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Consumer Challenge Panel

CCP Sub-Panel CCP11

22 March 2017

To: Australian Energy Regulator (AER) Board

Ct: Lynley Jorgensen and Adam Young, Co-ordination Directors, Victorian Gas Access Arrangement Review (GAAR)

Dear Paula

Victorian Gas Networks (AGN), AusNet Services and Multinent: Supplementary Advice on the proposed Return on Equity by Victorian Gas Distribution Network Service Providers

Please find attached supplementary paper to the formal advice provided to the Board by the Consumer Challenge Panel #11, dated 3 March 2017.

The supplementary paper relates specifically to issues identified in the rate of return on equity that was set out in the access arrangements proposals by the three Victorian gas distribution service providers. The paper provides the Board and the AER staff with further explanations of the advice set out in Section 5 ("Rate of Return and Inflation") of the advice provided to the Board by CCP11 on 3 March 2017.

The supplementary paper has been prepared by Ms Bev Hughson and is consistent with the advice provided in CCP11's formal advice to the Board.

Due to time and resource constraints, the supplementary paper was not finalised by 3 March and has not been fully reviewed by other CCP11 members. However, this should not be taken as indicating disagreement amongst the members on the conclusions and recommendations that were included in CCP11's formal advice paper to the Board and explained further in this supplementary paper.

Kind regards

Bev Hughson

Member, Consumer Challenge Panel #11

Advice to the Australian Energy Regulator (AER)

Supplementary paper:

An assessment of the return on equity proposed by the Victorian gas distribution service providers in their access arrangement proposals for 2018 to 2022

Bev Hughson

Sub-panel CCP11

March 2017

Supplementary Paper Rate of Return – Estimating the Rate of Return on Equity for investors in a regulated Benchmark Efficient Entity (BEE)

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5. Rate of Return & Inflation for the Victorian Gas Distribution Businesses

This paper represents a more detailed response to the Victorian gas distribution businesses' proposals for the rate of return on equity. The Consumer Challenge Panel 11 (CCP11) provided a summary of the key issues raised in this paper in Section 5 of its 3 March submission to the AER.[1] The current paper provides additional support to the recommendations in Section 5 of the CCP11 advice.

This more detailed response reflects concerns that some network businesses continuing to challenge the AER's discretion in assessing the return on equity consistent with the National Gas Objective (NGO), National Gas Law (NGL) and National Gas Rules (NGR). Most of the Victorian gas distribution and transmission networks have sought to vary from the AER's Rate of Return Guideline (Guideline) with respect to various components of the return on equity, notwithstanding the uncontested decision by the Australian Competition Tribunal (Tribunal) in 2016 that the AER had exercised its discretion appropriately and that the AER was not in error in its approach to the return on equity.

This continued dispute over various elements of the rate of return and the application of the AER's Guideline is a matter of significant concern to CCP11 particularly given the Tribunal's decision in 2016.

This current supplementary paper is focussed on the proposals by two of the three gas distribution service providers (DNSPs), namely AusNet Services (Ausnet) and Multinet Gas (Multinet). The third DNSP, Australian Gas Networks (AGN) has largely followed the AER's Guideline with respect to the estimation of the rate of return on equity.

A number of the issues raised in this paper are similar to and relevant to the access arrangement proposal by the Victorian gas transmission company, APA VTS (APA). A separate supplementary paper has been submitted to the AER regarding APA's proposal.

[1] Consumer Challenge Panel Sub-Panel CCP11, Response to proposals from AGN, AusNet and Multinet for a revenue reset/access arrangement for the period 2018-2022, 3 March 2017, p.p. 72-85.

5.1 Summary

5.1.1 Overview

CCP11 has identified that some of the Victorian gas network service providers have submitted proposals for the rate of return that are in excess of the AER's recent rate of return decisions based on the approach set out in the AER's Rate of Return Guideline (Guideline)[2].

The focus in this more detailed paper is on the rate of return on equity proposed by Ausnet and Multinet as part of their respective submissions on 2018-2022 Access Arrangement Information proposals.

Both Ausnet and Multinet propose to vary some of the key parameters in the AER's approach to estimating the return on equity as set out in the AER's 2013 Guideline. The return on equity proposal by the third Vic gas DNSP, Australian Gas Networks (AGN), complies with the AER's Guideline.

