

ERA 2022 Rate of Return Instrument Discussion Paper

AGIG Submission

Executive Summary

Setting the allowed weighted average cost of capital (WACC), at a level that promotes efficient investment in gas infrastructure is critical to promoting the long-term interests of gas consumers in WA – and even more so at a time when the role that gas may play in Australia's energy transition is unclear. Set the WACC too high, and consumers will pay more than is appropriate, including because it may encourage over investment. Set it too low, and consumers may suffer from under investment.

The Economic Regulatory Authority's (ERA's) Discussion Paper on the 2022 Rate of Return Instrument (RoRI) – and the consultation process it initiates – provides an important juncture for gas consumers, pipeline businesses, and other stakeholders to input to that instrument with a view to ensuring it is robust and contributes to the National Gas Objective (NGO) to the greatest degree. In respect of the various elements of the WACC covered by that paper, we agree with the ERA in many respects. In particular:

- We consider the approach to gearing is appropriate, as is the final figure of 55%.
- We consider the approach to inflation is appropriate.
- We broadly agree with the ERA's approach to the cost of debt.
- We accept the ERA's approach to gamma.
- We consider the ERA has taken a significant step forward in the estimation of beta, and agree with much of what it has done. However, we await further information on how the ERA has reached its conclusion, given the evidence it has used. This is unclear in the Discussion Paper.

Our key areas of concern – the areas where we encourage the ERA to reconsider its intended approach – are the ERA's continued use of the five year term for the risk-free rate and the manner in which it estimates and has treated evidence around the market risk premium (MRP).

We have some broader concerns in respect of the ERA's overall approach which we consider need to be addressed to ensure it meets the objectives of the National Gas Law. In particular:

- **Stakeholder consultation** | We suggest that the ERA's consultation process could be improved to ensure timely and relevant information is received from stakeholders. We look forward to more engagement prior to the draft RoRI is published so that this can occur.
- **The application of the RoRI to access arrangement determinations** | The ERA does not appear to have fully considered the binding nature of the RoRI and how it will be applied in future determinations. For instance, in the case of the market risk premium the ERA intends to use market data and judgement to determine a single number that will remain fixed for the duration of the RoRI. However, if the same judgement were applied to the same data, but observed at a different point in time, then it could – as it has in the past – lead to a different number.¹ Adopting a fixed number, therefore, could lead to an allowed WACC that is higher or lower than what the ERA would otherwise determine is the best estimate were it not constrained by a binding RoRI. However there are alternatives that improve upon this that we consider would allow the ERA to better meet the requirements of the National Gas Law.

Our submission elaborates on these issues and makes recommendations on how the ERA should address them when developing the 2022 RoRI. Box 1 summarises what we suggest the ERA should do in respect of changes from its Discussion Paper in its draft RoRI. We may revise these

¹ For example, the ATCO Final Decision in 2016, the ERA adopted an MRP of 7.5 percent (see p12 [here](#)) and an MRP of 7.4 percent for DBP (see p221 [here](#)), using the same methodology from its 2013 Guideline.

suggestions as further information becomes available, including as a result of the AER's expert sessions in February 2022.

Box 1: Suggested changes to ERA approach

When developing the 2022 RORI, we recommend that the ERA:

- **Adopt** a 10-year term for the **risk-free rate** – which is more in keeping with theory, with investor and regulatory practice and with the ERA's own approach to other building blocks, such as depreciation.
- **Adopt** a method that automatically updates the **MRP** over the RoRI period in response to changes in market conditions (rather than fix the MRP for that period) – this will help mitigate the timing problem that arises from a binding RoRI. We suggest two methods which we think can achieve this; one of which is close to the ERA's 2013 Guideline approach and the other reflects an approach put forward to the Australian Energy Regulator (AER) by Energy Networks Australia (ENA).

On the MRP, we also suggest that the ERA:

- **Reject** the use of geometric means – we are broadly supportive of its other suggested changes to its use of historical data.
- **Consider** work by Frontier to improve confidence in the DGM.

For beta, we believe positive steps have been taken in considering international data and simplifying the ERA's estimation methods. We also agree that the number for beta looks reasonable. However, we cannot comment fully on the ERA's method because its process of using judgement is not particularly clear.

In respect of gamma, inflation, gearing and the cost of debt, we propose no substantive change from what is set out in the Discussion Paper.

Introduction

This document provides a response from the Australian Gas Infrastructure Group (AGIG) to the ERA's recently published Rate of Return Instrument (RoRI) Discussion Paper. We have divided the submission up into five main parts, covering distinct topics:

- Overarching issues which affect all parts of the instrument
- Issues associated with the term of the risk-free rate
- Issues associated with the return on equity
- Issues associated with the return on debt
- Issues associated with gamma, gearing and inflation.

The ERA has asked a series of questions. We provide detailed answers to each of these questions in the relevant sections below, and a summary of our answers in Table 1. For the most part, we agree with the ERA in respect of what it proposes for its RoRI, but there are some areas of disagreement. These form the main focus in the body of the document.

Table 1 ERA questions and answers

ERA question	Agree/disagree	Reference
Do you agree with the use of a five-year term of estimates of the rate of return? If not, please explain why and your alternative approach.	Disagree	See Section 4.2
Do you agree with the standardised averaging period process? If not, please explain why and your alternative approach.	Agree	See Table 3
Do you support the use of a gearing level of 55 per cent for the 2022 gas instrument? If not, please explain why and your alternative approach.	Agree	See Table 8
When determining gearing do you support the ERA adjusting debt and equity to recognise hybrid securities and what is a suitable method for allocating hybrid securities between debt and equity? If not, please explain why and your alternative approach.	Agree	See Table 8
Do you support the use of a hybrid trailing average approach for the cost of debt estimation? If not, please explain why and provide details of your alternative approach, including transitional arrangements.	Agree	See Table 7
Do you support the use of a benchmark credit rating of BBB+ for the 2022 gas instrument? If not, please explain why and your alternative approach.	Agree	See Table 7
Do you support the use of the revised bond yield approach for estimating the debt risk premium? If not, please explain why and your alternative approach.	Agree	See Table 7
When estimating the return on equity do you support the use of Commonwealth Government bonds as the risk free asset? If not, please explain why and your alternative approach.	Agree	See Table 4
When estimating the historical market risk premium do you support the use of sampling periods post-1958? If not, please explain why and your alternative approach.	Agree	See Table 5
When estimating the historical market premium do you support expanding the sampling periods to include a new period of 2000 to current? If not, please explain why and your alternative approach.	Agree	See Table 5
When estimating the historical market premium do you support the approach to only consider the Brailsford, Handley and Maheswaran (BHM) dataset? If not, please explain why and your alternative approach.	Disagree	See Table 5
When estimating the historical market premium do you support the approach to calculate the historic market risk premium through the average of the arithmetic and geometric means? If not, please explain why and your alternative approach.	Disagree	See Table 5
When estimating the market risk premium do you support the current approach of estimating and considering the market risk premium and the risk free rate independently from one another? If not, please explain why and your alternative approach. Specifically, the ERA is interested in: <ul style="list-style-type: none"> • The empirical relationship (magnitude and direction) between the ex ante market risk premium and the ex ante risk free rate in Australia and the conceptual logic underpinning such a relationship. • Whether the relationship is sufficiently stable and persistent (that is, not volatile and transitory) on an ex ante basis. 	Disagree	See Section 5.2.3

ERA question	Agree/ disagree	Reference
<ul style="list-style-type: none"> Ways in which the relationship can be implemented to estimate the market risk premium in a manner suitable for regulatory purposes. 		
Do you support the continued use of domestic energy networks to estimate equity beta? If not, please explain why and your alternative approach.	Agree	See Table 6
Do you support the use of a sample of domestic and international comparators to estimate equity beta? If not, please explain why and your alternative approach.	Agree	See Section 5.3.1
If an international sample is to be used for estimating equity beta, which jurisdictions and companies could be considered as part of the sample?	Agree*	See Table 6
If an international sample is to be used for estimating equity beta, how should these international estimates be incorporated into the equity beta estimation method?	Agree*	See Table 6
When considering equity beta should the ERA consider shocks such as COVID-19 and takeover announcements? If so, please explain why and how these events can be accounted for.	Agree	See Section 5.3.2
Do you support the ERA's general approach and simplifications for estimating equity beta (regardless of any potential changes to the sample firms)? If not, please explain why and your alternative approach. Specifically, the ERA is interested in views on the following aspects of the method applied to estimate equity beta in this paper: <ul style="list-style-type: none"> Use of a 5-year estimation window with weekly returns. Use of the Bloomberg total return index for individual stocks and market indices. Use of the Ordinary Least Squares estimator, with the Least Absolute Deviations method as a robust estimator. 	Agree	See Table 6
When estimating the expected rate of inflation do you support the use of Treasury bond implied inflation approach? If not, please explain why and your alternative approach.	Agree	See Table 8

* The ERA has not put forward a position in respect of these two issues as they have in other cases. However, the preliminary position and reasoning appears appropriate.

Overarching issues

The ERA's Discussion Paper separates the issue of rate of return into its component parts, but there are two over-arching issues associated with the ERA's process which we address first.

These are:

- Addressing the binding nature of the RoRI and how it will apply to future access arrangement determinations.
- Ensuring timely stakeholder input into the process.

We discuss these issues in this section.

3.1. The binding nature of the RoRI

Our **first concern** is ensuring that the 2022 RoRI is developed so that it is able to assist the ERA in making the best estimate possible at the time of each regulatory decision made by the ERA, rather than just when the instrument is adopted.

The ERA sets out the requirements of the RoRI in the Discussion Paper (see Discussion Paper [29] to [33]). Apart from the technical requirements of what the RoRI must include, the National Gas Law is clear that the ERA must be satisfied that the RoRI it makes will, or is most likely to, contribute to the National Gas Objective (NGO) to the greatest degree.² As the ERA points out (see *ibid* [34] to [36]), and we agree, the NGO is given effect through the Revenue and Pricing Principles (RPPs). We also agree with the ERA's characterisation of these principles through the lens of efficient financing costs and their contribution to efficient investment on the part of the asset owner and efficient prices for consumers (see *ibid* [43] to [57]).

In our view, this means that the ERA should develop the RoRI such that, when applied for a given regulatory decision, it is likely to contribute to the NGO and RPP to the greatest degree. WACC parameter values and methods adopted in the RoRI should be set so as to achieve that outcome.

How the RoRI performs when developed is relevant to the ERA's decision, but it is not the only matter the ERA must take into account. In satisfying itself that the RoRI will, or is most likely to contribute to the achievement of the NGO to the greatest degree, the ERA must turn its mind to the outcomes of the application of the RoRI when applied automatically in the future and adopt parameter values and methods that reflect that.

