AER RATE OF RETURN GUIDELINE REVIEW
FACILITATION OF CONCURRENT EXPERT EVIDENCE

14 MARCH 2018

INITIAL VIEWS AND AGENDA FOR FIRST EVIDENCE SESSION

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CONTENTS

AER	Australian Energy Regulator
ARORO	Allowed Rate of Return Objective
BEE	Benchmark Efficient Entity
Beta (β)	Measure of risk in CAPM
CAPM	Capital Asset Pricing Model
COAG	Council of Australian Governments
ERA	Economic Regulation Authority
EV	Enterprise Value, the sum of the market value of equity, debt and other liabilities
Gamma (γ)	Value of imputation credits
LMR	Limited Merits Review
NEO	National Electricity Objective
NGO	National Gas Objective
ROE	Return on equity
ROR	Rate of return
RORG	Rate of Return Guideline
Theta (θ)	Measure of utilisation of tax credits
WACC	Weighted Average Cost of Capital

AGENDA FOR CONCURRENT EXPERT EVIDENCE SESSION, 15 MARCH 2018

No	Item	Points to consider
1	Introduction	• Process of concurrent expert evidence. • How the session will be run. • Objectives of session. • Introduction to participants.
2	The allowed rate of return	• Implications of draft legislation requiring that the AER set a binding RORG. • Will the guideline be "evolutionary", i.e. continue to use the foundation model (CAPM) as the basis for ROR? • Should AER's foundation model, as applied in 2013, be continued or abandoned? • Under what circumstances should a binding RORG be re-opened?
2a	Use of judgement	• Are AER's 2013 RORG criteria for assessing information appropriate? • How should the AER balance the use of judgement and data? • What other data can be used better to inform judgements? • How can / should AER be held accountable for the exercise of judgement?
2b	Compensation for risk	• What risk should be compensated through the allowed return objective? • How should risks not compensated through the allowed return objective be handled? • Should compensation for risk be different for transmission /distribution, gas / electricity, price / revenue cap? • What affects investor confidence? What implications should this have for the RORG? • Are there any risk / compensation issues related to the evolution of energy technology and policy?
3	Gearing	• Should gearing be calculated only on market values of debt and equity? Or is there a role for other measures (e.g. debt / RAB values)? • Is the methodology of using an average of comparator companies appropriate?

No	Item	Points to consider
		• What are the appropriate comparator companies? (Sector, domicile, credit rating, listed / unlisted).
		• Views on approach to detailed measurement issues.
4	Financial performance measures	• What information can be used *ex post* to assess whether RORG met the NEO and NGO?
4a	Profitability measures	• Do profitability measures provide information on the required rate of return?
		• If so, what could be the role for the use of profitability measures in setting the rate of return?
		• Which measures would be used and how?
4b	Enterprise Value (EV) / Regulatory Asset Base (RAB) multiples	• Does data on EV/RAB provide information about the allowed return vs cost of capital?
		• If so, can information on EV/RAB multiples be used in the regulatory process either directly, or to inform judgement?
4c	Financeability analysis	• Do projected financial ratios provide any information on the rate of return?
		• If so, how could / should it be used?
		• Should projections be for company financed at notional or actual gearing? What ratios should be monitored, and how should limits to ratios be determined?
		• Is there a role for financeability analysis to stress test parameters in a control?
		• Can financeability analysis be used in the context of a binding RORG?
5	Any other issues	• Issues raised that have implications for future sessions.
6	Concluding remarks	• Summary of areas of agreement.
		• Next steps.

1. INTRODUCTION

The AER is undertaking a review of its 2013 Rate of Return Guideline (RORG) to be completed by December 2018. One element of the review process is the provision of evidence by experts in economics and finance through concurrent expert evidence sessions, also known as "hot-tubbing". The AER has scheduled two evidence sessions on 15 March 2018 and 5 April 2018.

