apply the cross checks in line with the approach we adopted in the 2018 Instrument (refer Table 5). There are significant issues with each of the potential cross checks, such that we do not see how they could be used more directly."*

The CRG strongly supports the AER's proposed position on the role of cross checks, however, this support is not provided simply for the reasons outlined by the AER.

The CRG contends that providing a mechanistic role for cross checks would represent a fundamental redefinition (rather than a mere refinement) of the regulatory model used to estimate the allowed return on equity. In effect, it would represent a new approach to regulating networks – lessening or altering the role of the foundation mode). Before any such new approach was adopted, its consequences would need to be fully explored and subjected to public scrutiny.

Although the CRG rejects the mechanistic use of cross checks, it also recognises regulatory discretion is less transparent than mechanistic approaches to regulation. The CRG's support for the discretionary use of cross checks is predicated on the AER's ongoing efforts to explain fully and openly how it exercises this discretion. In making the 2022 RoRI (draft and final) the AER should use its best endeavours to explain how it has considered cross checks, what role the cross checks have (or have not) played in influencing its estimates, and all the reasons why.

Recommendation 8: Cross checks must not be given a mechanistic role in the estimation of the return on equity unless the consequences of doing so are explored fully, subjected to public scrutiny, and demonstrated to be in the long-term interests of consumers.

4.5.2 The appropriate set of cross checks

The *Equity paper* outlines the AER's intentions to use the same cross checks it applied during the 2018 RoRI review.[240] The proposed cross checks are listed in Table 5 (p.46) of the *Equity paper*. The CRG has no concerns with these cross checks *per se* but raises the following concerns with their limitations.

RAB multiples

The CRG strongly disagrees with the networks' repeated dismissal of RAB multiples as a useful cross check when determining the estimated return on equity. RAB multiples are one of the few real-time, albeit infrequent, feedback mechanisms that demonstrate how the market is evaluating the regulator's framework for estimating of the return on equity over the life of an investment.

The CRG is not suggesting RAB multiples should or can be used to fine tune the allowed return on equity, but they provide powerful insights into the market's broad assessment of the ability to profit under the regulatory regime. Nor is the CRG suggesting there is a threshold value for RAB multiples that ought to trigger a regulatory response. Nonetheless, persistently high values can only be

239 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.47

240 AER, *Rate of return: 'Equity omnibus' Draft working paper, July 2021*, p.47

interpreted in one way, namely, the regulatory framework is operating generously towards investors. That generosity comes at consumers' expense.

Where persistently high RAB multiples are observed, it would be remiss of a regulator not to question the settings of its approach for estimating the allowed rate on equity (and indeed, all other elements of its revenue allowances – including incentives schemes, See Section 4.5).

Outcome-based cross checks

As already noted, a number of the AER's recent working papers describe the consequences of providing a regulatory rate of return that is not commensurate with the "efficient financing costs".[241] These consequences can be summarised as:

(i) over- or under- investment in network assets

(ii) distorted consumer prices leading to inefficient consumer decisions

(iii) inability to attract funds (if the rate of return is underestimated)

The CRG would add a fourth adverse outcomes, namely:

- an observable or foreseeable diminution of service standards.

It is unclear why a well-established and well-resourced regulator such as the AER has not turned its mind to developing outcome-based metrics if, as the AER repeatedly contends, these are indeed, the consequences of over or under compensating networks.

As with RAB multiples, the CRG is not suggesting such measures should or can be used to fine tune the allowed return on equity. Likewise, the CRG recognises that there can be long lead times and many exogenous factors influencing the relationship between rate of return decisions and the above outcomes. But that misses the point.

The real question outcome-based cross checks would be exploring is whether there is a persistent bias in regulatory outcomes. Such measures would give the AER, consumers and policy makers insight into the probable efficacy of the AER's approach to efficiently compensating investment in networks and how its approach sits in relation to the Revenue and Pricing Principles in the National Electricity Law (NEL) and National Gas Law (NGL).[242]

Alternatively, if the AER has concluded it cannot develop outcome-based cross checks, then it should say so. In which case, the CRG questions why the AER is repeatedly referring in its working papers to the consequences of getting its estimations wrong, or, does the absence of output-based cross checks imply the AER believes it can never know whether it is setting a return on equity that reflects an efficient finance cost? Such a conclusion would be very disheartening for consumers.

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241 AER, *Rate of return, 'Term of the rate of return'. Draft working paper, May 2021,* p.2 and chapter 6

242 The Revenue and Pricing Principles appear in section 7A of the National Electricity Law (NEL). Clause (2) states networks "should be provided with a reasonable opportunity to recover at least the efficient costs the operator incur"; Clause (5) states the regulator "should allow for a return commensurate with the regulatory and commercial risks involved"; and clause (6) states "regard should be had to the economic costs and risks of the potential for under and over investment", and similarly in section 24 of the National Gas Law.

Recommendation 9: The AER should immediately commit to developing (in consultation with stakeholders) outcomes-based cross checks that seek to assess whether its regulatory compensation of equity is leading to:

(i) over- or under investment in network assets

(ii) distorted consumer prices leading to inefficient consumer decisions

(iii) surfeits or deficits in the equity funds available for investment in networks, and

(iv) an observable or foreseeable diminution of service standards.

Financeability cross checks

Networks' submissions responding to the AER's LIRE working paper[243] repeatedly insist on the need for a financeabilty cross check. For example, the ENA submits:[244]

> *"A financeability cross-check on the overall allowed return on equity is particularly important given the high degree of imprecision, uncertainty and methodological debate about each parameter, and the degree of regulatory judgment that is required in arriving at a final allowed return."*

As noted in Section 4.4.1, the networks consider the AER should respond mechanistically to such a cross check – seemingly making the regulated return on equity captive to a financeability adjustment. As discussed in that section, the CRG is strongly opposed to mechanistic responses to cross checks.

More fundamentally however, the CRG rejects entirely the suggestion that the rate of return might be adjusted in response to financeability measures. The CRG's objections to a financeability test being included to the RoRI are outlined in its submission responding to the AER's LIRE paper.[245]

Consumer-focussed cross checks

It is notable that Chapter 7 of the Equity paper (which discusses cross checks) makes no mention of consumers. All the cross checks listed in Table 5 are focussed on financial measures informed by market-based values, the views of market analysts, and other regulators.

The CRG acknowledges that this omission may reflect the AER's adherence to the Revenue and Pricing Principles (RPP) which similarly fail to mention consumers – although the principles *may* indirectly reference consumers via the reference to the "efficient use of the distribution and transmission system".[246] Unfortunately, this interpretation is not self-evident. Quite possibly the real intent of this reference is to provide statutory direction to the AER (and AEMC) to pursue high-capacity utilisation before considering additional capital expenditure.

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243 AER, *Rate of return and cashflows in a low interest rate environment. Draft working paper,* May 2021

244 ENA, *Rate of return and cashflows in a low interest rate environment, Response to Draft AER Working Paper, 2* July 2021 p.43

245 CRG, *Advice to the Australian energy Regulator on the Rate of Return and Cashflows in a Low Interest Rate Environment*, July 2021

246 For example, NEL, section 7, clause (3)(c)

The CRG contends that even though the RPP may show little interest in consumers, this does not preclude the AER from developing cross checks that demonstrate it is cognisant of:

- how its allowances for equity appear when viewed from a consumer perspective, and
- the impact of its decisions on consumers.

These cross checks need not be overly complicated. The simplest example might involve demonstrating how the regulated return on equity compares to the returns consumers might be able to earn on their investments – say, a long-term term deposit. Consumers would understand that the two returns are not equivalent (for example, because of their respective risk profiles), but they might expect a persistent divergent trend to draw the attention of the regulator when explaining its regulatory decisions. Other simple examples abound.

The CRG's recent consultations with consumer representatives revealed a deep concern about the possibility of rising interest rates leading to higher regulated returns on equity (and the overall rate of return). The representatives are fearful they will soon confront the 'double whammy' of a higher rate of return coupled with a rapidly growing regulated asset base (RAB) stemming from the Integrated System Plan (ISP), development of renewable energy zones (REZ) and the increasing demands of distributed energy resources (DER). The CRG considers these concerns are warranted and recommends the AER develop cross checks that reflect the combined impact of the rate of return and growth in the RAB.

The CRG welcomes the ENA's offer *"to work with the CRG in the future on how to parameterize a forward-looking consumer-based cross-checks."*[247]

Recommendation 10: The AER should develop consumer oriented cross checks (in consultation with consumers and other stakeholders) to inform the exercise of its discretion over the regulated return on equity.