Both Ausnet and Multinet have proposed a number of relatively minor changes to the AER's approach to estimating the return on debt as set out in the 2013 Guideline. All three of the gas distribution businesses have also proposed changes to the AER's calculation of inflation.

While CCP11's 3 March paper provides some preliminary assessment of the proposals for both the return on debt and inflation, these factors are not addressed in this current supplementary paper. This is because both are currently subject to decisions by the Tribunal and the Federal Court.

The two Victorian gas DNSPs, Ausnet and Multinet both state that they have generally followed the AER's approach to the estimation of the rate of return on equity as set out in the AER's Guideline. However, their proposed return on equity differs from the Guideline in the following important ways:

- **Multinet:** Multinet proposes a market risk premium (MRP) of 7.5 per cent compared to the MRP of 6.5 per cent included in the AER's Guideline. Multinet also proposes an additional 1.14 per cent in the return on equity to compensate for what it claims is downward bias for low risk businesses.

  As a result of these changes to the Guideline, Multinet proposes:

  - market risk premium of 7.5 per cent;
  - overall return on equity for a benchmark efficient entity (BEE)[3] of 8.31 per cent.[4] This contrasts with AGN's proposal for the total return on equity of 6.58 per cent, which is consistent with the AER's Guideline;[5] and

[2] AER, *Rate of Return Guideline*, December 2013; and the accompanying AER, *Explanatory Statement - Rate of Return Guideline*, December 2013. .
[3] The NGR requires that the required rate of return on equity is that of an efficiently financed benchmark efficient entity of similar risk to a network service provider.
[4] Based on risk free rate of 1.92%, MRP of 7.5%, 'bias' adjustment of 1.14% and equity beta of 0.7.

- an equity risk premium for the benchmark efficient entity (BEE) that is implied in Multinet's proposal is 6.39 per cent, compared to AGN's equity beta of 4.55 per cent[6], consistent with the AER's Guideline.

- **AusNet:** Ausnet proposes a market risk premium of 7.5 per cent based on a similar analysis to that submitted by Multinet. Ausnet also proposes to adopt a different averaging period for the risk free rate, using eight months of data on yields from 10-year Commonwealth Governments Securities (10-year CGS).

  As a result of these changes to the Guideline, Ausnet proposes:

  - market risk premium of 7.5 per cent;
  - overall return on equity for a BEE of 7.3 per cent; [7]and
  - equity risk premium for BEE of 5.29 per cent. [8]

The combined effect of these changes to the return on equity parameters from the AER's Guideline approach is significant. In particular, Multinet's proposal results in a return on equity that is some 170 basis points above the return calculated under the AER's Guideline, while Ausnet is around 70 basis points.[9]

After considering the information provided by Multinet and Ausnet, it is concluded that neither DNSP has adequately justified their proposal to vary from the AER's Guideline. Nor has either DNSP adequately explained why it considers there have been such increases in the MRP and in the equity risk premium for a BEE compared to the current regulatory period (2011-16).

In the AER's decision for the current regulatory period (2011-16), the AER allowed a MRP of 6.0 per cent and an equity risk premium for a BEE of 4.8 per cent for all the Victorian gas businesses including APA VTS. Multinet's and Ausnet's proposals suggest that investors perceive a significant increase in overall market risk and the risks of a regulated BEE since 2011.

This would imply that investors now perceive an increased level of risk in investing in a regulated efficient energy networks. That is, equity risk premiums of up to 6.39 per cent would seem inconsistent with current market data (Feburary 2017) such as the low equity market volatility, high price-earnings ratios, improved corporate profits and business confidence.

[5] Based on risk free rate of 2.03%, MRP of 6.5% and equity beta of 0.7.
[6] Based on risk free rate of 2.03%, MRP of 6.5% and equity beta of 0.7
[7] Based on risk free rate of 2.04%, a MRP of 7.5% and equity beta of 0.7.
[8] The equity risk premium (ERP) is the difference between the total return on equity and the risk free rate.
[9] Subject to differences in the risk free rate.