The purpose of the concurrent expert evidence sessions is to support the AER in the review process by defining the issues of agreement and disagreement on the issues considered by the sessions. The experts are supported in this by an independent facilitator. The facilitator has been asked to provide a draft paper setting out areas of agreement and disagreement in advance of each session. After the sessions have taken place this a joint paper to be agreed between the experts will be prepared and available for publication.

Within the time constraints of the process, it has not been possible to produce a comprehensive statement of agreed positions. The experts have provided initial views on issues to the facilitator, and a summary of these have been set out in the tables in the remainder of this note. It is important to note that they are not comprehensive and are subject for refinement, and that the purpose of setting them out is to aid discussion at the expert session on Thursday 15 March.

1.1. Participants in the concurrent expert evidence sessions

Experts:

- Stephen Gray

- Greg Houston

- David Johnstone

- Martin Lally

- Graham Partington

- Ilan Sadeh

Facilitator:

- Jonathan Mirrlees-Black

A transcript will be made of each concurrent session and circulated to the experts for checking, before being made available for publication.

1.2. Duties of experts

The AER has asked that experts, which includes the facilitator, comply with the requirements of *Expert evidence practice notes* provided by the Federal Court of Australia. The key

requirement of relevance here is that experts are to act in the interest of the court rather than their sponsor. The experts have agreed to this.

It is not a requirement that experts agree on all matters. The objective is that "The joint-report should be clear, plain and concise and should summarise the views of the experts on the identified issues, including a succinct explanation for any differences of opinion".

1.3. Selection of issues

Selection of issues for the concurrent evidence session has been undertaken by the AER. Some additional relevant issues have been identified by experts and included within the agenda items. Additional issues may be raised by experts through the process and added to the agenda for the second session.

One particularly important issue relates to the legislative framework. The COAG Energy Council published draft legislation on 2 March 2018 (COAG (2018a)) with the objective of creating a binding rate of return instrument. This law would require the AER and, for Western Australia, ERA to make an instrument "that specifies the rate of return on capital and the value of imputation credits or the methodology to calculate the rate/ value".[1]

As part of the process of finalising the instrument, the AER would be required to follow a consultation process. It would be a requirement under this legislation to "seek concurrent expert opinions or evidence about the proposed instrument"[2]. Under the proposed transitional arrangements set out in the draft legislation, it is envisaged that the non-binding guideline which is the subject of the current review process would be used as the first binding instrument. The non-binding expert sessions therefore should give consideration to the fact that the outcome of the review process may be a binding instrument determining the rate of return or its method of calculation.

Under the binding instrument, the AER would not be able to exercise discretion in the way it calculates the rate of return for price / revenue control determinations; rather it would be required to set a rate of return or a methodology to calculate it. Experts considered that the new legislation would have implications for their deliberations and would need to be considered at the beginning of the process.

1.3.1. Session 1 issues

- The allowed rate of return, compensation for risk, and the use of data when judgment is required.

- Gearing.

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[1] COAG (2018b), page 1.
[2] COAG (2018a), page 10.

- Financial performance measures (RAB multiples, profitability analysis, and financeability analysis)

1.3.2. Session 2 issues

- Method of mechanistically applying return on equity.

- Estimating market risk premium.

- Estimating equity beta.

- Value of imputation credits.

1.4. Structure of this document

The remainder of this document is an annotated version of the agenda with views expressed by experts to the facilitator verbally or in writing. Experts have not approved or endorsed the views expressed in the document.