4.6 Return on equity and Incentive schemes

One topic given no consideration in the *Equity paper* is the relationship between the return on equity and the various incentive schemes operated by the AER. In an earlier working paper, the AER concluded:[248]

> *"We do not intend to adjust the rate of return for expected incentive scheme outperformance."*

The same working paper explains the AER's reasons. These include:[249]

- The AER aims to *"set an efficient rate of return that is neither too high nor too low"* as part of its regulatory objectives.

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247 ENA, *Presentation to AER public forum on the return on equity*, 11 August 2021, slide 11

248 AER, *Rate of return, International regulatory approaches to rate of return. Final working paper, December 2021*, p.34

249 AER, *Rate of return, International regulatory approaches to rate of return. Final working paper, December 2021*, pp.34-35

- The rate of return should be set independently of incentive schemes. Any expected outperformance would reflect those schemes' design and should be addressed through adjusting those schemes rather than the rate of return.
- The rate of return should reflect market practice and the prevailing cost of capital.
- The current incentive schemes provide regulated businesses with incentives to reduce their cost of capital.

As the *Equity paper* observes, Ofgem takes a different approach. It adjusts the allowed return on equity for anticipated outperformance of regulatory incentive schemes. The Ofgem approach is described by Brattle.[250]

> *"Ofgem subtracts 0.5% from its cost of equity estimate to reflect "expected outperformance". We think that this means Ofgem anticipates that utilities will be able to reduce their expenses, and/or earn net incentive payments, equivalent to an additional return to equity of 0.5%."*

The CRG understand this matter is currently subject to appeal.

Closer to home, the Essential Services Commission of Victoria has developed a regulatory framework that directly links the allowed return on equity with business performance.[251]

While the AER and networks agree about quarantining the regulated return on equity from regulatory incentive schemes,[252] the CRG contends the arguments in support of quarantining are not as clear cut as these parties suggest. Relevant considerations include (but are not limited to):

- Investors' expectations of returns reflect of their expectations of the 'bottom line' and not how those funds are earned. The expected 'bottom line' includes expected revenues earned via incentive schemes.
- If the regulator's operating and capital allowances accurately reflect efficient costs, then investors' expected returns (sector-wide) will only match the regulated rate of return if the expected returns from incentive schemes equals zero.
- If investors' expected returns from incentive schemes are greater than zero (sector-wide) then the incentive schemes are potentially biased in favour of networks.
- If realised returns from incentive schemes are persistently greater than zero (sector-wide) then the incentive schemes are biased in favour of networks.

At a more fundamental level, under incentive-based regulation, firms receiving the efficient rate of return are assumed to have sufficient incentive to invest and operate efficiently. As the AER states:[253]

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250 Brattle, *International approaches to regulated rates of return, A review*, 1 September 2020, p.56

251 Essential Services Commission of Victoria, *Water Pricing Framework and Approach: Implementing PREMO from 2018*, October 2016

252 AER, *Rate of return, International regulatory approaches to rate of return. Final working paper,* December 2021, Chapter 9, Table of Stakeholder submissions

253 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p.2

> *"In our view, the best possible estimate of the expected rate of return—neither upwardly biased nor downwardly biased —will promote efficient investment in, and efficient operation and use of, energy network services."*

In which case, it is not self-evident why incentive schemes promoting efficient expenditures are required.[254] The AER's use of efficiency-oriented incentive schemes invites questions about whether its assumed benchmark efficient firm is indeed operating efficiently. Alternatively stated, how does a regulator set an efficient rate of return if it knows that rate is not sufficient to promote efficiency (and hence the need for efficiency-oriented incentive schemes)?

The CRG is concerned about the implications for the NPV=0 principle when an efficient return on equity is set in the presence of incentive schemes promoting efficiency but does not consider the intended effect of those schemes.

To be clear, the CRG is not arguing against (or for) efficiency-oriented incentive schemes. Nor should the above concerns be interpreted as the CRG advocating for (or against) an adjustment scheme like the one applied by Ofgem. For now, the CRG is simply expressing a concern that deeper consideration must be given to examining the potential interdependencies between incentive schemes and the setting of the return on equity.

The CRG has previously raised its concerns about the interactions between incentive schemes and the allowed return on equity.[255] The AER responded to those concerns by committing to a review of the combined incentive properties of its regulatory framework.[256]

> *"We consider that incentive schemes should be addressed in the context of an overall review of our combined incentive package. We are currently scoping a review of incentive schemes."*

The CRG is not aware whether the AER has progressed the scoping of this review. For the sake of completeness, this review must be sufficiently broad to include the interaction between incentive schemes and the incentive properties assumed in the allowed return on equity under incentive-based regulation.

Recommendation 11: The AER should urgently establish a broad-based review into the design and operation of its incentive schemes. The review should include consideration of interactions between those schemes and the incentive properties assumed in the allowed return on equity.

254 In this context, the CRG distinguishes between efficiency-oriented incentive schemes and incentive schemes targeting specific discretionary expenditures (promoting innovation expenditure by monopolist service providers is the classic example).

255 CRG, *Submission to AER, 'Return on equity'*, 9 October 2020

256 AER, *Rate of return, International regulatory approaches to rate of return. Final working paper, December 2021*, p.35

5 Return on debt

This section sets out our evaluation of the AER's proposals in its *Debt paper* with respect to the method for setting the return on debt. It considers the two key proposed changes, namely:

- Use of the Energy Infrastructure Credit Spread Index (EICSI) to determine the weighting of A rated debt data and BBB rated debt data in setting each year's Return on debt allowance
- Potential weighting of the trailing average approach by an NSP's annual capex (whether forecast or actual) instead of the current 1/10 each year (subject to the ongoing transition from an on-the-day approach)

The phrase "current approach" refers to the approach specified in the 2018 RoRI.

5.1 Overview of the economic considerations in setting RoD

In the AER's May 2021 *LIRE paper* in the context of determining the RoRI, the AER concludes that its role is to select "an unbiased estimate of the expected efficient return, consistent with the relevant risks [of an NSP's business]"[257]. The CRG has no argument with this conclusion and so this goal is taken as given in this submission. We further note that deriving an unbiased estimate is a threshold condition but not the only relevant factor in determining the method for setting Return on debt and so this section sets out other considerations. While those considerations have not been formally declared by the AER as relevant factors in the same way as the unbiased estimate, the CRG considers that they contribute to meeting the long-term interest of consumers. They reflect that setting the RoRI is a repeated process, and one based on incomplete and asymmetric information. They also reflect the fact that the RoRI process is one of competing interests, rather than a disinterested academic exercise where all stakeholders are united in finding the best unbiased estimate. The relevant questions associated with those factors are as follows:

- Is the method transparent and simple to explain and implement?
- What are the incentive properties of the method?
- Do gains by NSPs get shared with consumers?
- Who bears the risks?
- How does the method fit with the rest of the RoRI?

We expand on each of these further below.

5.1.1 Simplicity and transparency

Simplicity and transparency are not necessary qualities for the method of determining the RoD. They are highly desirable qualities because they help engender trust and confidence in the regulatory process. They make it easier for all stakeholders to understand and participate in the regulatory process. By contrast a complex approach strongly favours the NSPs which are better resourced than consumers and other stakeholders, and so better placed to evaluate the approach and develop counterarguments or lobby for adjustments to the approach that favour their interests. The AER

257 AER, *Rate of return and cashflows in a low interest rate environment. Draft working paper,* May 2021, p.12

recognises this in its assessment criteria[258], in which they aim to "promote simple over complex approaches where appropriate" and to utilise "robust, transparent and replicable analysis".

5.1.2 Incentives

The RoRI is a component of an incentive-based regulatory framework. Under this framework, NSPs are assumed to be motivated to be driven by self-interest and to maximise their profits. In doing so, they will only release information to the regulator to the extent they are required to do so or to further their interests. They are aware that their actions following the determination of a RoRI may affect the next RoRI. Profit maximisation means that they are motivated to outperform the assumptions in their revenue determination, i.e., to spend less than their allowed revenue, including on financing costs.

5.1.3 How do consumers benefit from NSP outperformance?

The rationale for incentive-based regulation is that it allows the NSPs' scope to outperform one revenue determination to use the revealed costs to set a lower revenue allowance in the next determination. In this way, consumers benefit from NSP outperformance. Otherwise, NSPs can continue to outperform and earn economic rents indefinitely. While this process is more straightforwardly applied to operating and capital expenditure, it is also relevant to financing costs, to the extent they can be observed, whereas the current Return on equity cannot be directly observed.