In our view, for the various WACC parameters, there are two broad approaches:

- **A fixed number** | if the ERA uses evidence and judgement to adopt a number for December 2022 when the RoRI is formed and then applies that number in subsequent regulatory decisions, then it needs to be reasonably sure that the number will remain "current"; that is, if it applied the same judgement and an updated form of the same evidence two years after the RoRI was formed, then it would get the same or similar number as it did at the time the RoRI was developed. If it cannot be sure of this, then the number in the RoRI may not meet the requirements of the NGO and RPP when it is actually used to form a price. The parameter estimate formed at the time of the RoRI may not be the same number that an unconstrained ERA would otherwise adopt in subsequent regulatory determinations.
- **An automatic update method** | the alternative is to specify in the RoRI the method (and evidence) – which must be mechanistic – by which the parameter will be determined at the time of each regulatory decision. Such a method must seek to achieve the NGO and RPP when

² *National Gas Law, Section 30D(3)*.

applied. The NGL specifically contemplates such an approach. At any given regulatory decision, the number determined by following this method is likely to be different to what it would have been when calculated at the time the RoRI is made.

There is still a role, and an important role for judgement here because no parameter would ever be perfectly fixed. There is a need to balance the amount of movement considered likely given the evidence against the difficulties of creating a “perfect” automatic mechanism, given the requirements of the NGL (specifically in NGL 30D). We do not consider the ERA’s approach in the Discussion Paper achieves this outcome and we suggest below some ways which might assist the ERA as it moves towards finalising its RoRI.

Debt, inflation and risk-free rate are fine

In debt, the risk-free rate used for equity and inflation, the ERA has taken the second approach, and the RoRI contains a mechanism by which these values are updated, annually, following a clearly-specified methodology applied to updates of clearly-specified data. Each is therefore not problematic and has no timing problem arising from the binding nature of the RoRI.

We note that gamma and gearing conceptually have the same timing problem, but that the values seem less likely to change over the next four years than the equity risk premium and thus the costs of keeping them fixed may be relatively small. Pragmatically, the ERA might therefore consider that keeping them fixed is most likely to contribute to the NGO to the greatest degree, compared to some alternative mechanism which is complex and potentially subject to error.

Opportunity to improve how the equity risk premium is determined

However, the timing problem arising from the binding RoRI does arise in the equity risk premium.

For each element – beta and MRP, and the elements that go into the MRP – the ERA is quite explicit that it makes use of a range of market data and judgement to form a number, which then remains fixed for the term of the RoRI. We have no problem with the use of market data per se, and agree with the ERA (see Discussion Paper [56]) that it gives the best estimate of aggregate investor expectations at a point in time.

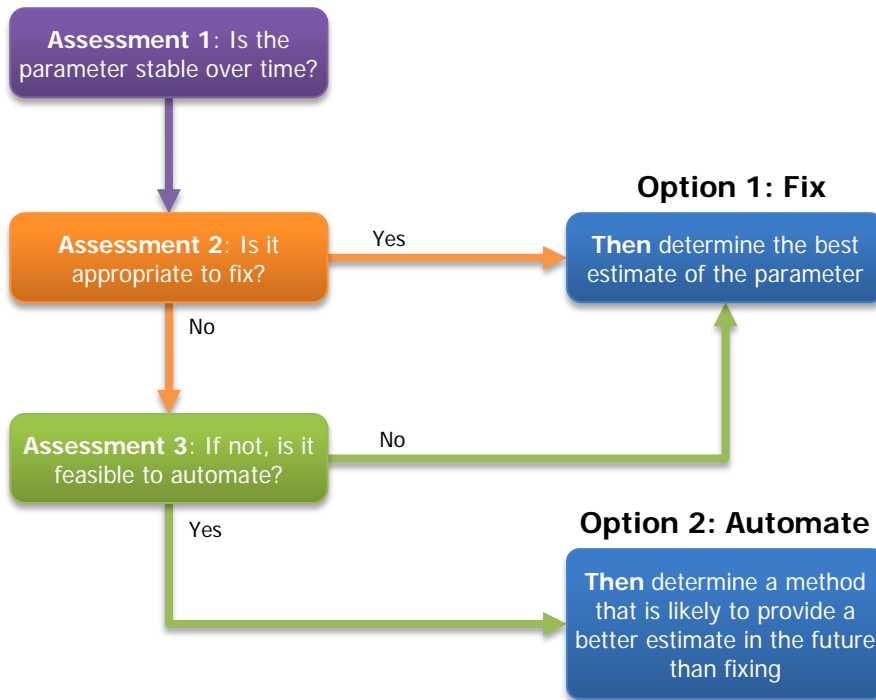
However, market data changes through time, and some of the specific market data the ERA considers – like the conditioning variables used in the determination of the MRP – can change a lot. This means that it is likely that a fixed number for the equity risk premium (or its elements), using this evidence, may give rise to an outcome which does not contribute to the NGO to the greatest degree when applied in future determinations. We discuss this, and suggest potential ways forward for each of the two parameters, in Sections 5.2 and 5.3.

Proposed way forward

In our view, the ERA should systematically work through each parameter used to determine the WACC to assess whether it is appropriate to fix it for the RoRI period or whether it should – and is feasible to – automatically update when the RoRI is applied. The guiding principle should be to adopt an overall approach to automatically determining the WACC at each determination which will, or is most likely to, contribute to the NGO to the greatest degree.

This approach could involve three key assessments, as summarised in Figure 1.

Figure 1 A framework for addressing the timing problem



To some degree, the ERA has implicitly applied this framework – for instance by proposing to automate some parameters (the risk-free and return on debt) and fix others (leverage, MRP, equity, beta and gamma). However, it does not appear to have done so in a systematic and transparent way.

What we are suggesting is that the ERA should consider doing so. This could involve expanding on the example shown in Table 2, which shows our application of the methodology in Figure 1.

Table 2 Applying the framework | *An example*

Parameter	Assessment 1 and 2: Is the parameter stable over time and is it appropriate to fix?	Assessment 3: if not, is it feasible to automate?	Result
Return on debt	No, as the observed return on debt can vary significantly over time <i>and</i> the trailing average approach implies that there are annual updates	Yes, as method for estimating observed return on debt can be linked to data published by prespecified data providers (e.g., the RBA, Bloomberg, Reuters)	Option 2: Automate
Risk-free rate	No, as the prevailing risk-free rate can vary significantly over time	Yes, as method for estimating risk-free rate can be linked to data published by the RBA	Option 2: Automate
Equity beta	Potentially; even though the ERA uses five years of data, its estimates of beta have been relatively stable in the past.	When the ERA used solely domestic data, its method was feasible to automate. Now that the ERA brings in international data, this may no longer be the case, but we need to understand more about the ERA's use of judgement to comment further	Currently indeterminate

Parameter	Assessment 1 and 2: Is the parameter stable over time and is it appropriate to fix?	Assessment 3: if not, is it feasible to automate?	Result
Market risk-premium	No, as prevailing estimates of the MRP can vary significantly over time	Unclear In our view, the answer should be 'yes', as a method for estimating or updating the MRP from one year to the next can be linked to data published by third parties in a way that produces robust estimates. However, we appreciate that the ERA is yet to consider this. We provide further detail in section 5.2.	Our current view – Option 2; Automate
Leverage	Yes, as the observed benchmark leverage does not vary significantly over time	N/A	Option 1: Fix
Gamma	Yes, as the distribution and use of imputation credits does not vary significantly over time	N/A	Option 1: Fix

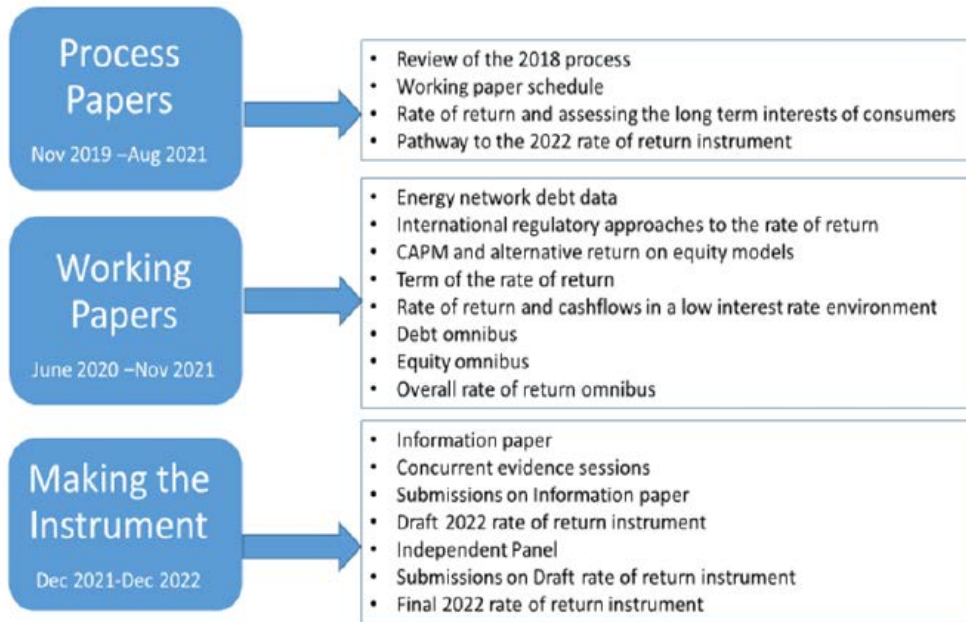
3.2. RoRI process and stakeholder input

Our **second concern** is with potential shortcomings in the process that the ERA intends to follow when developing the 2022 RORI – which may undermine the quality of that instrument and therefore its ability to contribute to the NGO to the greatest degree. We suggest that there are some simple improvements the ERA could apply to the process, in particular it could:

- Hold workshops to discuss particular issues directly with stakeholders, rather than answer them only in the draft decision.
- Allow time for stakeholders to respond to the outcomes of the AER's expert conclaves, occurring as these submissions are due.
- Provide some guidance, in workshops, as to which issues it believes there is consensus on and we can treat as settled.

These improvements are based on our participation in the AER's RoRI process which we think is a good process to use as a guide. The AER process has been ongoing for around 18 months or more via a series of working papers and discussions with stakeholders. This "Pathway to 2022" is shown in Figure 2, and the detail on all of the work undertaken can be found [here](#).

Figure 2 AER Pathway to 2022 process



Source: AER, 2021, Overall rate of return, equity and debt omnibus: Final working paper, December 2021, p9, available from <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/rate-of-return-omnibus-papers>

We accept that the ERA has fewer resources than the AER in respect of this review, and that much time has already passed. However, borrowing some elements from the AER process, particularly its enhanced stakeholder consultation program could improve the robustness of the RoRI to the benefit of gas consumers in WA.

Additionally, many stakeholders have provided information which has been valuable to the AER and – in our view – would be valuable to the ERA as well. We have summarised some of these points in our answers to questions through the paper. We encourage the ERA to engage with that evidence further in the development of the RoRI.

Term of risk-free rate

This is a key issue in the forthcoming review. Our brief responses are provided in Table 3.