2.   ALLOWED RATE OF RETURN, COMPENSATION FOR RISK, AND USE OF DATA WHEN JUDGEMENT IS REQUIRED

No	Item	Points to consider	Views expressed / issues
2	The allowed rate of return	• Implications of draft legislation requiring that the AER set a binding RORG. • Will the guideline be "evolutionary", i.e. continue to use the foundation model (CAPM) as the basis for ROR? • Should AER's foundation model, as applied in 2013, be continued or abandoned? • Under what circumstances should a binding RORG be re-opened?	Impact of potentially binding guideline: • If guideline becomes binding, AER would not be able to exercise discretion in the way it applies the guideline. Interpretation of this is that AER required either (a) to fix parameters as part of the guideline or (b) to provide a way for it to be computed mechanistically, so that it is commensurate with the conditions at the time. • Given removal of LMR, removal of discretion for AER in application of the guideline seen as important by some experts. • Panel members would like guidance on how AER views the impact of the binding guideline. Evolutionary approach / foundation model: • AER has indicated that this will be an 'incremental' review. However, under legislation AER could fundamentally change approach. • Panel members would like guidance on whether the review will be incremental, and in particular whether the foundation model will remain, or alternatively whether the aim is to seek guidance only on parameter updates. • Most panel members appear comfortable with taking the foundation model from the 2013 RORG as a given. • There is also a view that stability of approach has value in particular for investors, in the absence of a significantly superior alternative. • One panel member has submitted papers in which it is argued that the CAPM has been misinterpreted, and that the CAPM is model relates "risk" to both variability and mean payoff. In addition, it is argued that WACC and the underlying regulatory asset value are subjective, which has implications for the approach to regulation. Under this view, the existing framework has

No	Item	Points to consider	Views expressed / issues
			an over reliance on "questionable finance logic". There are further implications for the regulatory framework which do not fit into the categories in the agenda for this session.
			Re-opening of binding guideline:
			• Some experts felt that fixing rates / parameters would have risks, in particular in the event of unexpected financial market developments. However, others considered that the need for stability and transparency of the process may outweigh this.
			• Subject to the above consideration, panel members supportive of reopening if there were a material change in market conditions. (GFC given as example).
			• Conditions would need to be spelled out in advance and limited to serious and low probability events. Suggested criteria include: allowed ROE found to be inconsistant with evidence; or material discrepancies submitted by stakeholders. However, there was a concern that this could provide a back door route to change the agreed methodology of the binding guideline, i.e. a route to allow discretion.
			• Suggested that examples of when AER would be allowed to exercise power to re-open are given, and process that would need to be followed.
			• Examples could include: data source becoming unreliable, substantial distortions in cost of debt, debt spreads, credit rating and other related evidence.
			• Distortions could include evidence of disruption to the debt market such that that prudent organisations were unable to raise debt.
			• There could be an option for the condition on re-opening to be qualitative not just quantitative.
			• Acceptance of re-opener conditions was not the view of all experts. Those concerned about the creation of routes for the use of discretion considered that the bar to re-open or vary the guideline needs to be very high.

No	Item	Points to consider	Views expressed / issues
2a	Use of judgement	• Are AER's 2013 RORG criteria for assessing information appropriate? • How should the AER balance the use of judgement and data? • What other data can be used better to inform judgements? • How can / should AER be held accountable for the exercise of judgement?	Criteria: • In general, the wording as set out in 2013 RORG seen as not contentious, although stated preference for 'simplicity' should only apply where objectives are not compromised. • However, concern expressed about difficulty in determining in advance whether evidence included or excluded based on the criteria. • View that consistency very important, e.g. if evidence dismissed because it doesn't reach required standard, all evidence that fails to reach standard is excluded. Judgement: • Exercise of judgement in the determination of parameters seen as inevitable. • Sharing of data and detailed methodology seen as important so that AER analysis on which judgement based can be replicated. Other data: • Concern around low number of domestic listed comparators for the source of data used for gearing, equity β and other analysis for calculating ROR. Should consideration be given to the use of international evidence? Accountability: • View strongly held that where AER used judgement it needs to be held accountable for this. If scope for increased discretion, then needs transparency on how applied and process to ensure that the application is reasonable.
2b	Compensation for risk	• What risk should be compensated through the allowed return objective? • How should risks not compensated through the allowed return objective be handled?	Risk compensation: • Many held view that only systematic risk (expressed through β in the CAPM) is relevant to the required return on equity. Other risks that are diversifiable would not affect the required return. Considered to be standard corporate finance theory.