5.1.4 Interaction with the rest of the regulatory framework

The AER uses a building block approach to determine the allowed revenue of each NSP for a five-year period. The RoRI sets out the rules for determining the return on capital component of the allowed revenue and the Return on debt is one of the key components of the RoRI. While the AER seeks to make a best estimate for each component and sub-component of the building blocks, it is the overall revenue that ultimately matters, and the components are expected to be determined on a mutually consistent basis such that the overall determination can be demonstrated to be capable of being sufficient for an efficient NSP to meet its service requirements.

So, setting the Return on debt approach is not an exercise carried out in isolation. In particular, as the phrase "consistent with the relevant risks" in the AER's description of its regulatory objectives set out in 5.1 above indicates, the Return on debt should be determined using consistent assumptions of the level of risk associated with an efficient NSP to those used elsewhere in the RoRI.

5.1.5 Risk allocation

It is a standard tenet of economics that risks are best allocated to those most able to manage them. Failure to do so can lead to moral hazard as economic agents incur risks for which they are not fully accountable, and whose costs may fall on other parties.

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258 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, pp. 21-22

5.2 The EICSI and its proposed use

The AER commissioned Chairmont[259] to construct the first EICSI during the 2018 RoRI review, based on debt data from 11 privately owned NSPs. This provided useful new information about NSPs' actual debt raising practices that could be compared to the benchmark approach of 10-year debt averaged over 10 years, using the average A and BBB bond yields from three third party bond datasets, weighted 1/3 A and 2/3 BBB as a proxy for BBB+. For example, the EICSI at that time using data on debt issued between 2013 and 2017, indicated an average tenor of 7.4 years. This was materially shorter than the 10-year benchmark and given that short-term debt is generally cheaper, was evidence of NSPs' ability to outperform the benchmark.

At the time, having only just analysed the EICSI and its underlying data, the AER used it as a cross-check of its benchmark assumptions. However, the AER made clear statements that it would continue to collect the data and construct a time series of the index, which would allow them to make greater use of the information:

> *"We consider the strength of conclusions we are able to draw about benchmark term in particular would be improved by the development of a consistent and longer time series of service providers' actual debt information"*[260].

In this light, the CRG is highly supports the AER investigating ways to use the EICSI more directly in setting the RoD.

5.2.1 The principle of developing and using the EICSI

The current method for setting the Return on debt is based on a number of assumptions. A non-exhaustive list of these includes:

- A 1/3 weighting of A rated bonds and a 2/3 weighting of BBB rated bonds is a good proxy for measuring the cost of BBB+ debt generally;
- B rates are a good proxy for debt costs generally (noting that Australian NSPs use other instruments, and issuing bonds may not even be the most common instrument);
- An NSP with a given credit rating raises debt at the same rate as any other Australian corporate entity;
- NSPs raise debt with an average tenor of 10 years; and
- NSPs raise debt from the domestic market.

If these assumptions do not hold, then it is possible that the method used systematically over- or under-estimates the efficient cost of debt for an NSP. For example, in the UK, Ofgem has found that regulated networks such as energy networks benefit from a "halo effect" when raising debt. This means that, on average, they can issue a bond with a lower interest rate than other non-financial corporates with the same credit rating. The reason is not relevant, but it is sufficient that this result is observable. Due to the greater issuance of bonds by UK regulated networks, Ofgem has been able to construct a bond data series of regulated utilities, to both demonstrate the halo effect and to use

259 Chairmont, *Aggregation of Return on Debt Data*, 28 April 2018

260 AER, *Rate of return instrument. Explanatory statement*, December 2018, p. 299

this utility bond database to better estimate the efficient cost of debt for the energy networks it regulates.

Also, without reviewing actual NSP debt costs for evidence of outperformance there is little scope for the AER to choose a method that allows consumers to benefit from this outperformance.

With these points in mind, the value of the AER's 2018 exercise to establish the EISCI is clear. Subsequently, the AER has continued to collect and analyse NSP debt data and to refine the composition and weighting of the index. The AER now has a longer data series to evaluate whether any outperformance is persistent and systematic, rather than fleeting or random. These improvements, notwithstanding ongoing NSP complaints about the construction of the index, allow the AER to more confidently use the EISCI results. In principle, then, it is appropriate for the AER to look at ways to use the EICSI more directly in setting the Return on debt than in 2018.

The CRG cautions however, that doing so, raises the stakes as to how the EICSI is constructed. The AER should be aware that it will likely face a constant battle with NSPs over the detail, while other stakeholders lack resources to effectively participate. To maintain other stakeholders' trust and confidence in the process, the AER will need to adopt a robust approach to evaluating NSP complaints about the EICSI. It will also need to keep other stakeholders fully informed on any changes to the debt instrument inclusion criteria for the EICSI, of the NSPs whose debt is included or the weightings of the instruments in the EICSI.

5.2.2 The proposed approach

A summary of the AER's approach is as follows.

- Calculate the blend of A and BBB data from the nominated data providers (currently Bloomberg, RBA, Thomson Reuters) that historically matches the spread of the EICSI over a defined observation window.[261]
- This observation window could be the previous 12 months or the period since the 2018 Instrument commenced but must be completed before the 2022 Instrument is formed.
- Set the blend to apply over the course of the 2022 Instrument considering this calculation and any other relevant information.
- The Return on debt is then calculated going forward using this blend using the same annual update methodology as present[262].

The AER considers that this approach allows it to capture outperformance against the previous benchmark for the benefit of consumers, while avoiding the potential perverse incentives that may arise from basing the Return on debt more directly on the EICSI. By maintaining the 10-year benchmark term, the question of further transition is avoided.

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261 AER, *Rate of return: 'Debt omnibus' Draft working paper,* July 2021, p. 17

262 AER, *Rate of return, 'Energy network debt data', Final working paper*, November 2020, p35

5.2.3 CRG assessment against its consumer-oriented principles

The following table provides an assessment of the proposed method against the CRG's consumer-oriented principles, which have been validated by consumers (see Volume 1).

Table 5-1: CRG assessment of the proposed method for using EICSI against its principles

Principle	Assessment
A regulatory framework serving the long-term interests of consumers must promote behaviours that engender consumer confidence in the framework	The use of actual NSP debt costs in setting the Return on debt is consistent with this principle. consumer representatives support this approach.
Any change to the regulatory model must be tested against detrimental consumer impacts in relation to absolute prices and price changes and acceptable consumer impacts in relation to service levels	The EICSI indicates NSP actual debt costs are lower than the 2018 benchmark. Use of the EICSI, has potential to lower consumer costs/prices. It is feasible for the EICSI in future to result in higher debt costs than would result from the current BBB+ benchmark. But given EICSI to date indicates outperformance, the change is still in consumers' long-term interests.
Risks should be borne by the party best placed to manage them	NSPs still carry the risk in relation to their own ability to match/beat the Return on debt benchmark, which is appropriate. Consumers still bear the risk of a general rise in interest rates. Neither NSPs nor consumers can directly manage economy-wide interest rate rises, although NSPs have access to tools such as fixed rate date or derivative instruments.
There should be a high bar for change	The development and refinement of the EICSI represents a substantive new body of evidence in relation to actual NSP debt costs.

In the context of ensuring consumer confidence, the CRG is considering whether we have any specific recommendations for the extent to which the expert panel should look at the way the EICSI has been constructed.

5.2.4 CRG assessment against economic considerations

Table 5-1Table 5-2 below provides an assessment of the AER's proposed method against the economic considerations outlined in 5.1 above.

Table 5-2: CRG assessment of proposed approach against economic considerations

Economic consideration	Assessment
Transparency and simplicity	The AER has done everything it can to explain its approach, including the way it has constructed and weighted the EICSI. The proposed approach is not fully transparent, due to the confidentiality of the underlying data from which the EICSI is compiled. It is also a highly complex approach. The CRG's feedback from consumer representatives is that the gains to consumers from sharing in outperformance outweighs any concerns about transparency. It will still be important that the AER informs other stakeholders of any change to the composition or weighting of the EICSI.
Incentive properties	While the approach draws on actual NSP debt data, no individual NSP's Return on debt is based directly on their own debt costs. Prima facie, this means that – much like opex benchmarking – each NSP has an incentive to outperform their RoD. NSP claims to the contrary are not compelling, but we recommend the AER apply due diligence to such claims to satisfy itself that there are no perverse incentives.
Gains shared by consumers?	Outperformance is shared with consumers at the next determination, again in a manner analogous to opex benchmarking. This is a marked contrast from previous methods.
Risk allocation	See Table 5.1 above.
Interaction with the rest of the RoRI	The AER's proposal eschews the use of a benchmark credit rating. This issue is explored further in Section 5.2.6 on page 108.