These proposed increases in the risk measures are, however, inconsistent with current market data (February 2017) such as the low market volatility, high price-earnings and increases in the price-earnings ratio and some improvements to corporate profits and business confidence.[10]

It is doubtful too, if the many willing buyers of Australian regulated network assets (and their bankers) would be offering substantial multiples of the regulated asset base (RAB) of around 1.5, if these investors perceived such high levels of future risk in their new businesses. Despite possible limitations on growth in networks, long-term investors still recognise the benefits of the regulatory framework in Australia and the strong and reliable cash flows that are generated by these regulated network businesses.

A return on equity based on Multinets' and Ausnet's revised return on equity parameters will not achieve the National Gas Objective (NGO) in the National Gas Law (NGL) or the Rate of Return objectives in the National Gas Rules (NGR). The reasons for this will be explained in detail in sections 5.2 and 5.3 of this supplementary paper

The recommendation is, therefore, that the AER does not accept either Multinet's or Ausnet's proposals with respect to the rate of return on equity. Specifically, it is recommended that the AER reject APA's proposals to increase the equity beta and the MRP and to alter the AER's methodology for determining the MRP. Specifically, it is recommended that the AER reject the DNSP's proposals on the MRP, the alleged 'bias' adjustment (Multinet) and the changes to the calculation of the risk free rate (Ausnet). The full list of recommendations are summarised in Section 5.1.5 below.

5.1.2 The proposed market risk premium

Both Multinet and Ausnet adopt a similar approach to the assessment of the MRP. Both DNSPs claim that the AER relies too much on the analysis of historical excess returns in the market and has placed insufficient weight on models and other measures that they consider better reflect the prevailing market conditions. In particular, they refer to the results of their preferred Dividend Growth Model (DGM) which suggests that there has been an increase in the MRP in recent years; an increase that is not reflected in the outputs of historical models.

In contrast, the AER relies much more than the two DNSPs on the findings its various analyses of historical excess returns.[11] The historical analysis establishes a range of estimates for the MRP (usually around 5.0 to 6.0 per cent). Other market data and models, including the DGM, are used by the AER to select a point estimate for the MRP. Relevantly, the AER states in a recent draft decision:[12]

> *It is important to note that we are estimating a 10-year forward-looking market risk premium with regard to the prevailing conditions in the market for equity funds**. In this context, prevailing conditions can be considered 'prevailing expectations' over the relevant forward looking timeframe, which is 10 years…***

[10] Source: RBA statistics for February 2017.
[11] For example, the AER analyses include different historical time periods and both arithmetic and geometric averaging.
[12] AER, *Draft Decision, Powerlink transmission determination*, Appendix 3, p. 3-109.

That is, the AER is in effect attempting to estimate current market expectations for equity returns over a timeframe of some 10 years, consistent with its use of 10-year CGS for the other key component of the return on equity, the risk free rate. This longer investment horizon is also consistent with the AER's approach to assessing the rate of return on debt, which is based on the return on BBB rated 10-year commercial bonds.

5.1.3 The proposed correction for downward bias in the SL CAPM model

Multinet is proposing an addition to the return on equity, the 'alpha' factor, to compensate for what it claims is the downward bias in the SL CAPM model for low equity beta stocks. As such, Multinet's proposal represents an implicit adoption of the theory of the Black CAPM and an attempt at quantification of the theory.

While Multinet has adopted the equity beta that is set out in the AER's Guideline of 0.7, it is indirectly implying that the 'real' equity beta is significantly higher. The implied equity beta for a BEE under this scenario is 0.85,[13] compared to the AER's conservative estimate of 0.7 and empirical best-fit estimate of 0.5.

Multinet does not provide any substantive 'real world' market evidence, nor does Multinet provide any theoretical explanation of this anomalous outcome arising from this modification of the SL CAPM formula, that is, the increase in equity beta from 0.7 to an implied beta of 0.85. In contrast, DUET (the holding company for Multinet and United Energy) appears to have little difficulty in raising equity funds even though it was subject to the AER's regulatory settings.[14]

Moreover, the selection of the 'alpha' factor from a range is arbitrary and poses a risk to consumers of ongoing bias in the estimates. The AER has found there is no way of objectively quantifying the zero beta in the Black CAPM, and similarly, there is no way of ensuring that the selection of a particular point estimate for the so called alpha factor is reasonable.