No	Item	Points to consider	Views expressed / issues
		• Should compensation for risk be different for transmission /distribution, gas / electricity, price / revenue cap? • What affects investor confidence? What implications should this have for the RORG? • Are there any risk / compensation issues related to the evolution of energy technology and policy?	• There is also a view that the approach to systematic risk has been taken for some years, and with no compelling reason to change it should be retained. • Note that one panel member challenging standard CAPM approaches and for him this measure of risk would not be considered appropriate. Risks not compensated through the allowed return objective: • Panel members stressed that compensation for systematic risk applies to expected cash flows and so these should reflect any non-systematic risk. Thus, allowed returns could be higher (or lower) if there were a negative (or positive) uninsurable downside (upside) risk, or to reflect self-insured amounts. • Approach to risk only works if expected cash flows are used, and distinct from most likely cash flows. • It was noted that while the AER has focused on systematic risk, it has never been explicit that non-systematic risks should be reflected in cash flows. Risk compensation between T/D, Electricity/Gas, Price / Revenue cap: • Process should first review all *a priori* drivers of systematic risk • Evidence of the presence of those risks to be assessed through β Investor confidence: • Stability and predictability of the regime seen to be crucial to investor confidence, with strongly held views around this. • Distinction between predictability of process vs outcome, investors seen to value the former. Investors also value stability of outcome provided that it is the outcome of application of applying a stable process in a transparent and reasonable way. • Other significant concerns: significant changes of approach; changes to assessment of evidence; changes in parameter estimates without sufficient supporting evidence. There is a view that there should be an onus against

No	Item	Points to consider	Views expressed / issues
			changing the approach unless it is significantly superior to what is being done, and not just "theory of the day".
			Risk / compensation issues and energy technology and policy:
			• One view: hard to assess the systematic risk associated with these, will need to wait for empirical work on the impact and monitor how it develops.
			• There was a concern that if investors in listed market equities do not fully appreciate the risks then these may not be reflected in data sourced from listed markets.
			• Another view: networks do bear risk of asset stranding, companies may be unable to raise revenue sufficient to recover RAB. Not correct simply to ignore and assert unquestioningly that the existence of monopoly in combination with regulatory framework can guarantee that RAB will be honoured.

3.   GEARING

No	Item	Points to consider	Views expressed / issues
3	Gearing	• Should gearing be calculated only on market values of debt and equity? Or is there a role for other measures (e.g. debt / RAB values?) • Is the methodology of using an average of comparator companies appropriate? • What are the appropriate comparator companies? (Sector, domicile, credit rating, listed / unlisted). • Views on approach to detailed measurement issues.	Market gearing vs other measures: • Market measure of gearing seen to be the only appropriate one, to be used both for re-gearing β and for application to calculation of required revenue in price controls. Derivation of these formulae start with the rateof return which embodies market values by definition, and in using a formula must use definitions for parameters within that formula that arise in the course of the derivation. • Important to establish whether all experts agree (a) equity betas need to be re-levered and (b) it would be wrong to compare equity betas that have been re-levered to 60% with equity betas that have not been re-levered. • Do all experts agree that the re-levering formula currently adopted by the AER is appropriate for the case where the firm is assumed to have constant gearing? • Market measure of gearing also seen to be the only appropriate one to be used for application to calculation of required revenue in price controls. Main reason for a discrepancy seen to be regulatory error, therefore better to choose market gearing. Appropriate comparators: • Three firms only in comparator set: 2 with credit ratings (S&P) of BBB+ and one A-. Seen by some experts to be a reasonable representation of the BEE, and appropriate. • Noted by one expert that there is a methodological inconsistency as set of firms for which credit rating available larger than set for which market gearing is available. A suggestion is to estimate the optimal value of one of gearing and credit rating and then modifying the estimate of the second to reflect the chosen value of the first.

