Submission to the Issues Paper

AER Review of the Rate of Return Guideline

12/12/2017

Contents

APGA is the peak body representing Australasia's pipeline infrastructure, with a focus on gas transmission, but also including transportation of other products, such as oil, water and slurry. Our members include constructors, owners, operators, advisers, engineering companies and suppliers of pipeline products and services.

APGA's members build, own and operate the gas transmission infrastructure connecting the disparate gas supply basins and demand centres of Australia, offering a wide range of services to gas producers, retailers and users. The replacement value of Australia's gas transmission infrastructure is estimated to be $50 billion.

Key principles

Our response is informed by the following four principles:

- We support a Guideline that is 'capable of acceptance' by all stakeholders, and arrived at in a constructive and collaborative way.
- We support a Guideline that does not seek to re-invent the wheel, but which focuses on key areas of concern where more clarification is required.
- We support balanced consideration of relevant evidence, and Guidelines where the parameters and estimates have been arrived at in a transparent, replicable manner using clear methodologies.
- We support reconsideration of the issue of whether gas and electricity face the same level of systematic risk, based on new evidence emerging since 2013.

Introduction

APGA welcomes the opportunity to participate in the Rate of Return Guidelines review process. We support the AER's incremental approach to review in delivering a Guideline that is commensurate with the level of risk undertaken by gas network service providers and is a capable of acceptance by all stakeholders. To achieve this objective we believe it is imperative that stakeholders' views are properly considered through the process, and the evidence provided by various experts is treated in a transparent and objective manner. The new review process the AER has in place with expert conclaves and an independent panel assessing provides greater scope of achieving this objective.

The last Guideline process in 2013 focussed on assessing a wide range of information, and on the AER providing details views on the suitability of different information sources for the regulatory task of determining allowed rates of return. This provided a lot of transparency as to the AER's views, but the process of turning the inputs (favoured information) into outputs (rate of return estimates) was much less transparent.

We consider there is merit this time around in following a different approach, which provides more clarity on how inputs are converted to outputs. This would require transparent handling of information and evidence, and consensus among experts and stakeholders.

This does not mean tying the AER to mechanistic approaches where all regulatory discretion is removed and the AER merely assigns pre-set weights to different pieces of evidence, but we rather favour a "middle way" between the approach adopted in 2013 and a mechanistic approach, whereby an appropriate level of regulatory discretion is retained, but stakeholders are more easily able to replicate at least the likely regulatory outcomes under a range of

potential market outcomes. We provide one example of how such a "middle way" might work in Appendix A, which highlights how it has worked in another regulatory context.

We consider the Guidelines process established by the AER has strong potential to deliver this "middle way" outcome; the expert conclaves will assist the AER in developing better and more transparent means of treating market data, and the independent review panel provides a useful check of whether the required degree of clarity has been met.[1]

Gas, electricity and systematic risk

Although in a general sense we support only incremental change from 2013, there is one issue which we believe requires reconsideration, and that is the level of systematic risk borne by gas distribution and transmission businesses relative to electricity businesses. This has a legal and an empirical element and is based upon new evidence not available in 2013.

The legal component pertains to the meaning of the Rules. Although there has been a focus in recent Tribunal decisions on findings about whether the benchmark efficient entity was regulated or unregulated, the Tribunal and the Federal Court went further than this. Recent legal decisions may require reconsideration of the AER's view of a single conceptual benchmark applying across electricity and gas transmission and distribution.

In *Applications by Public Interest Advocacy Centre Ltd and Ausgrid* [2016] ACompT 1, the Tribunal said (para. 916):

. . . it is necessary to focus on the characteristic the benchmark efficient entity must have – a similar degree of risk to that of the service provider for which the benchmark efficient entity is being determined by the AER – and, once it is accepted that different service providers have in fact different degrees of risk, there will not be an identical benchmark efficient entity for all service providers.

In *Australian Energy Regulator v Australian Competition Tribunal* (No 2) [2017] FCAFC 79, the Federal Court found:

- The risks to be taken into account when determining the efficient financing costs of a benchmark efficient entity must be similar to the risks that apply to the relevant service provider in providing regulated services (para. 535).
- "Degree of risk" was not directed to the risk of investing in a business of a generalised type, namely an infrastructure business with long-lived tangible assets that produce long-term stable cash flows such business also having a "BBB/BBB+ credit rating and a high book to market ratio (para. 535).
- Such a characterisation was a considerable and contrived embellishment of what rule 6.5.2(c) of the NER actually says; the risk is, simply, the particular service provider's risk in respect of the provision of regulated services – the allowed rate of return objective is no more prescriptive than that (paragraph 535).