5.2.5 Inclusion of hybrid instruments

One consequence of establishing the EICSI and then using it to set the Return on debt is that it draws more focus onto the specific debt instruments the NSPs may use. This has led to much debate between the NSPs and the AER over what type of instruments should be included in the EICSI. Previous approaches did not have this focus and so concerns over the treatment of hybrid instruments, such as subordinated debt, were less pertinent. A key point of difference has arisen over the inclusion of such instruments in the EICSI. This is also relevant to the way the AER calculates actual gearing, as its current approach includes some but not all hybrid instruments although this is not determinative on the gearing ratio used in the RoRI

The CRG considers that the approach to gearing and inclusion in the EICSI should be consistent and that the simplest and most appropriate approach would be to exclude it from the EICSI and from the calculation of actual gearing. Hybrid instruments will generally carry a higher interest rate than senior debt and its inclusion in the EICSI would not be consistent with a Return on debt method that then uses bond benchmarks in its calculation.

Hybrid instruments may have characteristics of debt and of equity and so care should be taken in any proposed inclusion in the AER's calculations. The adjustment to the average gearing ratio, from

treating it as either debt or equity is +/-2 per cent [263], which indicates it is not currently material to the average NSP's financing approach. If in the future it becomes material, then in principle the most appropriate approach would be to include it as a separate term in the RoRI. This would be complex to implement and would entail a departure from the current foundation model, and so may not be warranted.

Recommendation 1: The AER should exclude hybrid instruments from the EISCI and from its calculation of market gearing levels.

5.2.6 The implications of removing the benchmark credit rating

The proposed application of the EICSI means a move from a benchmark credit rating for RoD. Instead of setting a target credit rating that a benchmark efficient entity would seek to maintain and then calibrating the mix of A and BBB bond rates in line with the target credit rating, the new method drives the weighting of A and BBB bond rates such that if the weighting corresponds to any specific credit rating it is only by accident. The AER acknowledged this in its *Debt paper*:

> *"This approach would mean we no longer define an explicit target credit rating."*[264]

This has potential implications for the overall consistency of the RoRI. An obvious cross-check is the gearing level and whether that is consistent with the benchmark credit rating for setting the RoD. Losing this cross-check is especially pertinent given the AER is considering changing the benchmark gearing level. The CRG notes that providing the same group of NSPs are the source of both the gearing ratio and the EICSI debt costs, then that should be sufficient to satisfy consistency, even without the explicit cross-check of a benchmark credit rating.

While the AER has indicated that it sees little value in using a financeability test in setting the RoD, it has not ruled out the use of financeability cross-checks. But there would no longer be a reference point for the target credit rating to use in a financeability cross-check. However, it may be sufficient for such a cross-check to simply target at least a bare investment-grade credit rating (BBB-) rather than a benchmark.

A benchmark credit rating has been a standard feature of the regulatory framework for some time, so the CRG urges the AER to consider the implications of its removal.

5.2.7 An alternative

The AER canvassed other options for more direct use of the EICSI in its energy network debt data working papers, including using the EICSI as a fourth curve in the estimation of the benchmark and using the EICSI directly to estimate the return on debt. These options were discarded as they required continuous disclosure and calculation of the EICSI, which had practical implementation issues. Additionally, the binding nature of the RoRI meant that such use of the EICSI needed to be fully pre-specified, so it could be applied automatically.

The CRG considers there is another option that would be consistent with the retention of a benchmark credit rating. The AER could continue with the current approach but make an adjustment

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263 AER, *Rate of return: 'Debt omnibus' Draft working paper,* July 2021, p37

264 AER, *Rate of return, 'Energy network debt data', Final working paper*, November 2020

to the Return on debt for any potential "halo effect". This approach would depend on the AER being confident that it had identified systematic outperformance of the benchmark (which could be due to the underlying assumptions not holding as much as any actual halo effect or outperformance from active management) and consideration of adjusting for tenor. The CRG is aware that this option requires further analysis to confirm their suitability for application and consider that the AER is best placed to carry out this analysis. Accordingly, we urge the AER to examine this option, which appears to be consistent with the Option 4 set out in the *Debt paper*[265].

Recommendation 2: The AER should further consider the alternative using the EICSI in setting the RoD

5.2.8 Conclusion

The CRG strongly supports the principle of maintaining the EICSI and seeking ways to use it to ensure consumers can benefit from NSP outperformance against the current benchmark. The caveat is that the EICSI is necessarily complex and relies on confidential individual NSP debt data. Generally, simplicity and transparency are preferred. Consumer representatives indicated to the CRG they were supportive of use of the EICSI despite this caveat (See Section 6.3.2).

The AER's specific proposal adds further complexity and has removes the benchmark credit rating, which has, in previous RoRI other uses in the RoRI process. Accordingly, the CRG recommends the AER continue to consider other options, such as the two outlined above.

5.3 Annual weightings

5.3.1 The proposed approach

The AER is proposing to depart from its current approach in the weight given to each year's RoD. Currently each year is weighted equally, i.e., it has a 1/10 weight, since it is a 10-year trailing average. The AER is proposing non-equal weightings, based on each year's forecast or actual capex. It appears that the actual weightings will be based on each year's RAB adjusted for forecast or actual capex, rather than the capex itself. This is logical, given that NSPs need to finance their entire RAB, not just new expenditure. If forecast capex is used, the weightings could be set at the start of the revenue determination period, while if actual capex is used, then ex post adjustments will be required each year. For simplicity, though, this approach will be referred to as "capex-weighting".

The AER's logic, noting that they had considered and rejected various weighting options when the trailing average was introduced is that they consider capex-weighted Return on debt could better satisfy the NPV=0 condition[266]. However, the example they use to illustrate this is stylised and assumes no capex for four years followed by capex expenditure equal to 25 per cent of the RAB. This is not representative of actual capex profiles. NSPs spend capex every year, and while this is not evenly spread over a regulatory period, it is not clear that normal year-to-year fluctuations are sufficiently material when compared to the full RAB value, to significantly fail the NPV=0 condition.

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265 AER, *Rate of return, 'Energy network debt data', Final working paper*, November 2020, p33

266 AER, *Rate of return: 'Debt omnibus' Draft working paper,* July 2021, p23

Nor is a systematic bias obvious in any departure from NPV=0, so the issue can be expected to broadly even out over the life of the asset.

The possible exception, which the AER cites as a reason to consider this change, is that some TNSPs may experience a significant step-up in their capex programs, if various ISP projects pass their regulatory investment test[267]. However, this scenario is only applicable to some TNSPs. No evidence has been presented to suggest that equivalent scenarios are expected to affect DNSPs or gas NSPs. So, to the extent the change is warranted, a more tailored approach may be more appropriate. For example, a threshold of "lumpiness" of capex could be predefined in the instrument so that it can be applied mechanically. Regulatory precedent for a more tailored approach exists, as Ofgem recently determined in its gas and transmission revenue determinations that RAB weighting only applied to one transmission business, due to its very large capex program relative to its RAB[268].

5.3.2 The interaction with the trailing average approach

There is a known issue with the trailing average approach. In recent years, as interest rates have been falling, the current cost of debt has been lower than the trailing average. There has thus been non conflict between the two potential roles of the RoRI, compensation and incentive. A compensation role is better satisfied by reflecting historical costs, given the sunk RAB outweighs new capex and in practice, NSPs cannot refinance their entire RAB at on-the-day rates of return. An incentive role is best satisfied by reflecting the prevailing costs of both debt and equity, so that NSPs can make new investments knowing that the initial financing costs of these investments will be precisely met by their allowed revenues.

The 2013 and 2018 RoRIs both better reflected a compensation role. The AER has also implemented a range of cost incentives designed to incentivise efficient capex, and so clearly do not rely purely on the incentive properties of the RoRI. It appears, then, that at least, implicitly, the AER has chosen a compensation approach.

This is important as at some point in time, interest rates will begin to rise, and the trailing average will be below the current cost of debt. Under a compensation approach, the trailing average will generally be adequate, but if an NSP has a very uneven capex profile there is some risk of a mismatch. It appears that the AER is seeking to protect against this outcome by proposing to capex-weight the trailing average. The CRG notes that this is unlikely to preclude NSPs raising issues with the trailing average approach when interest rates do rise, but it may assist the AER in rebutting these issues. If the AER did switch back to an on-the-day approach at this point, consumers would lose out, having not fully benefited from the on-the-day approach during the period of very low interest rates Accordingly, if the capex-weighting approach does assist in maintaining the trailing average approach into the future, then that would be a positive outcome for consumers.

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267 AER, *Rate of return: 'Debt omnibus' Draft working paper,* July 2021, p22

268 Ofgem, *Decision*, 'RIIO-2 Final determinations – Finance annex (Revised)', 3 February 2021

5.3.3 CRG assessment against its consumer-oriented principles

Table 5-3 below provides an assessment of the proposed method against the CRG's consumer-oriented principles.