Table 3 ERA questions on the term of the risk free rate

ERA question	Brief response
Do you agree with the use of a five-year term of estimates of the rate of return? If not, please explain why and your alternative approach.	No, in respect of the allowed return to equity, the approach does not align with mainstream finance and is inconsistent with the ERA's use of the CAPM. The ERA's recent views on depreciation and the future of the gas sector (see detail below) also confirm a five year term is not appropriate in the current context
Do you agree with the standardised averaging period process? If not, please explain why and your alternative approach.	We agree with the ERA's proposed standardised approach outlined in [126] and [127] covering the market rates for parameters at the start of an AA and the annual debt risk premium update respectively, and appreciate the timing issues involved. We would add that the ERA ought to also consider whether this new timing does improve the situation for each network it regulates when the CPI and rebateable revenue updates each year for each business are taken into account, or whether providing it as an option, rather than a mandate, is more appropriate.

The use of a five year term for debt within the ERA's approach to the cost of debt is something which we can accept, as part of the ERA's overall cost of debt package (see discussion in Section 6).

Our concern relates to the **tenor of the risk-free rate** where it is used for equity, in particular:

- It is inconsistent with the ERA's views about the future of the gas sector.
- It is not supported by the mainstream finance literature.
- It is inconsistent with the CAPM which the ERA uses to estimate the return on equity.
- It is not supported by finance practice; either investors or regulators.

Before we turn to each of these issues – each of which is new since 2018 – it is worthwhile clarifying the ERA's use of "the NPV=0 principle" (see [92] to [102]) in supporting its use of five years for the risk-free rate.

4.1. The NPV=0 principle

We have concerns with the way the NPV=0 principle is used in the Discussion Paper.

As a general proposition, the AER summarises the NPV=0 condition (or principle) as follows: ³

The NPV=0 condition means that the ex-ante expectation is that over the life of an investment the expected cash flow from the investment meets all the operating expenditure and corporate taxes, repays the capital invested and there is just enough cash flow left over to cover investors' required return on the capital invested

We agree with the AER's summary.

This general NPV=0 condition is met in the case of the term of the risk free rate if *and only if*, the assumptions that underpin Lally's model are met. If these assumptions are not met, then neither is the NPV=0 condition. The relevant debate is about whether Lally's assumptions are reasonable or not, and the use of terms like "The NPV=0 principle" may mislead stakeholders. The ERA should make it clear to stakeholders that it is Lally's assumptions that are the point of debate.

³ AER 2021a, *Assessing the long term interests of consumers: Position paper, May 2021* (available [here](#)) p15

4.2. Summary of issues

We now turn to the issues with the use of a five year term for the risk-free rate for equity.

4.2.1. Issue 1: Inconsistent with the ERA's views about the gas sector

Lally's theoretical framework is predicated upon an assumption that the value of the RAB is in some way certain at the end of the AA period; it is this certainty that gives rise to his finding that the use of a risk-free rate equal to the term of the regulatory period is correct.⁴

In the past we (and others) have argued consistently that this certainty does not exist. In 2013, in response to an argument of this nature, the ERA responded that:⁵

Third, in any event, risks relating to the value of the RAB are small – the regulatory contract in Australia has an established precedent that the firm is able to claim full depreciation of the real RAB, and that the RAB will not be written down for impairment. Quite the contrary, in the event of any potential impairment, accelerated depreciation may be allowed

At that time, the issue was somewhat theoretical; economic lives for most regulated assets had been established more than a decade previously, and no real prospect of change had occurred. This, however, has changed rather markedly since 2013 as renewable power has become substantially cheaper and the future of gas as a fuel for electricity generation is being questioned.

The ERA, in its 2021 decision for DBP, addressed this issue squarely and – just as the quotation from 2013 above suggests – did so using accelerated depreciation. However, simply recognising that economic lives *may* have changed and that accelerated depreciation *may* be necessary to address the new reality as it unfolds, does not mean that once a policy of accelerated depreciation has been instituted, certainty will automatically be returned to the same level it was prior to the recognition that economic lives have changed.

Rather, uncertainty will likely be a prevailing feature of economic lives for the foreseeable future whilst the energy sector is evolving. As the ERA notes:⁶

The information above indicates that there is an increased level of change and uncertainty in the energy market due to technological and policy changes, and this is likely to continue. These changes could affect the future role of the DBNGP, especially in the longer term. It is now less likely that natural gas will continue to flow through the DBNGP to the end of its technical life

And (ibid [1512]):

The ERA notes that any view on the economic life of an asset, particularly one with a possibly long technical life, implies a forecast and a level of uncertainty. Uncertainty does not prohibit the possibility of a change in economic life, nor does uncertainty remove the need to update forecasts to reflect the best available information. The standard of evidence for changing the outlook is not certainty.

⁴ The exact form that this "certainty" takes appears to change somewhat from one report to the next, but the key assumption of certainty remains. See ENA 2021a, *The Term of the Rate of Return: Response to draft AER working paper, 2 July 2021* (available [here](#)), pp37-41 for a summary of the evolving debate around this certainty.

⁵ See ERA 2013a, *Appendices to the Explanatory Statement for the Rate of Return Guidelines, 16 December 2013* (available [here](#)), p23. Note that the AER has also started to address the question in its recent *EvoEnergy* decision (see Attachment 4 of the final decision, pp5-11, available [here](#)) and has developed a more principled approach to the question in a recent information paper (available [here](#))

⁶ See ERA 2021, *Final Decision on Proposed Revisions to the Dampier to Bunbury Natural Gas Pipeline 2021-26*, (available [here](#)), pp 356-7

And further (ibid [1516] and [1517]):

Given current uncertainties, the range of potential economic lives of the DBNGP is wide, and DBP's proposed economic end life of 2063 sits within a range of plausible outcomes. Determining the economic life of an asset is a matter for judgement as to what is a reasonable and best forecast in the circumstances.

The ERA considers that the robustness of a single year end date produced by DBP's model may be limited. The model's underlying long-term inputs have wide ranges, and the combinations of these uncertain inputs will produce a wide range of terminal dates for the DBNGP.

Further, the ERA goes on to make it clear that the RAB is by no means certain, noting (ibid [1524] to [1525]):

Notwithstanding this, the ERA considers that the qualifying term of "reasonable opportunity" in the recovery of efficient costs implies that there will be circumstances where the recovery of costs is precluded. That is, it is not entirely clear that the provision for a reasonable opportunity to recover efficient costs necessarily extends to making adjustments to regulated prices to always ensure a service provider is able to recover the costs of sunk investment where technology and competition changes occur in the market for gas transmission at times after an initial investment decision.

In this regard, and with reference to the NGO, the proposal to cap economic life at 2063 may be construed as being contrary to the long term interests of consumers. The reduction in economic lives results in an increase in regulated tariffs with no apparent consumer benefit. While generally the provision for a service provider to recover the costs of sunk investment may have a long term consumer benefit through supporting incentives for future investment – either in the specific pipeline under consideration or in the pipeline industry more generally – it is difficult to see any such benefit in the circumstances of the DBNGP, which DBP presents as being a declining business.

The first paragraph in the quotation suggests that recovery is not certain, and the second makes it clear that there are some circumstances where the ERA may consider returning invested capital is not in the long term interests of consumers, for example where no future investment is required.

The current uncertainty facing the energy sector is not consistent with the assumptions underpinning Lally's model. Even in its most recent iteration, Lally's approach requires that investors expect the market value of the firm at the end of an AA period to be equal to its RAB, rather than the certainty required in his original work.⁷ Given that the market value to equity is the expected stream of future cashflows to equity holders, and these are affected by the future uncertainty and the issues which drove the ERA to reconsider depreciation for the DBNGP, the assumptions underpinning Lally's model cannot be met.

4.2.2. Issue 2: Not supported by mainstream financial literature

Good regulatory decisions are based on the best and most well-established financial theory, with the strongest support in the financial literature. Reliance on established and robust financial theory ensures estimates of parameters are the best estimates available. Estimates based on theories from the "fringes" of the finance literature with little support, theoretical or empirical will

⁷ See ENA, 2021a, *ibid* pp39-40 for a summary of these views.

not meet that objective. This is something which regulators have often recognized. For example:⁸

Overall, the Authority has significant concerns as to the robustness of the FFM model specification and its results, particularly as the model is not 'based on a strong theoretical foundation'. The Authority's view is that the model is not 'fit for purpose' or able to be 'implemented in accordance with best practice' at the current time. On this basis, the Authority considers that the model cannot be relied on to achieve the rate of return objective, and hence is not relevant at the current time.

From this perspective, we do not consider that Lally's paper has sufficient support in the finance community to form the basis for regulatory decisions in respect of the term of the risk-free rate.⁹

We would support the ERA in endeavours to get an independent review of Lally's framework to ascertain whether it is a suitable basis for determining the term of the risk-free rate.

As a starting point, the ERA could consider recent advice prepared by Graham Partington as part of his role in the AER's concurrent evidence sessions where he effectively makes the point that we cover in below – namely, that Lally's framework is inconsistent with the theory of the CAPM.¹⁰

4.2.3. Issue 3: Inconsistent with the theory of the CAPM

The ERA has put particular emphasis on theory in its pursuit of the most appropriate approach to estimating the cost of equity (see quotation above from the 2013 Guideline). This makes reliance on Lally's work to support the use of a five-year term difficult to reconcile – because it does *not* have the same theoretical basis as the CAPM and is inconsistent with it. As Lally himself makes clear in his original paper, his approach is grounded on risk free rates having a term structure (i.e., different rates applying to different time periods):¹¹

The implications of using a risk free rate whose term is other than that of the regulatory cycle depends upon the slope of the term structure. In particular, if the term structure is upward sloping, then the use of a risk free rate for a term longer (shorter) than the review cycle produces a present value on the future cash flows that is greater (less) than the initial investment. If the term structure is downward sloping, then the conclusions are reversed.

That is, a term structure to the risk-free rate sits at the heart of Lally's model – which therefore *cannot* be a single-period model (i.e., a model with only one period).

In contrast, the CAPM *is* a single period model; it has no term structure. This has been made clear by the ERA itself in its 2013 Guidelines, which shows a sharp difference between the family of single period models and what it calls "dynamic" models. This is summarized in Figure 3.

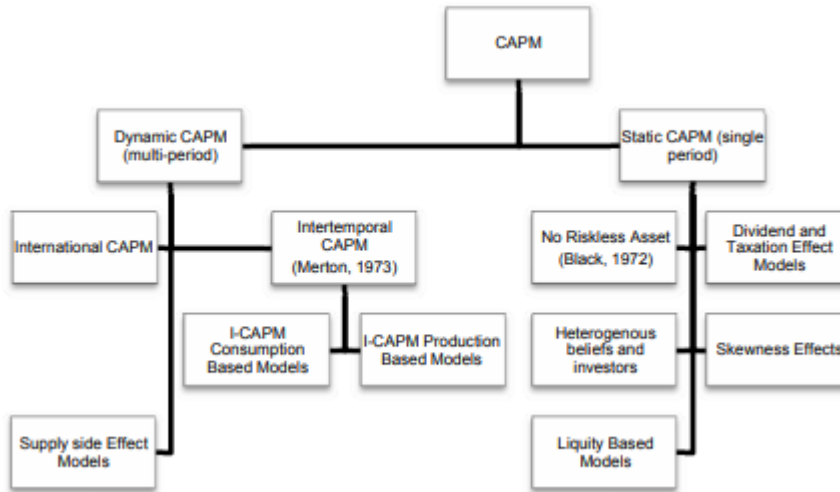
⁸ ERA 2013a, p73. In the same publication, the ERA dismisses several other approaches on a similar "based on a strong theoretical foundation", and the CAPM is accepted (among other reasons) because it meets this criteria.