The AER's conceptual benchmark, and its implication that, absent differences in the timing of decisions, all regulated energy transmission and distribution businesses have the same return on equity requirement, may now need to be revisited.

The empirical component comes from the considerations of the New Zealand Commerce Commission, which has now considered this issue twice. The Commerce Commission's original December 2010 decision was to adopt an asset beta 0.1 points higher than that for

[1] In that context, we are pleased to see the AER's proposed terms of reference for the Independent Review Panel (p 15 of the November Process Paper), which would support this goal.

electricity businesses and this was principally influenced by its cost of capital advisor, Dr Martin Lally. This was revisited in its 2016 Input Methodologies investigation, which sought to re-examine the Commerce Commission's position in light of new evidence.[2]

The Commerce Commission process in 2016 made a number of findings that appear to have close parallels to circumstances applying to Australian gas pipeline businesses. These include:

- Gas is a discretionary fuel source and has a lower rate of adoption at the household level in New Zealand.
- Primarily on account of its role as a more discretionary fuel source, the income elasticity of demand for gas services can be expected to be greater than that for electricity services.
- All else equal, firms supplying services with a higher income elasticity of demand can be presumed to be subject to a greater degree of systematic risk and so have a higher beta - even though the quantum of the effect on beta (relative to any estimated income elasticity differential) may be difficult to measure directly.
- Evidence as to the relative income elasticities of demand for gas and electricity services in New Zealand – corroborated by evidence from Australia and other OECD countries – confirms the expectation that gas services face a higher income elasticity of demand.
- The form of regulation applying to both electricity and gas businesses may dampen these risks but cannot be expected to eliminate such differences in risk.
- There is some empirical support for the measured betas of a sub-sample of gas businesses drawn from a wider sample of international listed energy firms being greater than the average for the entire sample.

The end result of the Commerce Commission's detailed consideration of this question was a decision to apply a 0.05 uplift to the asset beta applicable to regulated gas pipeline businesses in New Zealand. Based on what has occurred in New Zealand, and the evidence considered by the Commerce Commission which has not previously been considered by the AER, there may be scope to consider that gas and electricity in Australia have different levels of systematic risk.

Overall Rate of Return

In respect of an overall framework, we note our principles above. Our responses in this section are framed with these principles in mind.

Responses to questions

AER Q1. In your view, to what extent has the current approach to setting the allowed rate of return achieved the National Electricity Objective (NEO) and National Gas Objective (NGO), the Allowed Rate of Return Objective (ARORO), and the related revenue and pricing principles (RPPs)?

On return on debt measurement because the AER's approach is aimed to deliver a trailing average approach upon completion of transition and is measured transparently through independent data curves, the approach is supported by most stakeholders. An outcome that is acceptable to most stakeholders is likely to be closer to achieving the NEO, NGO, ARORO and RPP.

[2] See Commerce Commission, Input methodologies review decisions, Cost of capital issues, 20 December 2016, pp 82-118

On the equity side however, the current approach is opaque; it is not clear how inputs are converted to outputs and how and why the exercise of discretion appears to change with changes in market observables. This approach reduces trust among stakeholders on whether the compensation received by businesses is fair and reflective of prevailing market conditions or not. Such an outcome where stakeholders do not agree is unlikely to achieve the NEO, NGO, ARORO and RPP.

AER Q2. Should information on profitability, asset sales, financeability and any other financial information be used when assessing outcomes against the NEO and NGO, ARORO, and the related RPPs? If so, how?

Our detailed views in respect of profitability assessment are contained in submissions by member businesses to that ongoing review, but in the context of this review, the AER needs to be wary of the potential for inconsistencies between the goals of the profitability review and these Guidelines.

In particular, in recent decisions, the AER has explicitly rejected calls by some businesses to make more use direct of actual returns in forming allowed rates of return on the basis that expectations are different from actual outcomes.[3] To the extent that the AER continues to do this (see below) it would be illogical to then, in profitability assessments, assess actual returns against regulatory allowances because, in setting said allowances, the AER has explicitly avowed that the two concepts are different.