Beyond the specifics, it is simply poor regulatory practice to add 'bits and pieces' to the SL CAPM output, particularly as it risks violating the integrity of the SL CAPM including the interrelationships between the various components.

5.1.4 The proposed extension of the averaging period for the risk free rate

Ausnet has proposed to extend the averaging period for the risk free rate from 20 days to 8 months using daily yields on 10-year CGS.

Ausnet states that this extension of the averaging period from 20 days to 8 months will provide greater stability in the estimation of the risk free rate. Although Ausnet does not demonstrate this expected outcome, it would generally appear to be a reasonable proposition that extending

[13] The figures of 0.85 is derived by 'reverse engineering' the SL CAPM formula., i.e. solving for beta when 8.31 = 1.92 + (beta * 7.5). Beta = 0.85.

[14] See for instance, DUET Group, Annual Report, 2016, p. 006, reports that its Placement and Entitlement Offer dated August 2015 for $1.67 billion was oversubscribed, and a Placement offer dated March 2016 raised $45.6 million against a target of $30 million. http://www.duet.net.au/Investor-centre/Investor-reports/Tabs/Annual-reports/2016/DUET-2016-Annual-Report.aspx. The DUET Group is made up largely of assets regulated by the AER and more recently, the ERA of WA (following the acquisition of the Dampier Bunbury gas pipeline (DBP).

the averaging period would lead to more certainty and stability in the outcomes. Moreover, it would be consistent with the extension of the averaging period for the return on debt as set out in the Guideline.[15]

However, given the benefits of regulatory consistency, it is not appropriate to undertake such a change at this point in time and for one business. The extension of the averaging period should be subject to considerably more research to identify the risks and benefits to the businesses and consumers, along with extensive consultation with all stakeholders. Therefore, it is more appropriately considered as part of the planned review of the Rate of Return Guideline (2017-18), than in an individual proposal.

5.1.5 Summary of Recommendations to the AER

Recommendations 1, 3, 5, and 7 are recommendations to the AER that relate to the current proposals and the AER's determinations on these proposals.

The remaining four recommendations, however, may be best considered as part of the development of a new Rate of Return Guideline, which must be completed by December 2018.[16] In particular, given the review will take place in the near future, and given the many issues facing the AER, consumers and the NSPs with the Tribunal and Court reviews pending, a conservative approach to changing parameters in the Guideline seems more reasonable.

The key recommendations are summarised below:

1. The AER adopt the approach and parameters for the rate of return on equity that were set out in its 2013 Rate of Return Guideline.
2. However, the information provided by the DNPs and other sources should be considered as part of the review of the Rate of Return Guidelines for 2018.
3. The AER reject the proposals by Ausnet and Multinet to increase the value of the market risk premium (MRP) to 7.5 per cent compared to the AER's Guideline value of 6.5 per cent.
4. The AER evaluate the role of the Dividend Growth Model and of the Conditioning Variables given its view that the focus of the regulatory MRP is on long-term investment expectations.
5. The AER reject the proposal by Multinet to include an adjustment to the return on equity for the claimed 'low beta bias' in the SL CAPM formulation.
6. The AER investigate the issues raised by Multinet regarding the alleged increase in the equity beta in recent years as part of its pending review of the Rate of Return Guideline.
7. The AER rejects the proposal by Ausnet to extend the averaging period for the risk free rate;

[15] The Guideline allows NSPs to nominate an averaging period for the return on debt from 10 days to up to one year.

[16] See AEMC, *Rate of Return Guidelines Review, Rule Determination*, 13 October 2016, Sydney. The review of the Rate of Return Guideline was expected to be completed by December 2016. However, the AER sought an extension of time particularly given the number of Tribunal and Federal Court decisions pending.

8. The AER undertake further research into the risks and benefits to consumers of extending the averaging period for the risk free rate as part of its pending review of the Rate of Return Guideline;

The remainder of this submission will provide an overview of the regulatory requirements for estimating the return on equity and provide further detail on the AER's Guideline, and the proposals by Multinet and Ausnet to vary from the Guideline. The discussion will also call on more recent decisions of the AER and the Australian Competition Tribunal. It will also refer to the more recent decisions of the AER, the Economic Regulatory Authority in Western Australia (ERA) and the Australian Competition Tribunal (Tribunal).