⁹ The original paper has been cited only 11 times, nine of these are by Lally himself, and the remaining two papers disagree with him. See ENA 2021a, *ibid* pp36-7. His 2007 paper has made less of an impact. We note that the original Schmalensee paper is more well-cited, but in the depreciation literature (it is a paper about depreciation; only Lally has drawn inferences from it based on the tenor of risk-free rates). The approach we have used for depreciation in the DBNGP (the WOOPS model of Crew and Kleindorfer) has its ultimate origin in this Schmalensee paper.

¹⁰ Partington G, 2022, Concurrent Evidence Session: Commentary on Lally's Term Analysis, 7 February 2022 (available [here](#)). Boyle (available [here](#)) disagrees with Partington, suggesting the term issue is a "red herring". However, his basis for this is an assertion that future interest rates are random variables. If this is true, then the best predictor of interest rates next period are those of this period (unless the random walk has a drift, which does not appear to be asserted), and if this is true, then it leads directly to Partington's equality of interest rates at the bottom of page 3 of his submission (at least in expectation), and thence to the remainder of his analysis.

¹¹ Lally, 2004, Regulation and the Choice of the Risk Free Rate, Accounting Research Journal, Vol. 17(1), p.20.

Figure 3 The family of asset pricing models



Source: ERA, 2013, Appendices to the Explanatory Statement for the Rate of Return Guidelines, 16 December 2013, p59

It would be inconsistent for the ERA to use a model that relies upon a term structure for its results to determine the risk-free rate parameter that is an input to another model that has no term structure. Whilst there are a great many cost of equity models that *do* have a term structure – the ERA has assessed several in the pages subsequent to the source of the diagram above – that may be compatible with Lally’s work. However the CAPM that the ERA proposes to use in the 2022 RoRI is not one of them.

This issue is taken up in more detail in submissions by APGA and APA to the AER’s process.¹² It is also supported by Grahame Partington.¹³

4.2.4. Issue 4: Not supported by investors or other regulators

The use of five years for the term for the risk free rate is also inconsistent with the approach used by actual investors making actual investment decisions. This is something summarized in some detail by the ENA in its submission to the AER and we would urge the ERA to consider it.¹⁴

In the Discussion Paper (see [270]) – echoing a sentiment expressed by the AER – the ERA says:

The valuation problem confronting a regulator with a five-year regulatory cycle is different from that of valuing an unregulated business. The ERA is concerned with estimating efficient costs attributable to a single regulatory period, rather than over the entire asset life. This is because the ERA resets the revenue allowance every regulatory period.

As the ENA pointed out in responding to the AER, the equity held by the owners of regulated energy networks is not similar to a “resetting bond” as the AER suggest.¹⁵ In raising capital for new investment, we compete with other infrastructure where investors take a long term-view and not theoretical frameworks and implications for regulators.

¹² See APGA 2021, Draft working papers on term of the risk-free rate and the rate of return and cash flows in a low interest rate environment: Submission to the AER, 2 July 2021, (available [here](#)) pp7-9, and APA, 2021, and APA submission on draft rate of return working papers, 2 July 2021 (available [here](#)), pp3-7.

¹³ Partington 2022 *ibid*

¹⁴ See ENA 2021a, *ibid*, pp 28-29.

¹⁵ See ENA 2021a *ibid*, pp43-4

Almost all regulators around the world take the same approach as investors. The only two regulators globally that we are aware of who set the term of the risk-free rate based on the length of the regulatory period are the ERA and the New Zealand Commerce Commission.¹⁶ And both do so based on advice from Lally.

Importantly, the QCA has recently changed from five to ten years for the term of its risk-free rate.¹⁷ The ERA mentions the QCA report that details the change for the term of the risk-free rate elsewhere in its Discussion Paper, but we note this change is not listed where the ERA lists developments since 2018 on the topic of the term of the risk-free rate.

Finally, we note an apparent lack of customer support for a 10 year term.

In particular, the consumer representative group in the AER's 2022 RoRI process noted:¹⁸

- *The 10-year risk free rate has been an established and strongly defended component of the AER's rate of return decisions for more than a decade.*
- *The underlying regulatory concept was that the 10-year risk free rate was most appropriate given the long life of the regulated assets.*
- *Regulators and experts have favoured many different approaches, and there is no unified view of the 'correct' approach.*
- *To change this long-standing and widely adopted approach, the AER has an onus to provide substantial evidence that it has:*
 - *Established the theoretical foundations for its proposed changes*
 - *Demonstrated its theoretical objective can be achieved in practice*
 - *Identified the 'real world' circumstances necessitating its proposed change*
 - *Considered the 'real world' impact of its proposed change on consumers.*

The Term paper does not adequately address the first of these requirements and provides no analysis or commentary on the other three requirements.

This is despite the time at which the CRG's submission was made was one where differences between the five and ten year government bond rates were at historic highs and the switch could have resulted in meaningfully lower prices for consumers.¹⁹

¹⁶ See ENA 2021a, pp28-32.

¹⁷ See ENA *ibid*, which outlines how the QCA first made the decision in rail, and QCCA 2021, *Rate of return review: Final Report, November 2021* (available [here](#)), pp83-84.

¹⁸ CRG, 2021, *Advice to the Australian Energy Regulator on the Term of the Rate of Return, 2 July 2021*, (available [here](#)), p3. We note that the MEU expressed support for a five year rate, but do not appear to think the AER has made a case for change.

¹⁹ See ENA 2021a, p21.

Return on equity

The return on equity is the area of the RoRI where we have the most substantive disagreements with the ERA. For this reason, we have split the return on equity into its three main components within the context of the CAPM. Namely, the risk-free rate, the market risk premium, and the equity beta.

5.1. The risk free rate

The major issue for the risk-free rate in respect of the return on equity is the term of the risk-free rate, which is addressed in Section 4. The remaining issue is relatively minor and addressed in Table 4.

Table 4 ERA questions on risk free rate in the return on equity

ERA question	Our response
When estimating the return on equity do you support the use of Commonwealth Government bonds as the risk free asset? If not, please explain why and your alternative approach.	Although a case can be made for the use of other instruments (see ENA submission and associated references from the UK), particularly when the Reserve Bank is attempting to manipulate the risk-free rate, we believe the current approach remains fit for purpose. ²⁰

5.2. The market risk premium

The market risk premium is a relatively broad topic, about which the ERA asks some narrow questions.

We answer the ERA's questions below and then turn to some of the broader considerations:

- How the ERA should form a range of MRP estimates and chooses a point within that range.
- How the ERA should use DGM and the improvements to it.
- The ERA's current thinking on the relationship between the MRP and the risk-free rate

We conclude – in section 5.2.4 – by proposing a way forward for how the ERA should estimate the MRP that involves a method that automatically updates the MRP to reflect changes in market conditions. Our conclusions in this respect are based on our assessment of how the ERA has used its judgement to reach its result in the Discussion Paper and that, in some places, that judgement is unclear. We await further clarity in the draft decision, and we hope that our suggested approaches assist the ERA in developing such clarity.

Table 5 provides our brief responses to the ERA's questions about the MRP.

Table 5 ERA questions on the market risk premium

ERA question	Our response
When estimating the historical market risk premium do you support the use of sampling periods post-1958? If not, please explain why and your alternative approach.	In principle, longer periods are better from a statistical perspective, but we note the high likelihood of structural breaks in the series over a century, and the ongoing debate about which series is best pre-1958. As a means of pragmatism, restricting data to post 1958 may be appropriate. We do not have a strong view on this point.

²⁰ See ENA 2021a *ibid*, pp22-8 on the reasoning for the use of a rate other than the CGS and 29-33 for the impacts of recent RBA policies.

ERA question	Our response
When estimating the historical market premium do you support expanding the sampling periods to include a new period of 2000 to current? If not, please explain why and your alternative approach.	We agree with this approach and believe it would provide a greater weight to more current information, for all that it is still relatively short. This new period could replace the 1988-2020 period, rather than be added to it, as there would then be three periods each roughly 20 years shorter than its predecessor.
When estimating the historical market premium do you support the approach to only consider the Brailsford, Handley and Maheswaran (BHM) dataset? If not, please explain why and your alternative approach.	We note that a decision to use data post 1958 would avoid the issue as the different data sources align after this date. However, we believe this issue was settled when the pre-eminent experts in this field chose the NERA results over the BHM results. ²¹
When estimating the historical market premium do you support the approach to calculate the historic market risk premium through the average of the arithmetic and geometric means? If not, please explain why and your alternative approach.	The answer here is clear; arithmetic averages are the appropriate averages to use. Further detail is provided below. We note that, if the ERA does use geometric means, the way in which these are combined with arithmetic means is not correct. ²² Further, the approach the ERA suggests as an alternative (see [332] of the Discussion Paper) is likewise incorrect

The only expansion of our views in the table we believe is necessary is on the question of the use of arithmetic and geometric means. This issue should be considered settled as practitioners, textbooks and even advisors to Australian regulators make it clear that it is the arithmetic mean that should be used, not the geometric mean; particularly in the context in which the MRP is calculated by regulators.²³

5.2.1. Market risk premium range and point estimate

The way in which the ERA uses the conditioning variables to assist in determining a point in the range – from the historical MRP lower bound to the DGM upper bound – is a good case study on the “timing problem” associated with the interaction between the RoRI and subsequent regulatory decisions, noted in Section 3.1.2. For this reason, we discuss this issue in detail below.

The case study also helps to shed light on the potential role for, in particular, the conditioning variables in the determination of the MRP, and we conclude this section with some thoughts on this issue.

The ERA describes its approach to forming its market risk premium estimate in pages 50 to 62 of the Discussion Paper. In essence, the ERA (see, in particular [348]):

- Forms a lower bound to its range using historical average market risk-premia.
- Forms an upper bound using a DGM model.
- Chooses a point estimate using judgement, including by considering the relative merits of the DGM and historical data, and insight from conditioning variables.

Once this estimate is made, the ERA proposes that it be fixed for the duration of the next RoRI period (see [311] and [350]). The way the ERA uses its judgement is not specified (itself an issue; for example, would this judgement produce 6% in different economic conditions from today?), but it is apparent that a key factor is the conditioning variables.

²¹ See ENA, 2018, *AER Review of the Rate of Return Guideline: Response to Draft Guideline, 25 September 2018* (available [here](#)) pp111-113

²² See AGIG, 2018, *Submission on the ERA's draft rate of return guideline, September 2018* (available [here](#)), pp6-8. The ERA's response on this issue (see the 2018 Explanatory Statement [184], available [here](#)) appears to suggest that, unless one knows the true value of parameters, then any combination of the averages (except, it seems, the one suggested in the literature) is equal. We suggest that this is a misreading of the relevant evidence.