In respect of asset sales, we share the AER's doubts as to the validity of these measures in the context of meeting the ARORO,[4] given the wide variety of other issues which might affect what a given party is willing to pay for an asset.

In respect of other financial information, we do not have any particular measures we would advocate at this at this stage. However, we would point out that Australia has an incentive regulation regime, based on the notion of a benchmark efficient entity, and the entire point is to provide incentives to out-perform the relevant benchmarks to provide for more efficient and lower cost service provision to consumers over the longer term. This is most particularly the case in gas, where price cap regulation is used, and incentives are stronger than in regimes which use revenue caps. Any use of profitability metric needs to ensure that this incentive framework is not upset by, for example, altering the existing symmetry between upside and downside risk.

AER Q3. Is the current approach to setting the benchmark term and level of gearing appropriate?

In respect to the benchmark term of ten years, not only is it reflective of the long run horizon required of regulation and the actual debt issuing practices of regulated firms, but businesses are partway through a transition process in respect of debt, which would require a considerable unwinding of hedging and other contracts. We can see few benefits to consumers of imposing these costs. We also do not see any reason for exposing customers to an 'on the day' approach which gives lottery type outcome compared to the 10 year trailing average which is expected to include the low interest rate period since 2014 onwards.

In respect of gearing the current 60% gearing estimate should be maintained unless there is convincing empirical evidence of a material change in average gearing levels.

[3] See, for example AER, Draft Decision Multinet Gas Access arrangement 2018–2022: Attachment 3 – Rate of return, July 2017, pp 62-64.
[4] See, for example, AER, SA Power Networks determination 2015–16 to 2019–20: Attachment 3 – Rate of return, October 2015, p105

AER Q4. Should the conditions and process for setting averaging periods be refined?

The AER has couched the issue of averaging periods as one of either allowing businesses to choose (ahead of time) the period or having it mandated. Whilst we consider that flexibility has benefits, we also believe there may be benefits in re-thinking averaging periods from a different angle; in particular now that the approaches on equity (on the day) and debt (trailing average) are different.

We would support further discussion with the AER and other stakeholders in relation to the prospect of increasing flexibility on the return on debt averaging period, within the AER's requirements that the averaging period must be forward-looking and close to the beginning of the relevant regulatory period. We would also welcome the opportunity to engage with the AER and other stakeholders on the appropriate length of the averaging period for the risk-free rate parameter in the return on equity allowance. This discussion would need to take place in the context of the entire process used to determine the allowed return on equity

Cost of debt

In broad terms, we are willing to work within the AER's approach to the cost of debt; namely a trailing average that is midway through a transition. In fact, we would suggest that now is precisely the wrong time to effect any major change, as it would create significant costs for business and there is no indication that imposing these costs is in the long run interests of consumers. Our comments below reflect this.

Responses to questions

AER Q5. To what extent are changes required to the current approach of transitioning from an on-the-day rate to a trailing average?

We do not consider that any change is warranted, and indeed, as noted above, is likely to be counter-productive.

AER Q6. Is it appropriate for us to review the return on debt implementation approach by performing a review of the four third party debt data series currently available to us? Please also explain if you think there is further valuing in broadening this scope of debt implementation issues and why you hold this view?

We believe there is scope for the AER should consider pros and cons of all third-party data sources and engage on which ones to combine to give a robust estimate of return on debt. In doing so the AER could have regard to composition of bond samples within these curves, their accessibility and track record. We accept that this requires reconsideration of weighting in light of new indices and that the AER reconsider its various contingencies pertaining to data sources. However, we do not believe this would be overly burdensome. We do not think that this issue is sufficiently material for the expert conclaves.

Cost of equity

The cost of equity is perhaps the key area of this review; it is an area where we would like to see more collaboration among various stakeholders and greater clarity on how different evidence is considered and how different pieces of evidence are combined to get a reliable measure of the return on equity. We encourage the AER to undertake a transparent and replicable approach to measuring return on equity parameters.

We consider there are four components to the estimation of the cost of equity, within the AER's foundation model approach centred on the use of the SL-CAPM. These are:

- The risk-free rate.
- The market risk premium.
- Beta
- The degree to which the SL-CAPM has problems, and in particular the degree to which it is biased in the estimation of expected returns for low beta stocks.