Table 5-3: CRG assessment of capex-weighted trailing average against its principles

Principle	Assessment
A regulatory framework serving the long-term interests of consumers must promote behaviours that engender consumer confidence in the framework	The CRG seeks further clarity from the AER on why this change is required and its materiality before coming to a view on this matter.
Any change to the regulatory model must be tested against detrimental consumer impacts in relation to absolute prices and price changes and acceptable consumer impacts in relation to service levels	The CRG wishes to better understand the materiality of the capex-weighting method (whether actual/forecast) before coming to a view on this matter.
Risks should be borne by the party best placed to manage them	The price consumers will pay for energy network services would change (however marginally) with changes in the capex profile, but consumers have no influence over the capex profile. The AER sets forecast capex based on an NSP's business case and NSPs determine actual capex, so the proposal appears to misallocate risk to consumers.
There should be a high bar for change	Capex profiles have never been uniform year-to-year and yet the 1/10th each year trailing average approach has been broadly accepted since it was introduced. The proposal does not constitute new evidence or a theoretical basis for change. That one AER consultants' report mentions this option is not in itself a compelling reason for change. To the extent the proposal is being driven by concerns over ISP project financing as indicated in the omnibus paper, then a targeted approach would be more appropriate than making a change for *all* NSPs.

Recommendation 3: The AER should assess the materiality of the proposed change to capex-weighting the trailing average method.

5.3.4 CRG assessment against economic considerations

The table below provides an assessment of the proposed method against the economic considerations outlined in Section 5.1 above.

Table 5-4: CRG assessment of capex-weighting against economic considerations

Economic consideration	Assessment
Transparency and simplicity	The proposal is more complex than the current approach of equal weighting across the year.
Incentive properties	The AER considers its current approach may create an incentive for NSPs to underspend in high capex years. It appears equally possible that a capex weighted approach could drive similar behaviours. The CRG considers the relative incentive properties of the three options (status quo, forecast capex, actual capex) need further analysis.
Gains shared by consumers?	Consumers may benefit marginally, but this is contingent on high capex years occurring when that year's cost of debt is lower than average. It is not clear that this will systematically be the case. Consumers would benefit if capex-weighting assists in maintaining the trailing average approach as interest rates begin to rise again.
Risk allocation	See Table 5-3 above.
Interaction with the rest of the RoRI	There is no obvious interaction with the rest of the RoRI.

Recommendation 4: The AER should analyse the incentive properties of the three options for weighting the trailing average method.

5.3.5 Conclusion

The CRG considers that the AER has not presented sufficient analysis at this stage to support the capex weighting proposal. Consistent with the AER's own assessment criteria[269], the issue's materiality for a typical NSP needs to be demonstrated. The incentive properties of the options (including the status quo) need to be more thoroughly assessed. Given this, the CRG is unable to express a preference for forecast or actual capex or the merits of a transitional period. We recommend the AER carry out further analysis accordingly. As discussed in 5.4, our default position would be for no transition.

5.4 Replicability and transitions

NSPs appear to believe the Return on debt method must be replicable. For example, one of their objections to the proposed approach is that "Use of EICSI to directly determine [the] benchmark [is] not consistent with a replicable benchmark[270]. The CRG does not consider that strict replicability is a necessary condition of an appropriate Return on debt method. The method must be adequate, that is it must provide a sufficient allowance for a benchmark efficient entity to finance itself.

269 AER, *Rate of return: 'Debt omnibus' Draft working paper,* July 2021, p22

270 ENA, Presentation to AER public forum on the return on debt, August 2021, p. 2

Replicability is a way to test adequacy, but not a necessary condition of adequacy. Whether stakeholders perceive a method to be adequate is linked to their level of trust and confidence in the process.

Most stakeholders only see the EISCI as an aggregate of NSP debt portfolios. In the context of considering the replicability issue, there may be value in the AER analysing to what extent there is evidence that individual NSPs are choosing to match the AER's Return on debt as far as possible.

Replicability is also relevant in the context of the need (or otherwise) to transition from one Return on debt method to another. NSPs' implicit argument seems to be that they need time to change their debt profiles to allow older debt positions to unwind so they can replicate the new method.

The CRG is not seeking to re-prosecute the 2013 decision to implement a transition from the on-the-day approach to the trailing average, but it has taken a long time to unwind. Some of the NSPs will not complete their transition until 2028. The CRG is concerned about the complexity entailed in potentially implementing transitions upon transitions.

The CRG's preliminary view is the default position that no transition is required for a change in the Return on debt method. If the AER considers a new method better meets the regulatory objectives, then it should logically be implemented in full, as soon as possible, so there must be a compelling reason for a transition. There is value in the AER considering with stakeholders' input the threshold conditions for a transition, rather than considering individual *ad hoc* requests.

Recommendation 5: The AER should analyse the extent of evidence that individual NSPs are choosing to replicate the AER's Return on debt as far as possible.

Recommendation 6: The AER should consider (with stakeholder input) the threshold conditions for a transition between two methods for setting RoRI parameter.

5.5 Minor issues

The following issues are not the focus of this submission. For completeness, we make some brief comments about each of them.

5.5.1 Averaging periods

The CRG agrees that the averaging periods should be specified, such that sufficient time is allowed to accurately calculate the resultant annual revenue allowance for the purposes of publishing tariff statements for the next year. If the NSPs' and AER's experience is that an additional month is required, then the proposed change appears appropriate.

5.5.2 Bond data providers

The CRG considers that three data providers should be adequate for the AER's purposes and is not aware of any material issues raised with the existing providers, noting the anomalies highlighted in the *Debt omnibus paper*[271]. Rather, these demonstrate the value of multiple data sources. However, we agree that the AER should continue to monitor the datasets for suitability. If one of the datasets should cease, then the AER may wish to reassess for a future instrument. Conversely there is no obvious detriment to consumers from adding a further data provider if they meet the AER's criteria.

5.5.3 Contingencies

The CRG understands the need for contingencies and the AER's proposals appear practical.

5.5.4 Debt raising costs

The status of these costs within the RoRI review is somewhat unclear. The AER has proposed to continue to exclude them from the instrument, yet a position on how these costs are to be collected has been included in the position paper. The CRG considers that if NSPs are concerned about the adequacy of the costs allowed for this activity in their overall revenue allowances, then the onus is on them to present their own costs in a more consistent manner to allow the AER and other stakeholders to evaluate the claims of inadequacy. While the approach to determining efficient debt-raising costs is not canvassed in the current debt paper, the CRG considers that debt-raising should be subject to the same efficiency tests as other opex, and potentially be subject to benchmarking.

Recommendation 7: The AER should ensure only efficient debt raising costs are included in revenue allowances.

271 AER, *Rate of return: 'Debt omnibus' Draft working paper,* July 2021, pp 5-28

6 Consumer representative feedback

6.1 Context

This chapter summarises feedback received by the CRG from consumer representatives since the CRG inception in June 2020. While specific consumer engagement activities were conducted by the CRG for the Omnibus papers, this chapter also draws on previous engagement by the CRG with consumers and their representatives.

The CRG has been charged by the AER to be a voice for energy consumers in the current RoRI review. The CRG has sought to do this by:

(i) considering the issues from an energy consumer perspective as it engages in the regulatory review

(ii) engaging directly with consumer representatives

(iii) surveying residential and business customers

While this Chapter deals with (I) and (ii), the findings from the surveys are presented in Volume 2 of the CRG's Omnibus submission. Volume 2 also summarises key findings from the CRG's interviews with independent investors.

Since its inception, the CRG has:

- Interviewed consumer representatives from sixteen consumer organisations (throughout 2020 and 2021)
- Conducted a workshop with eleven invited consumer representatives (June 2021)
- Conducted a workshop with nine invited consumer representatives (12 August 2021).

All participants had some experience with regulatory processes and the impact of energy prices and service provision on consumers. The detailed methodology and results of these engagement activities are provided in past CRG submissions[272].

The latest workshop (12 August 2021) was conducted online with nine invited consumer representatives. Its purpose was to seek participants' initial reaction to the AER's Omnibus papers and identify their preliminary positions. The CRG provided participants with copies of the working papers ahead of the workshop and encouraged participants to attend at least one AER Omnibus public forum ahead of the CRG workshop. Further detail on the methodology for this workshop, the attendees and organisations they represent is provided in Appendix D. Appendix D also lists the attendees that have attended our previous workshops and interviews.