²³ See ENA 2021b, *Estimating the Cost of Equity: Response to AER's Draft Equity Omnibus Working Paper, 3 September 2021* (available [here](#)) pp43-48 for details on this new evidence.

As the ERA notes [347]:

On balance, the ERA considers that the conditioning variables are currently below their historic averages and support a market risk premium at the lower end of its range.

We take a deeper look at conditioning variables in the next two subsections, drawing two key insights:

- **First**, the changes to conditioning variables over the time period considered by the ERA illustrates the timing problem that we raised in section 3.1. Namely, an MRP determined using that data at one point in time (e.g., when the RoRI is developed) could differ significantly from an MRP determined using exactly the same approach at another point in time (e.g., when a regulatory determination is made).
- **Second**, conditioning variables *could* play a role when determining the MRP at each regulatory determination made under the RoRI, although care is needed. For instance, those variables could be used to automatically update the MRP each time the RoRI is applied. However, the evidence suggests that that data is not good enough. And so, it may be more appropriate to use conditioning variables to inform the starting MRP value that is then updated automatically using other, more robust, information.

We discuss these points further below.

Using conditioning variables to fix a market risk premium for the RoRI period

In the context of making a RoRI, the problem with relying on conditioning variables at a single point at time can be seen by looking at the data that the ERA considered in its Discussion Paper (as repeated in Figure 4 overleaf).

Now, the conditioning variable data are – as the ERA points out – below their long run averages. However, what would have happened if the RoRI were made at the time when COVID first affected the market (roughly March 2021), and the first Access Arrangement decision were being made now? All of the conditioning variables were significantly above their long run average in circa March 2021, which would have – presumably – lead the ERA to choose an MRP estimate towards the top end of the range. We do not know what other judgement the ERA has used, but if the conditioning variables are given any substantial weight, the MRP estimate of March 2020 would not be 6 percent.

Nevertheless, applying the same logic as proposed for the 2022 RoRI, this value would then be fixed for the duration of the RoRI. As the subsequent evolution of market data has shown, that value would appear to be entirely inappropriate for an access arrangement period starting now – as evidence by the ERA's more consideration of the relevant market data (here, the conditional variables) leads it to believe 6 percent is the correct answer.²⁴

This is the core of the problem the ERA faces in its current approach to the return on equity in its 2022 RoRI. That is, if it chooses to give weight to current market data to inform estimates, it should not do so unless it somehow automates the way the updating happens in an access arrangement decision after the RoRI is made, as is the case for debt and the risk-free rate currently.

In other words, although judgement will necessarily be used when developing the RoRI, there is no scope to use judgement when applying it.

²⁴ We note in the 2018 Explanatory Statement to the then RoRI (see [1161]) that the ERA believed that the MRP ought to be relatively constant through a four year period. However, if any meaningful weight is given to the conditional variables in forming that estimate, then clearly it has not been relatively constant through the past four years.

Figure 4 ERA conditioning variable data

Figure 3: Five-year AA bond default spread and Five-year interest rate swap

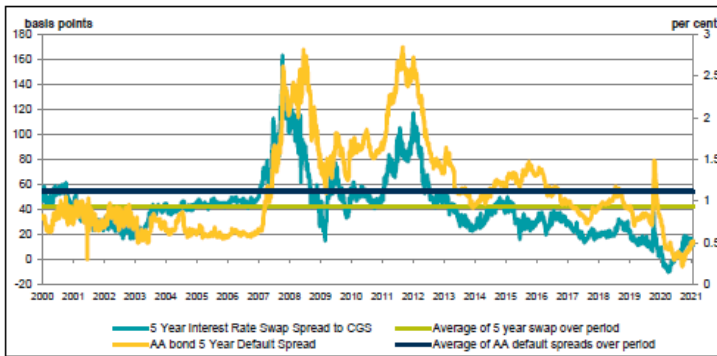


Figure 4: All Ordinaries Index annual dividend yield

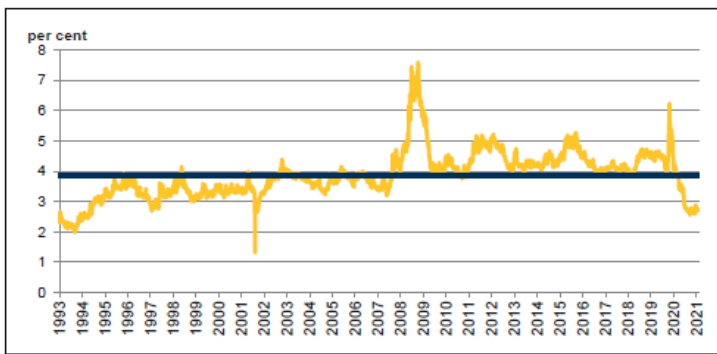
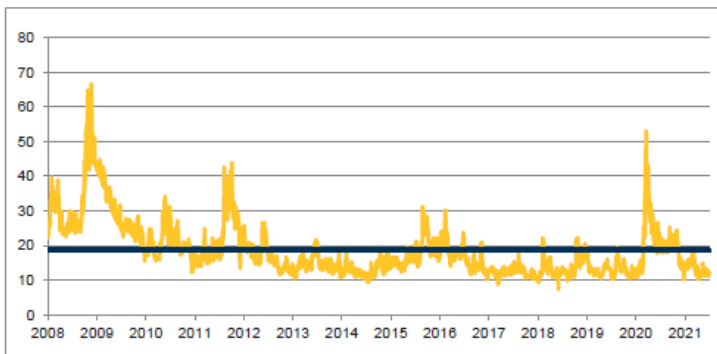


Figure 5: Implied Volatility (ASX200 VIX)



Source: ERA 2021, 2022 Gas Rate of Return Instrument Review Discussion Paper, December 2021, p61

Using conditioning variables to automatically update the market risk premium

In the context of the conditioning variables in particular, it may be possible to automate their use; at least in principle.

For example, the “algorithm” could specify that the point in the range (from historical MRP to DGM; nothing that these should also be updated through time) should be the mid-point of the upper quartile of the range if all four conditioning variables are in the top quartile, with similar rules for different positions for these conditioning variables. Such an approach would be significantly different from the way the ERA uses the variables at present, but it seems at least feasible.

Whether this is a desirable thing to do in the context of these variables depends upon how robust or reliable the variables are. Here, the evidence is not particularly favourable for the use of these conditioning variables, particularly in the context of using them to choose a point in the range

between an historical and DGM estimate of the MRP at a given regulatory determination in a mechanistic fashion.

In 2013, the ACC and AER assessed the relationship between volatility – which the conditional variables seek to measure – and the MRP to be “theoretically ambiguous” and the empirical evidence that:²⁵

...it can be concluded that there is no consensus in the empirical literature that there is a robust positive relationship between the MRP and volatility. It should be noted that in response to this conclusion, at least some researchers have attempted to devise more complex models of expected returns, in which various measures of volatility are used to model returns: see, for example, Guo and Savickas (2006) and Bollerslev et al. (2009). These models represent a considerable departure, however, from the simple relationship between volatility and the MRP that is typically presented in submissions by the regulated businesses. As will be discussed below in Section 4.1, given the diversity and complexity of the conditional models of the MRP in the current academic literature, it is unclear how regulators can (i) make an evidence-based choice of a particular conditional model of the MRP and (ii) implement such models

This led the AER to conclude in one of its recent working papers that:²⁶

We currently only use conditioning variables to inform our MRP point estimate during the rate of return instrument reviews. However, if we could formulate a reliable and robust approach to use conditioning variables in estimating our MRP, then it may be possible to update our MRP estimate for each regulatory reset. This could be desirable because our MRP estimates would be more responsive to market conditions.

We considered doing this during previous reviews, but encountered a number of implementation problems. The expert advice we received from Gibbard was that:

- *It would be difficult to select and implement a model that could use conditioning variables to directly estimate the MRP. There are a number of different, and complex models that could be used.*
- *Even if we could specify the parameters in the model, the relationship between the historical excess returns and conditioning variables changes over time.*
- *Any significant relationships between the conditioning variable and the historical excess returns could be a result of data-mining*

In the Discussion Paper (see [342] to [347]) the ERA only notes that the conditioning variables are easily available variables reflective of current market conditions, and then explains, briefly, how it has used them in determining the final result for the MRP from the range between the historical and DGM estimates.

However, in 2018, the ERA concluded that:²⁷

No formal econometric mapping exists that mechanically identifies a change in conditioning variables and then applies that to change a market risk premium rate.

In the use of conditioning variables, the ERA considers that regulatory discretion is required to:

²⁵ See Gibbard, P, 2013, *Estimating the Market Risk Premium in Regulatory Decisions: Conditional versus unconditional estimates*, ACCC/AER Working Paper 9, 9 September 2013, p20-23, available [here](#)

²⁶ See AER 2021b, *Equity Omnibus: Draft working paper*, July 2021 p27, available [here](#)

²⁷ See ERA 2018, *Final Gas Rate of Return Guidelines Explanatory Statement*, 18 December 2018 (available [here](#)) p209

- *interpret the current level of the conditioning variable*
- *interpret how current conditions may affect the market risk premium.*

As detailed above, the ERA has reviewed conditioning variables based on updated information. The ERA's review supports a market risk premium around the average to lower end of its range.

For the purposes of the final guidelines, the ERA will determine a final point estimate of the market risk premium by using regulatory judgement and considering the relative merits of all the relevant material. Conditioning variables are only part of the material that the ERA considers when determining a final point estimate.

None of this suggests that the ERA does, or ought to have sufficient faith in the conditioning variables to use them mechanistically to determine a point on the range between the historical and DGM estimates of the MRP at a given regulatory determination following a methodology set out in the RoRI. Any use of these variable ought to be in conjunction with regulatory judgement. However, this can only be exercised when making the RoRI.

However, since the conditioning variables have some weight in determining the number in the Discussion Paper, the ERA cannot be sure that exercising the same judgement with future manifestations of the conditioning variables would lead to the same number as in the Discussion Paper. This makes the use of these variable problematic, unless some way out of this manifestation of the "timing problem" (See Section 3.1) is found.

We suggest a way of doing this in Section 5.2.4 below as one way in which the MRP could be estimated to take into account updated market information.

5.2.2. Further improvements to MRP estimation

The ERA uses the DGM to form its MRP estimate. This is a positive aspect of the ERA's approach. However, we make two points which might assist the ERA further in making use of the DGM:

- **First**, the DGM has been subject to criticisms in the past in respect to its estimation, particularly the long-term growth rate. The ENA has worked on a version of the DGM that addresses all of these concerns and has presented it to the AER.²⁸

By using the same DGM, the ERA could increase the confidence in its DGM estimates. Doing so would bring more forward-looking information into the formation of the MRP estimate.