The risk-free rate is relatively uncontentious and we can see little benefit in moving away from the AER's current approach of using the ten-year government bond rate. Nor has such a change been proposed.

In respect of the MRP and the correction of problems associated with the SL-CAPM, we consider that some of the questions raised in the issues paper have the potential to lead the debate in the wrong direction; and one which would not be consistent with incremental change. We address these issues below.

In respect of beta and its estimation, we consider there is a need for further work, to improve the transparency with which beta is estimated. In particular, there appears to have been a diminution in transparency between the 2013 Guidelines and subsequent decisions as market data appeared to indicate beta might be changing and the AER maintained the same number for beta; shifting its focus to assessing whether whatever market changes might be occurring were sufficient to warrant changing the beta allowance. This is a topic we propose to discuss further as discussions evolve prior to the expert conclaves, with a view to ensuring the approach developed with the assistance of these experts is more robust through time. At present, and in broad terms, we see there being two issues in respect of beta:

- The use of a "range and point on a range" approach to effectively fold some of the problems of the CAPM into the number given for beta. This creates confusion, because it is not clear whether one is addressing problems in beta estimation per se, or problems in the CAPM. If this approach is retained, the AER needs to provide more clarity in how and why it chooses the range it does, and how it relates to the particular problems being addressed.
- The determination of a robust estimate of beta

We address the first issue in our response to Question 8. The second issue is one which we consider should be addressed as part of the expert conclave to provide more clarity in how beta is measured; particularly given changes in industry composition since this question was last addressed. Issues for consideration include:

- The sample set that could provide a robust estimate of beta, and whether the existing sample is sufficient to obtain robust answers, or whether there is a need to widen the sample to other infrastructure firms or overseas energy firms.

- The timeframe for analysis and what to do if different timeframes give different results. Within this is encapsulated way to determine which timeframe is likely to provide the most robust results which best capture the forward-looking expected levels of risk in the industry.
- The adjustment required to beta estimates to capture the risks associated with gas businesses.
- The question of appropriate means of de-levering and re-levering beta estimates; we consider that the use of a re-levered beta is standard practice and ought to be uncontroversial.

Responses to questions

AER Q7. Would a more prescriptive approach to setting the equity risk premium be appropriate? If the Guideline has a more prescriptive approach to estimating equity risk premium, what set of conditions for reopening the Guideline would best achieve the national gas and electricity objectives and the allowed rate of return objective?

The fundamental issue in respect of the equity risk premium is not whether it is fixed or not, but whether it has been estimated in a robust, transparent, replicable manner which takes proper account of all of the evidence.

We see, in broad terms, two approaches for determining the equity risk premium; both of which are capable of delivering more stability in outcomes for consumers and investors, which we consider to be a valuable outcome. The relative benefits of these two approaches is something the AER should discuss with stakeholders; that is –

1. Approach 1: Prescribing transparent methods for estimating ERP at each determination – the benefit of this approach is that the movements in interest rates are (at least partly) reversed by movements in the MRP component resulting in a stable ROE estimate over time.
2. Approach 2: Prescribing transparent methods for estimating the rate of return in the Guideline which incorporate longer-term averages of the risk-free rate – the benefit of this approach is that it minimises the effort required to measure ERP at each determination and provides certainty to customers and investors on the ERP component. However, the ROE estimate moves with the risk free rate component; though less than at present (because of the longer averaging period). This approach could be augmented by well-defined "re-openers" whereby the ERP is re-examined in the event of some extreme market condition eventuating

At this stage, we consider there may be merit in adopting Approach 2 which sets the equity risk premium once for the four years of the Guideline period under normal circumstances, however:

- It should be considered in the context of the length of the averaging period for the risk-free rate estimate and the desire for consumers for stability; a fixed equity risk premium may deliver a relatively varying outcome depending on the movement in the risk free rate.
- There must be scope for changes to the market risk premium to be made under abnormal market conditions to accommodate extraordinary movements in interest rate
- Where there are changes for "abnormal" events, the AER should include in the Guidelines guidance on how it will adjust the market risk premium for abnormal market conditions

AER Q8. Is the theory underlying the Black CAPM still appropriate for informing an equity beta point estimate? In its place, should alternative information to guide the selection of an equity beta point estimate?