No	Item	Points to consider	Views expressed / issues
			• Some experts indicated only Australian firms should be used because of requirement that tax regime and legal framework (for bankruptcy) be the same.
			• An alternative view was that the very limited Australian listed company comparator set raises the question of whether international beta evidence should be drawn upon.
			• Government owned firms, private-sector firms with corporate parent, firms with significant unregulated activities to be excluded.
			• Market gearing considered to be the only relevant data. Therefore, only data from listed entities considered to be relevant.
			• Current approach seen to produce an outcome that is considered reasonable.
			Detailed measurement issues:
			• Value to using directly sourced data rather than that from data vendors to ensure that financial instruments (e.g. loan notes) categorised correctly.
			• Averaging over 5 – 10 years, as gearing choices typically reflects a long-term investment strategy. One expert favours using that historical period that provides the best predictor of average gearing over the regulatory control period, and this can be determined from statistical analysis.
			• Use of gross debt rather than net debt supported by different experts as cash could be paid out to equity or debt holders.
			• Others thought that net debt should be used. That is the approach that rating agencies use and is embedded in most lender covenants. It is also the way that listed investors view companies.
			• Adjustments for non-regulated assets not seen as problematic in practice by some of the experts. Others were more concerned by this, as it is hard to compare between asset types (unregulated activities in distribution businesses are very different from those in transmission) and there is a

No	Item	Points to consider	Views expressed / issues
			degree of subjectivity in judgements. Rating agencies in Australia and investors do not always analyse in sufficient detail.
			• Appropriate for stapled loan notes to be treated as equity if they have those characteristics.
			• Appropriate for AER to see through holding company structures.

4.   FINANCIAL PERFORMANCE MEASURES

No	Item	Points to consider	Views expressed / issues
4	Financial performance measures	• What information can be used *ex post* to assess whether RORG met the NEO and NGO?	• For discussion at expert evidence session
4a	Profitability measures	• Do profitability measures provide information on the required rate of return? • If so, what could be the role for the use of profitability measures in setting the rate of return? • Which measures would be used and how?	• For discussion at expert session. • View expressed by experts was that historic profitability analysis was a function of expectations at time price control set, provides no information on appropriate rate of return.
4b	Enterprise Value (EV) / Regulatory Asset Base (RAB) multiples	• Does data on EV/RAB provide information about the allowed return vs cost of capital? • If so, can information on EV/RAB multiples be used in the regulatory process either directly, or to inform judgement?	EV/RAB multiples use in regulatory process: • Agreement that "a RAB multiple that differs from one may be at most a trigger for further investigation" (Biggar 2018). • Risk of incorrect inferences from RAB multiples. Risk of moving from debate about WACC parameters to debate about RAB multiple disaggregation. • Concern around circularity in use of RAB multiples. Resolving this more nuanced than suggested in the Biggar (2018) paper. • To use RAB multiples in process would need documentation of reasons for difference, and identification of those factors that affected required return. Hard to develop such a process for current guideline review.
4c	Financeability analysis	• Do projected financial ratios provide any information on the rate of return? • If so, how could / should it be used?	Use of financeability analysis: • View that financeability discussion needs to distinguish between implications (if any) for (a) the allowed return, and credit rating

No	Item	Points to consider	Views expressed / issues
		• Should projections be for company financed at notional or actual gearing? What ratios should be monitored, and how should limits to ratios be determined? • Is there a role for financeability analysis to stress test parameters in a control? • Can financeability analysis be used in the context of a binding RORG?	assumptions, or (b) the speed at which companies receive a return of their capital (expressed through depreciation). • If done would require consultation with rating agencies, corporate treasury departments. • Ratios would need to be based on notional gearing not actual gearing.

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