- **Second**, DGM estimates – like the conditioning variables – reflect current market data; although it does not change as rapidly or as much as the conditioning variables do. By the same logic discussed above, if the ERA uses the DGM, it should not just use it in forming the RoRI and come up with a number that then remains fixed for four years.

However, the DGM can be subject to a method by which its calculation is updated; the AER already does this in its annual updates,²⁹ and it is no more challenging than the way in which the ERA already updates its debt risk premium. Therefore, we consider it is likely to be a much better candidate for reflecting market data in subsequent regulatory determinations during the RoRI period. For this reason, we suggest it as an option for avoiding the "timing problem" below.

²⁸ See ENA 2021b, *ibid*, pp54-56. See also the more detailed manual developed for the model (available [here](#)) and a copy of the model itself (available [here](#)).

²⁹ These are available [here](#).

First, however, we turn to the issue of the relationship between the risk-free rate and MRP which, if properly considered, could lead to another solution for the “timing problem” for the MRP.

5.2.3. The relationship between the market risk premium and the risk free rate

In respect of the relationship between the risk-free rate and the MRP, we are concerned that the barriers to change the ERA has presented are too high. The current approach of assuming the MRP is essentially fixed through time (updating only at each RoRI) could not meet the thresholds indicated if it were not the incumbent approach.

A more objective assessment of the evidence could have led the ERA towards methods that would help solve the “timing problem” associated with the current approach – and we provide an example of this in the form of the ENA’s suggested approach to the AER.

A closer look at CEPA’s report

In respect of the CEPA report commissioned by the AER, the ERA provides a very brief summary, that does not appear to capture the main points of that report and tends to focus on its negative aspects. For example:

- The ERA suggests that the CEPA evidence shows only the “possibility of an inverse relationship between the forward-looking market risk premium and the risk-free rate” (Discussion Paper [366]). However, CEPA itself says that the relationship is “strong and convincing” post 1993 (CEPA, *ibid*, p6).
- The ERA suggests that the econometric evidence supporting the negative relationship is based on the DGM, and seeks to discount this result because some issues have been found with some formulations of the DGM in the past (Discussion Paper [367]). By contrast, CEPA also find a negative relationship, albeit weaker, between realized returns and the risk-free rate (*Ibid*, p6).
- The ERA includes nothing of the extensive review by CEPA of global regulatory practice (see *ibid* pp20-35) including accounting for relationships between the risk-free rate and MRP, instead spending almost a page on the QCA’s reasoning for no longer using the Wright model (Discussion paper p 63).
- The ERA suggests the relationships found by CEPA are “unstable” (Discussion Paper [367]) and “volatile and time-varying” (*Ibid* [371]). This vastly overstates CEPA’s own conclusions (see CEPA, *Ibid*, pp36-42) which, although they do note changes through time, with later periods stronger than earlier ones, do show consistently negative relationships; albeit of differing strengths.

We raise these points because it is important that any evidence considered by the ERA is done so in a balanced and accurate way.

Lack of support for assuming no relationship

We are concerned that the ERA has assumed that there is no relationship between the MRP and risk-free rate without sufficient evidence to support it. We appreciate that this has been the approach used for some time, but if a new approach is to be subject to interrogation to establish its robustness, then so too should the existing approach. Otherwise there is a danger that the

status quo is perpetuated solely because it is never tested, despite there being a superior alternative.

The ERA notes the following in respect of the MRP (Discussion paper [353]):

Any method used to estimate the market risk premium will result in an implicit assumption regarding the relationship between the market risk premium and the risk free rate. The three possibilities are that the relationship is either positive, negative or that there is no relationship

We agree; these are the three possibilities for a relationship between any two variables. From this statement, it appears that the ERA, in considering the evidence provided by CEPA most recently and other studies in the past, that the negative relationship does not have sufficient evidentiary support. The ERA further suggests that it “will not change its existing regulatory practice if it does not have confidence in a method that will adjust for the predicted relationship between the market risk premium and the risk free rate” (Discussion Paper [375]).

However, the ERA does not question whether its own assumption about the MRP is correct or not, and does not provide any reason there is confidence in the current approach, which assumes no relationship between the risk-free rate and the MRP.

Given this, it is important to ask whether there is any basis for this assumption. We do not think there is, including because:

- There is no basis in theory for the no relationship proposition. In fact, there is no particularly good, or accepted theory of market returns in finance.³⁰ Certainly, there is nothing approaching a “mathematical theory based on general equilibrium principles or structural modelling could provide the comparative statics to explain the cause and change for the relationship” (Discussion Paper [371]). Why should the negative relationship proposition be held to this standard when no proposition about market returns in finance meets it?
- If the empirical evidence of the relationship is “volatile and time varying” (Discussion paper [371]), then how is an assumption of zero relationship justified? Does the ERA suppose that the periods of positive and negative correlation cancel out? Likewise, if the two are “jointly determined financial primitives” (ibid), then how are they “jointly determined” if there is no relationship between them?
- If the relevant relationship is between the “ex-ante market risk premium” and “ex-ante risk-free rate” (ibid), then how can the ERA conclude anything about the relationship, including that there is none, when almost all the information considered is actual returns (to the market) and promised returns (on government bonds)?
- CEPA suggests that there is “no good evidence” for the assumption of no relationship between the risk-free rate and MRP.³¹ This is noted by the ERA (Discussion Paper [308]), but the ERA draws no conclusions about what this means for its existing approach.

The ERA asks three questions in respect of the relationship between the risk-free rate and the MRP (see Discussion Paper [378]):

When estimating the market risk premium do you support the current approach of estimating and considering the market risk premium and the risk free rate

³⁰ See CEPA, 2021, *Relationship between RFR and MRP*, 16 June 2021 (available [here](#)), pp10-12

³¹ See CEPA, 2021, *Relationship between RFR and MRP*, 16 June 2021 (available [here](#)), pp6-7. We note that other AER experts also come out in favour of a time-varying MRP (see the *Final Overall Rate of Return, Equity and Debt Omnibus Paper*, p43, available [here](#)), rather than a constant MRP, though we note that this does not necessarily mean a negative relationship between the risk-free rate and MRP, but rather suggests more weight to a DGM than the AER, at least, has applied in the past.

independently from one another? If not, please explain why and your alternative approach. Specifically, the ERA is interested in:

- *The empirical relationship (magnitude and direction) between the ex ante market risk premium and the ex ante risk free rate in Australia and the conceptual logic underpinning such a relationship.*
- *Whether the relationship is sufficiently stable and persistent (that is, not volatile and transitory) on an ex ante basis.*
- *Ways in which the relationship can be implemented to estimate the market risk premium in a manner suitable for regulatory purposes.*

In respect of the **first two**, and picking up the discussion above:

- The empirical relationship between ex-ante, or expected market risk premium and the ex-ante risk-free rate is – according to CEPA – slightly negative from 1936 to the present and more strongly negative from 1983 to the present.³² CEPA find no such support for an assumption of zero relationship. Whilst CEPA has caveated its results somewhat, the empirical case for a negative relationship is much stronger than the empirical case for zero relationship and, if the ERA was starting from a blank slate rather than moving away from a past practice, it is difficult to understand how it would choose an option with zero empirical support over an option with some empirical support. As CEPA note, neither option has a strong conceptual or theoretical basis, so it would be inappropriate to reject an option based on a negative relationship based on this criteria without applying the same criteria to the zero relationship proposition.
- The relationship found by CEPA – far from being “volatile and transitory” as the ERA suggests – is actually strong and negative from the mid-1990s onwards, and negative throughout that period. Since the RoRI period is only four years, this would seem ample time to be reasonably sure that the relationship will yield appropriate rates of return over the next four years when it is used. No evidence has been provided that the current approach of assuming zero relationship between the risk-free rate and MRP is stable and persistent; indeed, as noted above, CEPA finds no evidence in support of this approach at all.

We turn now to the **third** of the ERA’s questions, relating to the ways in which the relationship can be implemented to estimate a market risk premium. In so doing, we note CEPA’s own conclusion that its work is not sufficient to set the *level* of the MRP.³³ Rather, we think that the relationship evidence is sufficiently strong to be used to adjust the starting MRP estimate through the course of the RoRI, from its starting position. The best way to do this, we believe, is that outlined by ENA – which puts a key emphasis on consistency.³⁴

The first step in this approach is to choose the mix of evidence that goes into forming the starting estimate of the MRP; the number derived in the RoRI, and the adjustment subsequent to the RoRI would then follow from the relationship each element of that starting estimate has. In particular:

- an MRP estimate based on the historical MRP has, by assumption, zero correlation with the risk-free rate;
- an MRP based on the Wright approach has, by assumption, a correlation of minus one with the risk-free rate; and
- an MRP based on the DGM as Frontier have determined it has an empirically-calculated correlation with the risk-free rate of -0.8.³⁵

³² See CEPA, 2021, *Relationship between RFR and MRP*, 16 June 2021 (available [here](#)), p6

³³ See CEPA, 2021, *Relationship between RFR and MRP*, 16 June 2021 (available [here](#)), p6

³⁴ See ENA, 2021b, *ibid*, pp65-70

³⁵ See *ibid*, p27 and 68. We note that the ERA may determine a different empirical correlation is appropriate given its view of the evidence.

By way of example, say that the starting estimate of the MRP is formed by using a weight of 50 percent historical MRP and 50 percent DGM. This would then mean that any adjustment of the MRP through time would be 40 bps in the opposite direction for every 100 bps movement in the risk-free rate (with a correlation of -0.8). An adjustment mechanism such as this would be consistent with the evidence for the starting MRP, and would also be consistent with the strength of the evidence found in CEPA.

We encourage the ERA to consider an approach like this for the 2022 RoRI rather than lock in an approach – a fixed MRP and varying risk-free rate – that assumes no relationship.

5.2.4. The way forward: A consistent approach to MRP estimation?

The discussion in Section 3.1 on the “timing problem” along with the discussion above leads us to a different approach to determining the MRP than that used in the ERA’s Discussion Paper.

Specifically, we see two possible approaches that would be both consistent with market data that can change through time *and* can be implemented automatically when the RoRI is applied for a given regulatory determination. There clearly may be other approaches that achieve these ends, but we have not canvassed all possibilities here. We note that both approaches are likely to lead to similar results. However, they differ in the complexity of the mechanism by which the MRP is formed at each regulatory determination, with the first approach requiring more steps.

The **first** approach is somewhat similar to what the ERA did in 2013 and has the following steps:³⁶

- *at the time of the RoRI* | use regulatory judgement including, if relevant, conditioning variables to determine where along the range from the historical to the DGM estimate of the MRP the best estimate of the investor expectation of the MRP is most likely to lie.
- *at the time of each regulatory determination* | apply the RoRI by:
 - estimating the historical MRP mechanistically using the method set out in the RoRI and updated market data³⁷
 - estimating the DGM mechanistically using the method set out in the RoRI and updated market data, and
 - adopting the same point (in 2013, the ERA used the 62nd percentile) on the range as determined in the RoRI as the final estimate of MRP.