It is important to be clear; although it makes for a convenient shorthand, the term the "theory of the Black CAPM" is an unhelpful way to frame the issue, because it drags up the largely unrelated issue of how to calculate the zero-beta premium in that particular model and this is a debate which does not need repeating. The issue at hand is the well-known downward bias of the SL-CAPM for low-beta stocks.[5] The key question is what to do about this to produce an outcome capable of being accepted by all stakeholders.

This flaw in SL CAPM must be considered, and a decision must be made about what to do about it. The analysis must be transparent and balanced and the steps taken to address the issue replicable with different market data.

We perceive three distinct steps to the analysis, which we consider would ideally be informed by the expert conclave in the first instance:

- To determine how investors actually go about forming estimates of expected returns. In particular, glib comments about the SL-CAPM "standing the test of time" are unhelpful if they do not expand on how the model is being used; whether in its textbook form or following some adjustment. The issue is crucial because, any proposal to ignore what the AER terms the "theory of the Black CAPM", necessarily moves to a world where it is assumed investors only use the textbook CAPM to form expectations, and no evidence has been provided to date which could support this claim.

- To determine what evidence might usefully be considered by a regulator to ascertain how expectations might differ from the textbook CAPM.[6] This might include evidence from actual returns, or it might include evidence from analyst forecasts, or it might include other information. Only the former has ever been considered by the AER, and never in detail.

- To determine how such an adjustment should be made, bearing in mind the need for transparency and obtaining outcomes capable of acceptance. It may be that the AER's "range and point on a range" requires some reconsideration, as it tends to conflate issues of bias in the model and issues of the imprecision of beta itself.[7]

AER Q9. What is the appropriate role of dividend growth models (DGMs) in setting the allowed return on equity?

The key question relates to the best way in which one can estimate the market risk premium, which turns upon both the appropriateness of the information and the transparency with which it is used. The issue, therefore, is not as narrow as choosing whether to keep or abandon on particular model. Key questions which need to be asked as an initial step include:

- What balance of forward-looking and historical information is appropriate?

[5] For correctness, we note that the Black CAPM arose in response to empirical problems with the SL-CAPM and sought to explain these with a slightly different theoretical basis. It is not the case that one could ignore the empirical issues with the SL-CAPM which gave rise to the Black CAPM on the basis either that one did not like the theoretical underpinnings of the Black CAPM or on did not like how its parameters are estimated.

[6] This is different from the first step. It is one thing to note that surveys of investors suggest most adjust the textbook CAPM, but quite another to work out by how much the AER should make any adjustment.

[7] Note that this does not mean that the AER would no longer estimate a range for beta. Such a range, particularly if done in a statistically robust manner involving confidence intervals, is highly useful because it shows how certain or uncertain the beta estimates are. However, that is a matter of statistical precision in beta estimates, not one of what issues there may exist with the CAPM as a model itself. Clarity is improved if we keep the two issues separate.

- What different methods might be used to reflect this balance and how might this be done in a transparent manner? This is an issue we pick up in more detail in Appendix A, as the estimation of MRP is our worked example of our proposed "middle way" alluded to at the outset of this submission.

We would put it to the AER that these are questions suitable for discussion in the expert conclave. Once the answers to these questions are obtained, and we realise that the AER addressed some of them back in 2013, the use of the DGM can be assessed. In particular, the answers to questions very similar to this in 2013 led the AER to consider the DGM was appropriate. Subsequently, it has placed less reliance on the DGM, apparently due to its volatility, but it is not clear if this is a flaw, or simply a reflection of how market expectations actually change with new information.

We believe that the SL CAPM requires forward looking estimates of market risk premium. An historical average, even a very long one, is not forward looking, and lack of any forward-looking information makes it harder to maintain a position that the ARORO is being met. To date, the only forward-looking model the AER has considered in detail is the DGM and, although decisions subsequent to the last Guidelines lowered the weight given to the DGM (in a way which is somewhat confusing; see Appendix A), the AER has given no reason to abandon the model. Further, we do not perceive that there is one at this stage and, if there is, there will need to be a discussion on what forward-looking source of information might replace it.