Together, this information provides the basis of the recommendations provided to the AER. While AGN's proposal is not included in the subsequent discussions, AGN's approach to adopt the AER's Guideline is welcome.

5.2 Background

5.2.1 Context for the current assessment of the return on equity

The rate of return drives the overall return on capital for an NSP and this in turn represents the largest single component of the AER's revenue allowances. Given the very large regulated asset bases (RAB) of the energy businesses, small changes in the rate of return components will drive significant changes in the overall revenue allowance determined by the AER and the efficiency of capital investment decisions by the NSPs.

For this reason, the previous CCP sub-groups have provided extensive feedback to the AER on the approach of the AER and of the NSPs to the assessment of the rate of return, including the return on equity. The CCP has, in the past, also supported most aspects of the AER's approach, as set out initially in the AER's Guideline.

However, the previous CCP has also suggested that the AER's point estimates of some of the rate of return on equity parameters are overly conservative and, therefore, do not provide the best estimate of the rate of return consistent with the rate of return objectives in the National Gas Rules (NGR) and the National Electricity Rules (NER). The high levels of profitability and the multiples of the regulatory asset base (RAB multiples) that have been offered by potential buyers of the network businesses[17] are indicative of these investor expectations of high levels of profitability in the networks.

It is understood that this type of market information is not determinative for the AER, and rightly so. However, this market information does provide valuable 'feedback' to the AER on the extent to which the AER's expected outcomes of its decisions, and the actual outcomes for the NSPs are aligned (or not). In this submission however, only limited reference to this type of

[17] For instance, CKI has recently submitted an offer to DUET Group (which owns gas and electricity network assets subject to economic regulation by the AER including Multinet gas) that is around 1.5 times the value of the regulated RAB that, in turn, is well above the historical depreciated value of the assets. See for instance, Macdonald A et al, "CKI snubs NSW privatisation with $7.3b tilt for DUET Group", Australian Financial Review, 4 December 2016. http://www.afr.com/business/energy/electricity/cki-snubs-nsw-privatisation-with-73b-tilt-for-duet-group-20161204-gt3lej

information and only where it provides some insight into claims by the NSPs but at this time is not a basis for directly estimating the required rate of return on equity.

In addition, it is acknowledged that:

- the AER will be preparing a new Rate of Return Guideline in 2017-18 for completion by December 2018; [18] and
- there are multiple ongoing appeals and cross-appeals to the Tribunal and to the Federal Court, several of which relate to the AER's determination of various components of the rate of return.

At this stage, therefore, it is not particularly useful to pursue the broader 'policy' questions.

This submission will therefore constrain its comments on the rate of return proposals to issues arising more directly within the current framework of the law, rules and the AER's Rate of Return Guideline. However, some reference will be made to public financial data from the NSP's Annual Reports etc. in the context of claims by some network businesses that the AER's decisions are inconsistent with its obligations under the Revenue and Pricing Principles (RPP) in the NGL and the National Electricity Law (NEL).

The key elements of the regulatory framework for the assessment of the rate of return are summarised below and are common to both the gas transmission and distribution businesses.

5.2.2.The regulatory framework for assessment of the Victorian gas NSPs' rate of return proposals

The DNSPs' rate of return proposals and the AER's assessment of the allowed rate of return (AROR) are made within the economic frameworks set out in the National Gas Law (NGL) and the National Electricity Law (NEL) and the National Gas Rules (NGR) and the National Electricity Rules (NER).

The following regulatory requirements are of specific relevance to the CCP and to the AER's assessment of the rate of return:

- the National Gas Objective (NGO) and National Electricity Objective (NEO) set out in the NGL and NEL (respectively);[19]
- the revenue and pricing principles (RPP) set out in the NGL and NEL;[20]
- the allowed rate of return objective (ARORO) ,[21] and the associated allowed rate of return on equity and return on debt objective, as set out in the NGR and NER;[22] and
- factors that the AER must have regard to in determining the rate of return parameters.[23]

[18] The NER and NGR require the AER to review the Rate of Return at least every three years, which would have meant that a new Rate of Return Guideline would be published by December 2016. However, the AER recently applied for a rule change that allows the AER to postpone the first review for two years. The AEMC approved the rule change.
[19] NEL, s. 16(1)(a); NGL, s. 23.
[20] NGL, s. 28(2)(a)(i); NEL, s. 16(2).
[21] NER, cl. 6.5.2 (h); NGR, r. 87 (8).
[22] NGR, r. 87 (2) – (3).
[23] NGR, r. 87 (5).