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272 CRG, *Submission to AER, Review of inflation*, 29 July 2020
CRG, *Submission to AER rate of return review: Debt data working paper*, 14 August 2020
CRG, *Advice to the AER on the regulatory treatment of inflation*, 6 November 2020
CRG, *Submission to AER, 'Return on equity'*, 9 October 2020
CRG, *Advice to the Australian energy Regulator on the Rate of Return and Cashflows in a Low Interest Rate Environment*, July 2021
CRG, *Advice to the Australian Energy Regulator on the Term of the Rate of Return*, 2 July 2021

Appendix D illustrates the importance to the CRG of engaging with consumer representatives. The CRG not only benefited from their considerable expertise. These representatives have links to far larger numbers of consumers, whether these consumers are members, clients, constituents or more vulnerable consumers seeking support with their energy bills. A conservative estimate by the CRG of the direct or indirect contacts that consumer representatives have with energy consumers is around half a million contacts across multiple states.[273]

The CRG is grateful for consumer representatives' willing participation and anticipates ongoing engagement with consumer representatives throughout the development of the RoRI.

6.2 Key findings

The dominant themes emerging from engagement with consumer representatives to elicit their perspectives on consumer interests since the CRG formed in June 2020 are:

- Consumers are highly concerned about energy price levels
- Consumers believe stability in energy prices is important and are generally vulnerable to energy price volatility

Consumer representatives believe energy networks approach the setting of the RoR in a self-interested way, and that consumers often miss out on the lower prices they would otherwise receive when circumstances change in their favour.

Each of these themes is discussed below.

6.2.1 Energy price levels

consumer representatives reported to the CRG their views that consumers are highly concerned about price levels. This includes both residential and business, metro and regional. For example, participants in the CRG Omnibus workshop reported the following, with the key messages emphasised:

> *"…on the basis of the two or three years of running consumer energy literacy programs off the coast of NSW, I have the perception that there's* ***widespread anxiety*** *in the older community about energy prices."*
>
> *"…commercial and industrial consumers…are already* ***under extreme pressure****, particularly in the gas market. They have seen a little bit of relief in the electricity market but having said that, we also are seeing…quite* ***significant increases in the spot price*** *for electricity."*
>
> *"Look, in the decades that I've been involved in some capacity or another in the energy industry,* ***affordability just gets more and more important****, affecting more and more people. You know, in the beginning, I found that small businesses really weren't at all concerned about energy pricing because…you know there were more important things like rents and employee costs. But*

[273] This figure represents an estimate of the number of members, the number of direct communications or other contacts with organisations, and an estimate based on 10% of web-site hits for that organisation being 'effective/active hits. The information is largely obtained from the relevant websites. Where was no information available, they have not been included in the estimate. To the extent possible, the assessment excluded 'double counting'.

> ***energy costs have become more and more important*** *to that sector. The…large commercial industrial sector is saying you know 'we have to compete in international markets quite frequently; our energy prices have gone up far more than many of the, our competitors in other countries, and that's hurting us.' And in the residential sector there are just* ***more and more people you know experiencing hardship****. COVID hasn't helped at all. So, across the board there's an increase in concern about affordability."*
>
> *"I'm travelling…right across the country when I can and look, the business guys are saying 'yeah the* ***power is too dear****, we can't get any cheaper, even with these different little discounts offered with some of the companies.' The guys in the domestic market are the same."*

Participants in the CRG Omnibus workshop were of a consensus that price levels are a genuine concern. This view is supported by the earlier CRG engagement with consumer representatives, summed up by one representative interviewed by the CRG in August 2020 for the AER Debt data working paper:

> *"The price is way too high in achieving the outcomes" [of reliability, quality, security of supply] ... it must be a fair price".*

6.2.2 Energy price stability and vulnerability to volatility

Consumer representatives reported to the CRG their views that generally consumers are vulnerable to energy price volatility. For example, consumer representatives in the Omnibus workshop reported:

> *"There's* ***no way that a pensioner on a concession…can respond to volatility****. So, for older people in those circumstances, they're in a real bind once prices start to rise. So, it's a big concern in that area for us."*
>
> *"Just a comment on the methodology, in some ways I don't care what methodology they [the AER] use; what I care about is extreme fluctuations in the decisions that come out of it…So, when there's constancy and stability, and people can work within the parameters on their bills; otherwise…****you can't cope with it as a lower income residential consumer****."*
>
> *"…it's a* ***lot of concern amongst consumers generated by the volatility of the energy price****. So, you've got no certainty over what the price is going to be next year. So, you know we can manage to put in place things to help consumers around a price level – but it's really hard to put things around consumers if that price level keeps moving; especially if it's moving up and it's very volatile."*
>
> *"on the stability theme – one of the key issues driving DER is empowerment – aka frustration with the* ***inability to see a consistent use/cost relationship****."*

Most participants in the Omnibus workshop believed that price stability is very important while one large user consumer representative reported that it was less important for their members as they can generally manage volatility better than small consumers.

The importance of price stability is supported by the earlier CRG engagement with consumer representatives, summed up by a consumer representative taking the perspective of an elderly consumer during CRG engagement in July 2020 on the first inflation working paper:

> *"Don't change anything.* ***Stability is really important****. I've been doing this for 70 years, don't change now."*

It is worth noting that this theme of the importance of price stability and vulnerability to volatility has also been a constant theme in RoR reviews. For example, during consultation on the trailing average for the RoD, consumer representatives revealed a strong preference for price stability.

6.2.3 Network self-interest and consumers not receiving benefits of "swings and roundabouts"

The words of one consumer representative to the CRG, is a recurring theme of the CRG engagement with consumer representatives throughout 2020 and 2021:

> *"Don't just have networks cherry pick reviews",*

Consumer representatives perceive that energy networks pursue self-interest in rate of return reviews and consumer representatives have a high expectation of the AER to respond to network claims, suggesting they [the AER] should *"put their foot down"* and *"make balanced decisions"*.

Consumer representative comments about network self-interest include:

> *"Networks can afford higher prices/experts in field and therefore exert more influence. In 2018,* ***consumer experts were far outweighed by the networks****.* ***Networks vastly spend on rate of return issues****. There is an asymmetry of resources. They get the best experts. The AER cannot be anything else but influenced by that."*

> *"****Networks are incentivised to drive the rate of return*** *as high as possible to maximise return to shareholders. This is why the CRG and AER exists. It is not a matter of opinion."*

> *"There's* ***got to be a high bar of change****. And at the moment what we're seeing is, is that if there is going to be a change,* ***it's always in the networks benefit, it's not to the consumer's benefit****. And the networks are quite happy to change things again, back to where they used to be when it suits them".*

> *"For much of the last decade I have taken the view that a set****, standardised and agreed approach was in the best interests of customers and energy businesses*** *over an extended period of time. This means that the "swings and roundabouts" approach would work well with limited net detriment to any party over time.*
> *I have however changed my mind as Australian energy markets are subject to so much change, so many rule changes and constant pressure on the regulator, in particular, from regulated network businesses to make decisions that give the benefit of any doubt to the network business shareholders. Consequently, I do not believe that the dynamics and politics of the Australian energy markets will allow enough uninterrupted time for a single approach to be applied for long enough to allow* ***the "swings and roundabouts" for customers, to net out to neutral****"*

The final quote above draws out the issue, which is related to a general perception of network self-interest, which is whether consumers benefit from the swings and roundabouts. The attitude of consumer representatives to this is summed up in the following quote:

> *"So, I think that really, it's, again it's* ***heads the networks win, tails the consumers lose****. Every time something goes against the networks and they're not getting enough money, or they think they're not getting enough money, they go and ask for a change in the rules. But when things*

are going well for them, they sensibly keep quiet. So, I think this might be another aspect that needs to be followed through."

6.3 Omnibus paper key findings

While the CRG Omnibus workshop involved nine consumer representatives, only four representatives commented specifically on the Omnibus papers. The following analysis reflects those comments. Reference is also made to earlier CRG engagement with consumer representatives.

The two themes emerging from consumer representatives during the workshop related to the Omnibus papers were:

- The DGM should be used to inform the relationship between the MRP and risk-free rate.
- Consumer representatives are comfortable use of the EICSI in setting the return on debt. In this light, the limited transparency of the EICSI is not seen as an issue. This theme of consumer representatives not being concerned about transparency in relation to the use of the EICSI is backed up by our previous engagement with consumer representatives on this issue.

Each of these themes is discussed below.

6.3.1 MRP and risk-free rate relationship and the use of the DGM

Four participants in the CRG Omnibus workshop indicated they do not consider that the DGM should be used to inform the relationship between the MRP and risk-free rate.