Gamma

The Tribunal and Federal Court rulings have generally supported use of equity ownership shares and tax data in respect of theta and the use of listed and all equity in the determination of payout ratios. We consider that the issues in respect of gamma which should be addressed in the Rate of Return Guidelines review are:

- The issue concerning the use of tax statistics has been debated from the perspective of what the lead author in the field, Hathaway, meant in a particular paper and yet he has not been asked for his views in the ongoing debate over the past several years. We understand that the ENA has subsequently remedied this issue and would point the AER to the ENA submission to this issues paper for more information.
- It is unclear to us how the top-20 firms can be seen to have any connection with the BEE; most are banks or multinationals completely different from the BEE as characterised by the AER.

Responses to questions

AER Q10. Is it appropriate to limit the review of the valuation of imputation credits to updating the empirical analysis? Are there any particular issues we should take into account when updating empirical analysis?

As noted above, we consider that it is prudent to examine two issues which sit beyond the mere updating of numbers; the status of tax statistics and the relevance of the top 20 firms. Although our final view would be formed once this analysis has been undertaken, we consider at this stage that there is a stronger role to be played by tax statistics than has been the case in the past.

Inflation

We note that the inflation review is currently ongoing, and are awaiting the results of that review. To that end, we are not commenting on the various issues associated with the estimation of inflation in this forum, but rather, restrict ourselves solely to the question posed below.

Responses to questions

AER Q11. Should expected inflation and its interaction with the allowed rate of return be a priority under the Guideline review?

We appreciate the submission made by CCP on this issue and do not consider it should not be a priority.

Appendiz A: MRP at the AER and ERA – an illustration of tranSparent, replicable approaches

In our main submission, we suggested the AER adopt a "middle way" between a judgement-based approach where it is unclear how outputs are derived from inputs and a mechanistic approach whereby given inputs are simply combined with pre-determined weights and regulators have no discretion at all. In this appendix, we provide a worked example of such an approach; the Economic Regulation Authority's (ERA) estimation of MRP.

We are not suggesting the ERA has MRP entirely right, and nor are we advocating that the particular approach it has used will suit the AER. However, we consider that the ERA has moved towards a more transparent approach in respect of the MRP than, perhaps, the AER has. To see this, we first show where the AER's approach appears to have led in recent decisions, which is to say a degree of confusion we believe would be ill-served repeating in the current Guidelines process.

The AER approach in Multinet

Multinet attempted in its AA Proposal to follow what it perceived the 2013 Guidelines to be, updating the data in the 2013 Guidelines for more recent market data. This was rejected by the AER as being overly simplistic and delivering the wrong answer.

However, it is not clear how Multinet could have followed the Guidelines as they were somewhat opaque in describing how the different pieces of information were used by the AER to form a final estimate. This was compounded by the fact that the AER appeared to be changing the relative weights it gave to the same information sources in subsequent decisions. It would appear to us that what Multinet attempted to do was look at the inputs and outputs of the Guideline and try and infer how the AER must have acted to move from the former to the latter. Our main point is that Multinet should not have needed to do this, and nor should other stakeholders.

To understand what we mean, consider the AER's own description of what it does:[8]

> *We derive our point estimate from within this range by considering the relative merits of all of the relevant material. The application of our approach is set out as follows:*
>
> - *Historical excess returns provide a baseline estimate and indicates a market risk premium of approximately 5.5–6.0 per cent from a range of 5.1 per cent to 6.4 per cent. We consider both geometric and arithmetic averages of historical excess returns when considering this result. However we are aware of evidence that there may be a bias in the geometric averages. We take this into account when forming our result and baseline estimate, and as such our range for historical returns is based on arithmetic averages and informed by the geometric averages.*
> - *Dividend growth model estimates indicate a market risk premium estimate above this baseline with a range of 6.53 to 7.80 per cent, which when conducting sensitivity analysis expands to 5.97 to 8.88 per cent. We consider our dividend growth model is theoretically sound but that there are many limitations in practically implementing the model. As previously stated in our assessment of the dividend growth model, it may*

[8] AER, Draft Decision Multinet Gas Access arrangement 2018–2022: Attachment 3 – Rate of return, July 2017, p85

capture current conditions to a certain extent but fails to adequately provide a 'true' estimate of the forward looking MRP. We consider our, and other, dividend growth models are likely to produce upward biased estimates in the current market due to reasons provided in Section B.4. We also take into consideration that our model, and other models, may not accurately track changes in the return on equity for the market. For these reasons, we do not consider that the dividend growth model estimates are reliable on their own, but they do provide an indication for a point estimate above the range derived from the historical returns, as the guideline method shows. The guideline designated the dividend growth model to inform on whether the market risk premium may be above or below the historical estimates. The substantial widening in the range of results from the sensitivity analysis is indicative of the unreliability stressed by the limitations we discuss in Section B.4.