The **second** approach is very similar to the approach the ENA has proposed to the AER and involves the following steps:

- *at the time of the RoRI* | use regulatory judgement to:
 - estimate a number for the market risk premium as at December 2022 for the RoRI, using whichever pieces of evidence in whichever weight is judged most appropriate
 - estimate a relationship that is sufficiently robust for the next four years between the MRP and some other variable that is part of the regulatory framework; the example from the ENA being the relationship between the MRP and risk-free rate
- *at each regulatory determination* | adjust the number for the MRP according to the movement of the other variable and the pre-specified rule that is consistent with the starting value evidence – for example, move the MRP 40 bps in the opposite direction for every 100 bps movement of the risk-free rate.

³⁶ This is best laid out in the ERA’s revised decision for ATCO of October 2016 (available [here](#)), p10-11.

³⁷ We note that, by construction, this historical value should not change by very much through time, but it is simple to update, and should be, for completeness.

Either of these approaches would – we believe – address the “timing problem” noted in Section 3.1, and allow the ERA to make use of updated market information in a mechanistic way. The first might be termed a “direct” approach, because the market data enters the method directly (just as is the case for debt) and the second – which relies upon relationships between market data – might be termed an “indirect method”.

Clearly, neither approach is perfect, in particular:

- The point along the range might not always be at the same percentile. However, where that point lies is essentially – or at least conceptually – a summary of the weight given by investors to two different pieces of information and this seems likely to change much less rapidly than the market data.
- The indirect relationship is unlikely to be stable for long periods of time, which was something that CEPA found. However, it doesn’t need to be; so long as it doesn’t change much over the next four years, then it is still likely to give reasonable results, and it can be updated at the next RoRI.

But what matters is whether either approach is likely to produce an MRP estimate at the time the RoRI is applied that better achieves the NGO and RPPs than fixing a value for the RoRI period. Our view is that either approach will do that and so should be preferred.

5.3. Beta

The changes the ERA has proposed for beta, by and large do meet the requirements of the NGL. For instance, we commend the ERA for addressing the issue of a small sample size head on, and in a pragmatic function.

However, although we believe the ERA’s final result that the beta ought to remain at 0.7 is an appropriate result – and promotes the NGO – it is difficult to provide any more than very general feedback about the way in which the ERA determines that value. This is because there is almost no guidance in the paper as to what the ERA did save that it made use of regulatory judgement.

In our view, much more clarity needs to be provided – and we consider that it ought to be provided prior to the draft decision – so that stakeholders can give the ERA feedback before that decision is made.

Our brief answers to the ERA’s questions are summarised in Table 6.

Table 6 ERA questions on beta

ERA question	Our response
Do you support the continued use of domestic energy networks to estimate equity beta? If not, please explain why and your alternative approach.	Used alone the domestic set of firms is much too small to provide robust estimates of beta. However, we do support the ERA’s proposed use of said firms together with international evidence.
Do you support the use of a sample of domestic and international comparators to estimate equity beta? If not, please explain why and your alternative approach.	Yes, see comment above. We believe it is timely to now consider this issue as the ERA has done. We also agree with the ERA’s focus on international energy firms, rather than domestic comparators from other industries.
If an international sample is to be used for estimating equity beta, which jurisdictions and companies could be considered as part of the sample?	We believe the jurisdictions the ERA has chosen seem appropriate. There are some practical issues, such as language barriers, but also, the jurisdictions chosen have similar legal and market characteristics to Australia and so are most likely to deliver robust results.

ERA question	Our response
If an international sample is to be used for estimating equity beta, how should these international estimates be incorporated into the equity beta estimation method?	We agree with the pragmatic approach the ERA has taken in respect of not attempting some kind of complex international CAPM model, and we agree that the ERA should de-lever and re-lever in the same way it does for domestic firms. However, the ERA has not provided us with enough information to understand how its process of judgement works for us to comment (see below).
When considering equity beta should the ERA consider shocks such as COVID-19 and takeover announcements? If so, please explain why and how these events can be accounted for.	Yes it should. However, this is a process of judgement rather than being mechanistic (see below)
Do you support the ERA's general approach and simplifications for estimating equity beta (regardless of any potential changes to the sample firms)? If not, please explain why and your alternative approach. Specifically, the ERA is interested in views on the following aspects of the method applied to estimate equity beta in this paper: <ul style="list-style-type: none"> • Use of a 5-year estimation window with weekly returns. • Use of the Bloomberg total return index for individual stocks and market indices. • Use of the Ordinary Least Squares estimator, with the Least Absolute Deviations method as a robust estimator. 	Yes. We consider the ERA's approach here to be a useful simplification of its process. We note, however, that the ERA appears to be considering an average of assets and portfolios, which is a double-counting it has previously avoided. ³⁸ More clarity on what it is doing as part of explaining its judgement would assist here.

We believe that the ERA has provided a significant step forward in terms of the way in which it determines beta which has the potential to effect a pragmatic resolution to the issue of diminishing sample size in the domestic Australian market.

Further, given the recent Spark and Ausnet transactions, coupled with the ERA's use of five years of data, absent of any change in approach, the ERA would have faced a situation at its next RoRI where only one firm provides more than a year of relevant information, which is much too small a sample set. Acting now sets a clear precedent and sends positive signals to the market.

We also agree with:

- The pragmatic approach of taking a simple domestic CAPM approach in each jurisdiction rather than attempting to estimate much more complex models.
- The approach of using international energy firms, rather than domestic non-energy firms within the comparator set. We also agree that the international jurisdictions chosen by the ERA appear sensible; each has a roughly similar legal framework (China, for example, or Russia, would clearly not represent good comparator countries) with roughly similar economic characteristics and has the pragmatic benefit of having information available in English, which avoids confusion.
- The ERA's view that combining all of the beta information will require judgement, and that this is more efficient than attempting to quantify and compensate for a host of factors, which merely serves to open up debate on points that will likely never be full satisfied.

In the next two subsections we provide our views on the use of international evidence and on how to deal with market shocks such as the COVID-19 pandemic.

5.3.1. The use of international evidence

We would make two points in respect of the use of international evidence.

³⁸ See AGIG, 2018, *Submission on the ERA's draft rate of return guideline, September 2018* (available [here](#)) p16. The acknowledgement of the double-counting issue referred to can be found in Appendix 4 of the ERA's AA4 final decision for the DBNGP (available [here](#)), see [471].

First, although we agree that the amalgamation of data is better done with a modicum of regulatory judgement, the ERA has provided little detail on how it has used judgement to come up with the value of 0.7 published in the Discussion Paper. This is vital so that stakeholders can better understand how the number has been derived. We encourage the ERA to provide further detail in future papers and documents, including with the draft and final RoRI decisions.

Second, we think the ERA should focus on international *gas* companies and not international *energy* companies when forming its sample set.

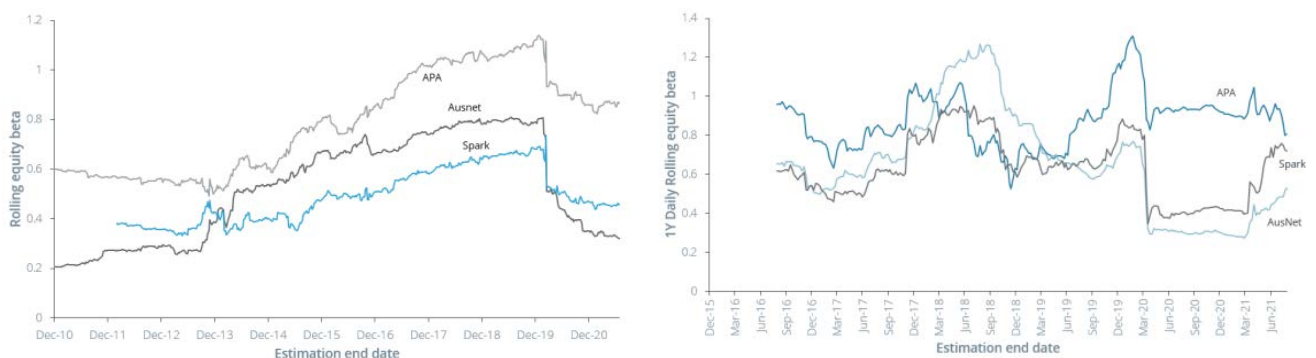
- In Australia, the number of domestic comparators has always been small. Thus, a regulator believing that gas and electricity firms have similar systematic risk might choose a sample set containing both types of firms so that its estimates are more statistically valid than would be possible with a smaller sample set. Such a regulator is essentially trading off representativeness for statistical validity.
- However, in many international markets, this need for a trade-off no longer applies as there are more than enough gas-only companies to form robust estimates of beta. If the hypothesis that gas and electricity companies have the same systematic risk exposure is true, then it should make no difference whether electricity companies are included or excluded for a country with many gas firms because the number of gas firms is sufficient to provide a robust estimate of the systematic risk exposure.

The presence of large numbers of gas firms in a country means that the ERA can avoid needing to make assumptions about whether the two sectors are similar or not, and this simplifies the debate. Of course, not all countries will have enough gas companies to form a robust statistical estimate, and here it may be pragmatic to retain electricity companies in the sample. But otherwise, by using an international sample, the ERA may have freed itself from a debate which has grown in regulation in recent years.

5.3.2. COVID-19 and other market shocks

The ERA also asks about event such as COVID. This is a valid concern, as seen in Figure 5.

Figure 5 OLS estimates of beta and COVID



Source: ENA 2021b, *Estimating the Cost of Equity: Response to AER's Draft Equity Omnibus Working Paper, 3 September 2021* (available [here](#)) pp80&82

The **left-hand panel** is a five year beta estimate, which drops substantially as soon as the two-weeks of data (approximately) from the crash associated with the emergence of COVID. It stays low and will remain low whilst that data are in the dataset. The **right-hand panel** is a one-year estimate of beta. Since it uses only one year of data, the “COVID anomaly” falls out after a year, and one can see that Spark and Ausnet (in particular) rise again. Additionally, all three firms have

much more volatility both before and after the COVID data is in the dataset, which suggests it is an event with a significant effect.

COVID is – we hope – a once-in-a-century pandemic and seems unlikely to happen again over the forthcoming RoRI period. Even if COVID itself continues to plague Australia, its shock to the economy is unlikely to be repeated.

It could be argued that this would be a good reason to remove the small number of “outlier” data points. However, the ERA does not appear to do this this is an appropriate approach (see Discussion Paper [446] and also [452], which deals with shocks due to takeovers). We agree.

It is not necessarily just that COVID (or takeovers) is a rare event unlikely to be repeated, but rather that it is not clear exactly where the boundary of “outliers” actually lies. Even in the case of COVID, can we really be sure it is revealing nothing about the underlying nature of systematic risk? If we take COVID out, what do we do with what looks like a slightly smaller shock?

A better approach is two-fold:

- **First**, use alternative methods, such as the robust methods the ERA proposes (See ENA 2021b p84 for a comparison of these methods with OLS in the context of the COVID shock) and
- **Second**, use regulatory judgement before making a major change to existing beta estimates.