One consumer representative in the CRG Omnibus workshop spoke about the Wright approach[274] becoming a dominant concern for the networks, but they believed the approach is only based on one opinion and is not backed by academic literature:

"Yeah look for me it's the simple thing that on this whole MRP risk-free rate question the so-called 'Wright approach'…for the life of me ***I can find no detailed academic literature that backs the Wright approach anywhere****…it's not caught up with any substances that I can see; it's certainly not in any of the mainstream texts on the subject…It's just this thing that one bloody regulatory, one bloody consultant came up with and one regulator bought and now just has this life of its own, there must be this negative correlation. When you look at the other side of it, on the debt side, there is, the correlation is positive. There is a positive correlation between the risk-free rate and the A rate for example … Why would it be a different [i.e. negative] correlation [with the] the equity [side] – [it] just does not make sense."*

Another consumer representative spoke of the problem of assuming a relationship between the MRP and one of its variables:

"I have a lot of…problem with trying to assume that there is a relation between the MRP and risk-free rate. ***You know the MRP is a derived number from two independent variables*** *and* ***how on earth the outcome, the two independent variables are the ASX accumulation index and the 10-year or 5-year bonds and that's what the MRP is****. How on earth you can then say that there's a relationship between MRP and just one of the variables defies me. It just doesn't sit right. You know as a simple engineer I can't do those sorts of things in engineering, why can*

274 Australian Energy Regulator, *Rate of return: 'Equity omnibus' Draft working paper*, July 2021

you do it in maths and science or economics or whatever; it just doesn't hang together. So, I have a problem with that."

A consumer representative also commented about the recent takeover offer for Spark Infrastructure[275] offer and what that means for the impact of the risk-free rate:

"But the other thing to bear in mind…is that Spark has just had a takeover offer proposed for it, at you now the usual 1.5/1.6 times RAB under the current rules. Why then are we saying that the current rules are wrong? Now I can see that maybe at the moment, the rules are that you know with a very low risk-free rate, that maybe it's against the, you know it's giving a lower return than maybe the network should have. But then when the risk-free rate is well above the long-term norm, we saw the opposite occurring. So, I think that really, it's, again ***it's heads the networks win, tails the consumers lose****."*

6.3.2 Use of EICSI to set the return on debt

Consumer representatives support the use of the EICSI and are not overly concerned about the lack of transparency in relation to this index, as reported to the CRG in the Omnibus workshop and in the CRG's previous engagement. One consumer representative summarised this as follows:

"One of the big issues we've seen in the application of the cost of debt, is we've used an exogenous number [that] has been the corporate bond rate. And what we've seen over the years, the networks don't buy, you know acquire their debt through just the corporate bonds; they acquire them through a number of different sources. And what we've seen consistently over the years, and ***why the EICSI was introduced – what we saw is that the networks were actually incurring a much lower cost to debt than the bond rate****. So, if the networks are more clever about getting their debt, then what the* ***EICSI gave us the tool to be able to say 'let's let consumers have some of the benefit of that better acquisition of debt and management of debt.'*** *So, I'm quite comfortable with the idea of using the EICSI to actually set the regulated cost of debt…*
What we had before was patently unacceptable; this is much better *and it gives us the way of being able to come to a better outcome for consumers. It might not be perfect and it might have a couple of wrinkles in it but it's better than what we had before."*

As reported in the CRG submission on the Debt working paper[276], the above comments align with previous CRG consultations on the transparency issue:

"One limitation of the EICSI approach is that the data on individual network debt costs is confidential. Transparency is an important principle to underpin an effective regulatory framework. Therefore, we asked the consumer advocates whether this was an issue for them. ***While advocates agreed that transparency in the AER's decision making is important for consumers' confidence in the AER's decision, they also recognised the debt costs of individual firms should not be public.*** *Therefore, the 'confidentiality' of individual company data is acceptable, provided the AER has the opportunity to review the raw data and the AER follows regulatory best principles in its assessment."*

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275 Fowler, Elouise, *Financial Review*, 'Investors cheer Spark Infrastructure's $5.2 billion takeover' 23 August 2021

276 CRG, *Submission to AER rate of return review: Debt data working paper*, 14 August 2020, p.13

6.4 Other key findings and conclusions

Consumer representative feedback on the importance of price stability and the reality of network self-interest gives support to the value of the AER's assessment criteria[277] on how it will exercise its discretion. It is critical that decisions on the rate of return are:

- reflective of economic and finance principles and market information (AER criteria 1)
- implemented in accordance with good practice (AER criteria 3)
- based on quantitative modelling (return on equity and return on debt) (AER criteria 4).

The reason these criteria are so important is that they provide objective means for making decisions on the rate of return which support the revealed perspectives and priorities of consumers. These perspectives and priorities also align with the CRG Principle 1 – a regulatory framework serving the long-term interests of consumers must promote behaviours that engender consumer confidence in the framework. An objective means for making decisions is most likely to engender consumer confidence in the framework.

The consumer feedback on price levels supports the AER's assessment criteria which considers:

- the materiality of any proposed change (AER criteria 7).

Consumers are clear that they do not want to experience any increases in energy prices. This priority aligns with the CRG Principle 2 – any change to the regulatory model must be tested against detrimental consumer impacts in relation to absolute prices and price changes.

In summary, the *Overall RoR paper* states:

> *"These additional criteria ensure that change is not to be adopted lightly in the absence of compelling evidence."*[278]

This crucial statement by the AER closely aligns with the consumer sentiments reported above. The CRG commends the AER for recognising this as a principle. Evidence from consumer representatives demonstrates that consumers value the intent behind this principle highly. This principle aligns with CRG Principle 5 – there should be a high bar for change. All CRG principles have been supported by CRG qualitative research with consumer representatives and quantitative research with consumers (as reported in Volume 2).

Recommendation: The AER should methodically demonstrate any proposed amendments to the RoRI are aligned with its principles in a material and compelling manner.

277 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 25

278 AER, *Rate of return, 'Overall rate of return'. Draft working paper*, July 2021, p. 22

Appendix: Details of consumer representative engagement

Consumer advocate interviews, July 2020

Participants

Name	Organisation	About
Gavin Dufty	St Vincent de Paul (Vinnies) https://www.vinnies.org.au	Vinnies in Australia has more than 60,000 members and volunteers, who assist people in need and target social injustice across Australia.
Miyuru Ediriweera	Public Interest Advocacy Centre (PIAC) https://piac.asn.au	PIAC conducts test cases and strategic litigation in the public interest, and provides legal assistance, policy advice and training focused on the disadvantaged and marginalised.
Mark Grenning	Energy Users Association of Australia (EUAA) https://euaa.com.au	The EUAA is the peak national body representing Australian commercial and industrial electricity and gas users. EUAA membership covers a cross-section of the Australian economy including retail, manufacturing, mining, materials and food processing industries.
David Headberry	Major Energy Users (MEU) http://meu.asn.au/about.html	Representing the interests of large consumers of energy with many regionally based members. The MEU seeks to also represent the interests of smaller power and gas users, including residential consumers in the regions.
Mark Henley	Uniting Communities https://www.unitingcommunities.org	Uniting Communities works alongside South Australians, supporting them to overcome adversity and disadvantage. It offers a wide variety of services including to families and children, Aboriginal people, people living with mental health issues and people living with disability.
Robyn Robinson	Council of the Ageing (COTA) https://www.cota.org.au	COTA's role is to promote, improve and protect the wellbeing of older people in Australia as citizens and consumers. It operates at national, state and local level to represent, advocate for and serve older Australians.

Interview questions

1. If a change in methodology leads to higher prices, should this impact be smoothed out and if so, how? For example, could the new methodology factor in a gradual transition?
2. If a change in models resulted in price shocks, are there transitional arrangements that could be put in place to protect consumers?
3. Do consumers prefer stability in prices so that they can predict the proportion of their bill relative to income – or do consumers prefer stability in terms of predictable bills from year to year?
4. How important is stability for consumers relative to higher or lower prices?

Consumer interviews, September-October 2020

Participants

Individuals' names are intentionally not reported for this research as some individuals did not want to be named.