- *We also look at other regulator's decisions when considering our estimate of the market risk premium, after we have accounted for differences in objectives and approved calculation methods, as a cross check. Regulatory decisions over the past 12 months indicate a market risk premium of 6.5 is reasonable. The most recent regulatory decisions in 2017 have largely used an MRP value from 2016. Conditioning variables indicate that there has not been a material change in market conditions since our May and April 2016 decisions. See section F.4 for more detail on regulators' recent decisions and their estimations*

- *Survey evidence supports a market risk premium around 6.0 to 6.5 per cent.*

The point of disconnect in respect of transparency appears to be that the AER, in 2013, focussed on being transparent about what information it believed was valuable and why, whilst what many stakeholders value is transparency on how to get from inputs to outputs. In the context of the quotation above, we can ascertain that the AER is using information from the DGM and historical estimates, and from the quotation above, that it thinks historical estimates are more important. However, there is no way any stakeholder could hazard a guess as to where in the relevant range the AER will land given the discussion above.

A stakeholder in such a situation might look at the inputs used and outputs obtained in a Guideline and attempt to reverse-engineer the logic that led from the former to the latter. Such reverse-engineering would necessarily be only an approximation to whatever process actually did inform the relevant process of the exercise of regulatory judgement, but it is the best any external stakeholder can hope to do. In its *Rate of Return Overview*, Multinet described how Frontier worked out its MRP estimates thus:[9]

Frontier reaches an estimate for the MRP adopting these factors as follows:

a) The AER stated that its preferred historical excess returns estimate is 6.0% and its mid-point three-stage DGM estimate is now 9.0%. The mid-point of these two estimates is 7.5%;

b) The upper bound of the AER's historical excess returns approach is 6.5% and the lower bound from the AER's three-stage DGM approach is 8.4%. The mid-point of this gap between the two ranges is 7.5%;

[9] Multinet, Rate of Return Overview, December 2016, p28

c) At the time of the Guideline, the AER's historical excess returns range and its two-stage DGM range overlapped. In the current market conditions, the upper bound of the historical excess returns range is 6.5% and the lower bound of the two-stage DGM range is 8.2%. The mid-point of the gap between these two ranges is 7.4%; and

d) The combined range is from 5.5% (the lower bound of the excess returns range) and 9.4% (the upper bound of the DGM range). The mid-point of the combined range is 7.5%.

What happens if we apply this methodology using the AER's own input data published in the Multinet Draft Decision? The AER's estimates of its DGM in the Multinet Draft Decision are 6.53 percent to 7.58 percent, and it has provided a "sensitivity analysis" band from 5.97 percent to 8.88 percent.[10] The mid points of these DGM estimates (which Frontier used) are 7.17 and 7.42 percent respectively. The AER also provides historical estimate which differ from those Multinet used (5.5 to 6 percent from a range of 5.1 to 6.4 percent),[11] but let us assume that Frontier would, if it re-did its analysis at the same time the AER did in its Draft Decision for Multinet, use the same historical estimates as in its previous expert report for Multinet. The effect of doing so is to slightly increase the estimates below from what we would get if we used the AER's numbers in the Draft Decision.[12]

When Frontier did its analysis, there was a gap between the historical and DGM estimates. This gap disappeared by the time of the Draft Decision, at least for the "sensitivity analysis" band, and thus we split the component (c) of Frontier's analysis in the table below. The other components are matched with their relevant letters from the quote above in the Table below.