Including beta estimates from other jurisdictions may also assist in guiding the ERA. If, for example, the COVID shock is not repeated in any other jurisdiction other than Australia, this may assist the ERA in making a judgement about how much weight to put on any change in beta estimates from previous estimates that are apparent in the data.

5.3.3. Additional points on beta

We make two final points: one on low beta bias and the other on whether it is appropriate to fix the equity for the RoRI period.

Low beta bias

First, although the ERA has made no specific adjustment for low beta bias in its current beta estimates – in keeping with its 2018 approach – we consider this to be an important issue. Dismissal of our evidence in respect of analyst forecasts misunderstands that evidence.³⁹

Whilst we recognise that the ERA will not give specific weight to this evidence, and that much has happened since 2013, we believe the ERA had a pragmatic approach back in 2013, thus:⁴⁰

The Authority recognises that typical empirical applications of the Sharpe Lintner CAPM may under-estimate equity beta for low beta stocks, with the potential to lead to a downwards bias in the estimate of the return on equity. As a practical response, the Authority will take this into account when determining the point estimate of the equity beta for use in the Sharpe Lintner CAPM.

³⁹ A key consideration for rejecting the evidence appears to be that analyst forecasts are upward biased. This may be true, but the literature finds that they are upwards biased compared to subsequent actual returns. These, in turn, are upward biased compared to the theory of the CAPM, one of the most well-established findings in finance. To the extent that investors are paying attention to analyst forecasts in forming their expectations, those expectations would be higher than actual returns, and the CAPM. The ERA's consideration of this issue (see [1474] of the 2018 Explanatory Statement, available [here](#)) simply restates its previous view that the CAPM is the only way in which expectations are formed. This is incorrect. An inability to estimate with precision what the difference actually is between investor expectations, given by the only data which are available in respect of such expectations (the CAPM is a model, not data) and CAPM is no good reason to assume the CAPM must be correct.

⁴⁰ See ERA 2013a, p63.

We would suggest that this remains a pragmatic and useful approach to beta estimation. It should form part of the ERA's exercise of judgement. For example, if mean beta estimates appeared to drop precipitously and it was unclear why, consideration of the issue of low beta bias – and recognition that it is an issue in the empirical estimation of beta – could assist the ERA in avoiding error in its estimates.

The timing problem: is it appropriate to fix equity beta?

As a final point we return to the argument raised in Section 3.1 about the timing problem in respect of the use of market data.

Although the MRP case – with the use of the conditioning variables – was visually clearer, Figure 5 above shows a similar problem with beta. If the ERA was solely using OLS estimates for domestic firms, and formed its estimate in January 2020 for a RoRI at that date, and then made its first decision in, say, June, then it would have reached a very different answer.

That is, because the ERA is making use of market data in forming beta, it needs to consider whether or not the RoRI needs to be a “mechanism” or whether the nature of the market data and the way the ERA has informed its final conclusion is such that a fixed number in the RoRI is most likely to be relevant over the term of the RoRI.

In this context, an argument could be made for a reasonably constant beta; the AER, for example, has repeatedly expressed its belief that the underlying systematic risk of an energy firm ought to be fairly stable.⁴¹ There is no reason why the same level of stability between MRP and beta should be assumed – meaning that there is no reason to treat each in the same way.

From the Discussion Paper, it is apparent from the final number (0.7) is somewhat different from the average of its Australian data (0.538). Clearly, judgement over the insight from international data has informed the ERA's conclusions. However, that judgement has not been explained in detail (see Discussion Paper [484] to [488]). If the ERA's process of judgement lends itself towards a view of a stable beta given the information it has considered, then there is no reason to suspect that fixing a number – rather than a method – in the RoRI would lead to significant issues; particularly since all approaches on all variables in equity contain potential problems.

However, the ERA should articulate its approach more clearly before stakeholders can provide any views on this.

5.4. Cross checks

The only issue remaining in respect of equity is the use of cross checks on the return on equity. This has formed an important part of the debate in the AER process.

5.4.1. Why cross-checks are important

Cross checks are a very important way to “sense check” results. For example, we have written above about the “timing problem” of a fixed number for something like MRP formed in the RoRI, which then gets used under very different market conditions to form a cost of equity estimate.

Cross checks are a way of testing these results, by:

- calculating a fixed equity risk premium

⁴¹ See, for example, AER, 2021c, *Overall rate of return, equity and debt omnibus Final working paper, December 2021* (available [here](#)) p105

- calculating the cost of equity under a wide range of different risk free rates – which may also consider other market data, as necessary, that were used as part of the formation of that equity risk premium, giving them the same values as they had for each risk-free rate
- then look at these results, in light of the judgement process and market data used to form the relevant variables (MRP, say) in the RoRI, and ask whether these results are what the ERA would conclude, absent of any binding RoRI, in the market conditions, give the most efficient prices in the relevant set of economic conditions.

This kind of cross-checking can be automated to a degree. The ENA has developed a model as part of the AER process which facilitates this kind of cross checking.⁴² We believe it is a useful way of really testing a proposition like a fixed equity risk premium, and is thus an important part of the ERA's RoRI, and the evidence presented in its final decision.

Cross checks can go a step further than this kind of “sense checking”, by making use of other sources of market data to more formally check whether the results are congruent with this data.

5.4.2. APGA proposal to the AER

APGA put forward such a framework to the AER which showed graphically how the area of overlap between a number of different cross checks (formed empirically, so each has a distribution around it) could be used to inform the cost of equity estimate made at the time of the RoRI.⁴³

In simple terms, any initial estimate is the product of empirical estimation focused on market data and judgement to find a point in the range of uncertainty around that data. If that initial estimate sits outside the range of overlap of some or all of the relevant cross checks and provided that range of overlap sits within the range of the empirical results from which judgement was used to choose the initial estimate, then this is evidence that the judgement used to form the initial estimate may have been too harsh or too generous.

The AER was concerned about some practical issues like what to do if there was no overlap and the fact that each cross check was given equal weight.⁴⁴ In response:

- **Overlap concern** | in the case of no overlap between any of the cross checks – which seems unlikely given how imprecisely most are estimated and their wide confidence intervals – we accept that some other rule might be required. If there were only some overlap, then the cross checks could still be used, but perhaps given less weight.
- **Equal weight** | each cross check is equally weighted. However, it does not constitute the multiple model approach rejected in 2013 because it is only the cross checks that have equal weight; the foundation model (here the CAPM) still has primacy because any movement from the initial estimate is only to a point within the confidence interval of the initial estimate formed by the foundation model and relevant market data; it is only regulatory judgement as to where in the confidence interval the appropriate answer lies that is subject to a cross check.

⁴² The model is available [here](#), as an Excel spreadsheet model called “ENA models – 2022 RORI scenario testing and calibrated DGM”

⁴³ See APGA, 2021, APGA Submission to the AER Rate of return omnibus papers, 3 September 2021 (available [here](#)) pp15-17. APGA was not putting forward particular cross checks as the cross checks that should be used, but rather using them as a worked example. Also, although it may not have been clear in the submission, APGA was not proposing these cross-checks be used in a formulaic manner after the RoRI had been made at each regulatory determination (for basically the same reasons as alluded to above for the conditioning variables).

⁴⁴ See AER 2021c, *ibid*, pp122-3

And despite these practical concerns, the AER concluded:⁴⁵

However, we do think there may be value in using the format proposed by the APGA to summarise evidence with higher information content than that associated with the set of overall cross checks we examine below.

Whether cross checks are the sense checks proposed by the ENA or take a more formal approach as in APGA, we believe they play an important role in prudent and robust regulatory practice, and we look forward to the ERA giving them serious consideration in its future work on this RoRI. Since it is a topic new to the ERA, it may be most useful to devote a stakeholder session to this topic.

⁴⁵ *Ibid* p123

Return on debt

By and large, we believe that the ERA's approach to the cost of debt does meet the NGR and are not seeking change.

That is not to say that the ERA's approach is *the* efficient approach, or the only acceptable approach. Rather, we believe that it does provide a cost of debt benchmark which we are able to replicate; the direction of causation is not from efficient firm to regulatory allowance but rather the other way, with the regulator providing an allowance which an efficient firm can meet. This – to us – is the key concern, and the somewhat esoteric deviation into “efficient debt approaches” (see [170]-[185]) is of limited value.

The AER's overall approach to debt, including its use of a ten-year risk-free rate, is also a replicable benchmark and would be equally acceptable; noting the comment above in respect of a transition if the ERA did make this change.

Table 7 ERA questions on debt

ERA question	Our response
Do you support the use of a hybrid trailing average approach for the cost of debt estimation? If not, please explain why and provide details of your alternative approach, including transitional arrangements.	Yes, this is an approach which gives a benchmark which we are able to replicate adequately, and we can see no compelling reason to change the approach.
Do you support the use of a benchmark credit rating of BBB+ for the 2022 gas instrument? If not, please explain why and your alternative approach.	We believe this credit rating remains fit for purpose.
Do you support the use of the revised bond yield approach for estimating the debt risk premium? If not, please explain why and your alternative approach.	Yes, this is an approach which gives a benchmark which we are able to replicate adequately, and we can see no compelling reason to change the approach.

6.1. Other debt issues not addressed by the ERA

The only other issue for us in respect of the cost of debt is the ERA's approach to debt-raising and hedging costs (see Discussion Paper [243] to [252]). We understand that the ERA is currently looking into this, and we have provided the ERA with relevant data during 2021. We will engage with this issue when the ERA releases the report from Chairmont Consulting noted in the Discussion Paper.

Gamma, gearing and inflation

We do not have any major issues with any of these three aspects of the RoRI. Our answers to the ERA's questions on these topics are provided below in Table 8.

Table 8 Gamma gearing and inflation questions

ERA question	Our response
Do you support the use of a gearing level of 55 per cent for the 2022 gas instrument? If not, please explain why and your alternative approach	The finding of 55 percent appears in keeping with the relevant empirical evidence.
When determining gearing do you support the ERA adjusting debt and equity to recognise hybrid securities and what is a suitable method for allocating hybrid securities between debt and equity? If not, please explain why and your alternative approach.	We agree that hybrid debt instruments should be excluded from gearing, as part of consistency across the estimation of the WACC. This has been discussed in detail by the ENA before the AER. ⁴⁶
When estimating the expected rate of inflation do you support the use of Treasury bond implied inflation approach? If not, please explain why and your alternative approach.	We have supported the ERA's approach to inflation in the past and remain of the view that it is fit for purpose.

7.1. Other issues not addressed by the ERA

The ERA has not asked any questions on gamma. We do not have any comments on the ERA's approach to gamma. Absent of the ATO providing any different advice, the result of 0.5 is appears reflective of the current data used by the ERA to determine gamma.

We note, in passing, that a gamma formed using market data which change through time is likely to be susceptible to the same "timing problem" as we have discussed above for equity.

⁴⁶ See ENA 2021b, *Estimating the cost of debt: Response to AER's Draft Debt Omnibus Working Paper, 3 September 2021* (available [here](#)), pp23-26.