Organisation	About
Ai Group https://www.aigroup.com.au	The Australian Industry Group (Ai Group) is a peak national employer organisation representing traditional, innovative and emerging industry sectors. They have been acting on behalf of businesses across Australia for nearly 150 years.
Australian Energy Council https://www.energycouncil.com.au	The Australian Energy Council (AEC) represents 22 major electricity and downstream natural gas businesses operating in competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.
Business SA https://www.business-sa.com	Business SA is South Australia's peak Chamber of Commerce and Industry and peak employer body.
Canegrowers Queensland https://www.canegrowers.com.au	Canegrowers is the peak body for the members of 13 local sugarcane grower companies in Queensland
Energy and Water Ombudsman of NSW (EWON) https://www.ewon.com.au	EWON is the NSW government approved dispute resolution scheme for New South Wales electricity and gas customers, and some water customers.
Energy and Water Ombudsman of Victoria (EWOV) https://www.ewov.com.au	EWOV resolves disputes between Victorians and their energy and water companies.
Energy Users Association of Australia (EUAA) https://euaa.com.au	The EUAA is the peak national body representing Australian commercial and industrial electricity and gas users. EUAA membership covers a cross-section of the Australian economy including retail, manufacturing, mining, materials and food processing industries.
Major Energy Users (MEU) http://meu.asn.au/about.html	Representing the interests of large consumers of energy with many regionally based members. The MEU seeks to also represent the interests of smaller power and gas users, including residential consumers in the regions.
Total Environment Centre https://www.tec.org.au	TEC is an environment advocacy organisation based in NSW

Interview questions

1. What information do you use to inform your views about consumer perspectives?
2. What level of confidence and trust do you have in the networks on rate of return issues?
    a. If the networks make a claim, how reasonable do you think their claim is?
3. Do you believe the AER's decisions on rate of return are balanced or not?
    a. How much influence do you think networks have on the AER's decision making with respect to rate of return, compared to the consumers?
    b. Do you think there is an asymmetry of resources which impacts on overall influence?
4. Assuming your usage were to remain the same, how important are energy prices to:
    a. Households?
    b. Businesses?
5. Assume all the other components of the energy bill stayed the same, if network prices were to [increase][decrease], how do you think
    a. Residential consumers might respond in terms of behaviours, noting that network prices make up between 30-40% of bills?
        i. Why do you say that?
    b. Businesses might respond in terms of behaviours, noting that network prices make up between 30-40% of bills?
        i. Why do you say that?
6. [Technical question] The AER is considering if the approach to calculating the return on equity should be changed for the 2022 RoRI. In 2013, the AER relied on the Sharpe Lintner Capital Asset Pricing Model (CAPM) with input from the Black Capital Asset Pricing Model and Dividend Growth Model (DGM). In 2018, the AER relied solely on the Sharpe Lintner CAPM model. Now the AER is considering including the DGM again as they say it may enhance their forward-looking ability.
    a. How does this change of approaches impact on consumer confidence, noting that a change to incorporate the DGM is likely to lead to an increase in prices?
7. [Technical question] The AER is considering if the approach to calculating the return on equity should be changed for the 2022 RoRI. Changes to the rate of return may have impacts on consumer prices and to a lesser extent the level and quality of services provided.
    a. How do you feel about the following proposed change?:
    b. The AER could look at the equity beta (the extent to which returns to equity for network businesses vary with market conditions in general), which may involve finding comparable firms that are publicly traded and use these as a proxy for regulated networks. While this in itself is not a change from the AER's current methodology, the equity beta could be lower or higher in the 2020 RoRI.
    Do you prefer keeping things as they are or would you be willing to accept a review

of the equity beta, knowing that the outturn of such a review could result in a lower or higher equity beta and consequently lower or higher prices? [technical]

8. [Technical question] The AER could also look at how the market risk premium (the returns to the broader market) is calculated. In particular, the AER is looking at methodologies which are said to capture current market conditions better than the methodology they are currently using.
    a. Do you prefer these costs to be based more on current market conditions rather than being more stable and predictable based on historical experience, knowing that there may be times where the current cost (prices) may be significantly higher than long term averages and at times be lower?
9. [Technical question] The AER framework is based on investor returns on long life assets, and therefore the basic parameters in the rate of return are based on 10-year projections. For example, the average equity returns over the period 2023 to 2033.
    a. Do you think that is the best approach?
10. One of the proposals on the table is annual updating of the risk-free rate. One hypothesis is that this would lower the risk for networks. If that were to be the case, should consumers get compensated for the risk of having to face additional changes to price levels year on year (over and above the existing annual changes)?
11. Do you think there is a fair sharing of risk between consumers and networks?
    a. If consumers are asked to bear more risk, should they be compensated?
12. 12. Just thinking about the overall share market in Australia, how risky do you believe investing in regulated energy network companies would be compared to investing in other sorts of businesses.
    a. Why do you say that?

Consumer advocate workshop, 9 June 2021

Participants

Name	Organisation	About
Jennifer Brownie and Phil Pollard	Queensland Electricity Users Network https://www.qeun.com.au	QEUN represents regional Queensland electricity users including local government, Chambers of Commerce, economic development organisations, retirees, tourism operators, irrigation farmers, dairy farmers, the mining industry and urban developers.
Gavin Dufty	St Vincent de Paul (Vinnies) https://www.vinnies.org.au	Vinnies in Australia has more than 60,000 members and volunteers, who assist people in need and target social injustice across Australia.
Mark Grenning	Energy Users Association of Australia (EUAA) https://euaa.com.au	The EUAA is the peak national body representing Australian commercial and industrial electricity and gas users. EUAA membership covers a cross-section of the Australian economy including retail, manufacturing, mining, materials and food processing industries.
David Headberry	Major Energy Users (MEU) http://meu.asn.au/about.html	Representing the interests of large consumers of energy with many regionally based members. The MEU seeks to also represent the interests of smaller power and gas users, including residential consumers in the regions.
Chris Joseph	Independent	
Warren Males	Canegrowers Queensland https://www.canegrowers.com.au	Canegrowers is the peak body for the members of 13 local sugarcane grower companies in Queensland
Ian McAuley	Independent	
John Pauley	Council of the Ageing	COTA's role is to promote, improve and protect the wellbeing of older people in Australia as citizens and consumers. It operates at national, state and local level to represent, advocate for and serve older Australians.
Robyn Robinson	Council of the Ageing (COTA) https://www.cota.org.au	COTA's role is to promote, improve and protect the wellbeing of older people in Australia as citizens and consumers. It operates at national, state and local level to represent, advocate for and serve older Australians.

Agenda (1 hour session)

1. Welcome and introduction
2. Workshop aims and protocols
3. Context of these working papers
4. High level overview of working papers
5. Participant queries and reactions to the papers
6. CRG preliminary views
7. Question for participants: What would participants want to see to be satisfied the AER has acted in consumers' long-term interests?
8. Conclusion and next steps

Consumer representative workshop, 12 August 2021

Participants

Name	Organisation	Representing perspectives of …
Emma Chessell	Brotherhood of St Laurence https://www.bsl.org.au	Social justice organisation representing people experiencing disadvantage throughout Australia
David Havyatt	Independent	Independent consumer advocate
David Headberry	Major Energy Users (MEU) http://meu.asn.au/about.html	Representing the interests of large consumers of energy with many regionally based members. The MEU seeks to also represent the interests of smaller power and gas users, including residential consumers in the regions
Chris Joseph	Graingrowers https://www.graingrowers.com.au	Representative body for more than 17,500 Australian grain farmers
Andrew Nance	The Energy Project https://www.energyproject.com.au	Representative of specialist energy consulting firm providing advice to businesses about their energy needs
Pete Newman	Council of the Ageing NSW https://www.cotansw.com.au/about/about-cota-nsw/	COTA NSW is the peak organisation for people over 50 in NSW
David Prins	Etrog Consulting https://www.etrogconsulting.com.au	Specialist energy consultant - regulation and competition
Mike Swanston	CCP 2017	Independent consumer advocate
Robyn Robinson	Council of the Ageing (COTA) https://www.cota.org.au	COTA's role is to promote, improve and protect the wellbeing of older people in Australia as citizens and consumers. It operates at national, state and local level to represent, advocate for and serve older Australians.

CRG Omnibus workshop methodology

A CRG member facilitated the CRG Omnibus workshop held on 12 August 2021. Throughout the workshop, participants were encouraged to provide comments and ask questions using the chat function in MSTeams, as well as in facilitated questions and answers.

The first half of the workshop involved two high level questions from the facilitator to establish the range of participant perspectives present. The questions focussed on price impacts and attitudes towards the AER's decision making.

The second half of the workshop began with a PowerPoint presentation to provide participants with a summary of the five significant elements that the AER identified in its Overall RoR working paper, including a brief outline of the AER's current positions on those elements. Participants were given an opportunity to provide comments and ask questions before the CRG provided its perspective on the elements.

Agenda

1. Welcome and introduction
2. Workshop aims and protocols
3. Questions for participants
    a. Thinking about your or your members'/clients' bills, how sensitive are you to price movements?
    b. If prices go higher or if prices go lower, does that matter to you, or do you prefer things to stay as they are?

    Thinking about the AER's decisions which impact on prices, do you prefer the AER to keep things as they are or are you comfortable with the AER changing its decisions every four years?
4. Outline of AER priority positions and time for response from participants
5. Opportunity for participants to present their other concerns

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