Table 1: Frontier's analysis with new data

	Historical MRP	DGM	Mid Point
Historical MRP to mid-point DGM (a)			
New DGM	6	7.17	6.58
Sensitivity DGM	6	7.42	6.71
Upper Bound Historical to Lower Bound DGM (b)			
New DGM	6.5	6.53	6.52
Sensitivity DGM	NA	NA	NA
	Upper Bound	**Lower Bound**	**Mid Point**
Mid-point of overlap (c)			
New DGM	NA	NA	NA
Sensitivity DGM	5.97	6.5	6.24
Mid-point of gap (c)			
New DGM	6.5	6.53	6.52
Sensitivity DGM	NA	NA	NA
Combined range (d)			
New DGM	5.5	7.8	6.65
Sensitivity DGM	5.5	8.88	7.19
Average			*6.63*

Source: Multinet Rate of Return Overview p28 and Draft Decision, Appendix 3 p3-85

[10] AER, Draft Decision Multinet Gas Access arrangement 2018–2022: Attachment 3 – Rate of return, July 2017, p85
[11] AER, Draft Decision Multinet Gas Access arrangement 2018–2022: Attachment 3 – Rate of return, July 2017, p85
[12] Note that changing gamma, as per the recent Full Federal Court decision, will also change the MRP, but we have not made that change.

We note that, as part of the AER's 2013 Guidelines it sets a sensitivity of 25 bps around its estimates, to reflect the precision of the relevant data. The average of our replication of Frontier's analysis above is only roughly half of that sensitivity window above the AER's own estimate of 6.5 percent. Moreover, the two highest values come from the AER's sensitivity analysis, which arguably gives a wider range, and higher upper bound, than if we had used only its basic DGM.

It seems, therefore, that Multinet's approach would give 6.5 percent (or close to it) using data current at the time of the Draft Decision, but it is not clear how the AER could have derived an answer of 6.5 percent in the Draft Decision if its weights were substantially different from those Multinet used. There are obvious issues of transparency when this kind of outcome occurs, and we would suggest that it is important, in the current process to avoid the potential for outcomes like this in the forthcoming four years, as such outcomes will limit the degree to which outcomes are capable of being accepted by stakeholders.

The ERA approach in DBP and GGP

At its last Guidelines, the ERA's approach to the estimation of MRP was neither clear nor particularly desirable. However, it evolved over subsequent decisions, following feedback from stakeholders, and current form of the ERA approach can be seen in the DBP Final Decision (pp 103-127) and the Further Final Decision for ATCO (pp 5-13) where the ERA adapted its MRP measure following a change in gamma.[13] This current approach is by no means perfect; for example, we have but two observations of it in use and, to understand is operation better, an application under different market conditions is required. However, it is reasonably transparent, and it does preserve a degree of regular discretion. It is thus an example of a "middle way" in action.

The ERA approach does not use markedly different information from the AER (although it does give more weight to the Wright model and less to the DGM), but it does use this information in a different way. The ERA process is as follows:

- First, the ERA forms an historical MRP estimate using the Ibbotson approach; that is, by forming a long run average of the MRP. This forms the lower bound of the historical range
- Second, the ERA forms an historical MRP as a long run average of market returns minus the current risk-free rate. This forms the upper bound of the historical range.
- Third, the ERA forms several DGM estimates to provide a forward-looking MRP range. The upper bound of this range, together with the lower bound of the historical range, forms the overall range the ERA considers.
- Fourth, the ERA looks at the middle of the historical range and considers whether the range of DGM estimates and the conditioning variables it considers (essentially the same conditioning variables the AER considers) ought to warrant a move above or below the mid-point of the range. In recent decisions, the ERA did in fact conclude that a move above the mid-point was warranted, and chose a point 60 percent along the historical range.

The historical estimates are easily calculated by any stakeholder under any market conditions, as is the DGM, and the indicator variables are available from Bloomberg and similar data providers. A stakeholder, armed with this information, can reasonably safely assume that the final answer will be fairly close to the mid-point of the range between the two historical measures, and likely above this mid-point if the DGM estimate is relatively high. Of course, with only two observations of the ERA's approach in action, it is hard to be more definitive about

[13] See https://www.erawa.com.au/cproot/14319/2/Final%20Decision%20-%20Appendix%204%20WACC.PDF in the former instance and https://www.erawa.com.au/cproot/14523/2/GDS%20-%20ATCO%20-%20AA4%20-%20Revised%20Access%20Arrangement%20Decision%20-%20PURUSANT%20TO%20ORDERS%20BY%20THE%20ACT.PDF in the latter.

different market conditions and the degree to which these would move one away from the mid-point, and this is work that the ERA needs to do in the context of its own forthcoming guidelines process if it is minded to keep the same approach to the determination of MRP. However, the approach does represent a good starting point on the road to greater transparency.