The overarching emphasis across all these regulatory requirements is that the AER must make its determination on the allowed rate of return that is commensurate with efficient financing costs of an efficient benchmark entity (BEE), taking into account the risks facing the network in providing the services. The RPP also requires that the AER's decisions will: [24]

- provide a NSP with a "reasonable opportunity to recover at least the efficient costs incurred in providing the services";
- provide a NSP with "effective incentives in order to promote economic efficiency" in the provision of the services;
- allow a return that is "commensurate with the regulatory and commercial risks";
- have regard to the "economic costs and risks of the potential for under and over investment" by the NSP; and
- have regard to the "economic costs and risk of the potential for under and over utilisation of the distribution or transmission system".

In 2011- 2012 the AER, COAG and other stakeholders (including the Productivity Commission) expressed significant concerns that the overall objectives of economic regulation as expressed in the National Gas Objective (NGO) and the National Electricity Objective (NEO)[25] were not being satisfied under the prevailing Laws and Rules and by the decisions of the Tribunal on appeal. Following an extensive review, the AEMC made substantial amendments to the NGR and NER. These amendments provided, inter alia, for the AER to exercise greater discretion in the determination of the best approach to assessing the allowed rate of return in line with these regulatory principles and objectives. Changes were also made to the NEL and NGL.[26]

In response to concerns expressed particularly by the Network Service Providers (NSPs), the AEMC's 2012 rule changes also required the AER to develop a Rate of Return Guideline that set out how the AER proposed to use its discretion in determining an efficient rate of return. Following a 12-month consultation period with the NSPs, economic experts, consumers and other stakeholders the AER published the Rate of Return Guideline in December 2013 along with a detailed Explanatory Statement.

While it is not mandatory for either the AER or the NSPs to comply with the Guideline, the reasons for proposing any variation from the Guideline should be clearly set out in the NSPs' proposals or the AER's determinations. With one minor exception, the AER has applied the approach and the specific rate of return parameters set out in the Guideline.[27]

However, many of the NSPs have proposed alternative approaches to the estimation of the rate of return including different approaches to assessing the rate of return on equity, the rate of return on debt, gamma and inflation. These alternative approaches have been tested in the

[24] NEL, s. 7A (2); NGL, s. 24 (2).
[25] See NGL, s. 23 and NEL, s. 16(1)(d).
[26] These changes in the NEL and NGL largely referred to the operation of the appeals process and the function of the Tribunal.
[27] The exception was the AER changed the value of gamma from 0.5 in the 2013 Guideline to 0.4 in response to further analysis by its consultants after the AER's Guideline was finalised. Additional information on the equity beta was also provided after the finalisation of the Guideline, however, the AER did not change its decision on equity beta (a point of dispute with the previous CCP).

Tribunal in the context of appeals in 2016 by the NSW and ACT electricity distribution businesses and Jemena Gas Networks (JGN). The status of the appeals is summarised below.

5.2.3 The status of appeals to the Australian Competition Tribunal and Federal Court

As of February 2017, the Australian Competition Tribunal (Tribunal) has made two separate decisions, the first of which was in response to the appeal by the three NSW electricity distribution businesses, the ACT electricity distribution business and the NSW gas distribution business (Jemena). The second Tribunal, which responded to the appeal by the South Australian electricity distribution business (SAPN), was differently constituted and came to a different conclusion from the first Tribunal in some instances. The Tribunals' decisions are summarised below:

- Return on equity: the first Tribunal has approved the AER's approach to estimating the return on equity by applying the AER's Guideline approach (the 'foundation model' approach); the second Tribunal did not need to address this issue.
- Return on debt/transition: the first Tribunal rejected the AER's transition approach (in the context of the particular NSPs); a second Tribunal has accepted the AER's transition approach. The AER has applied to the Federal Court for judicial review of the first Tribunal's decision.
- Gamma: The first Tribunal has rejected the AER's assessment of gamma (specifically, the AER's assessment of one component of gamma, the dividend imputation utilisation rate ('theta')); a second Tribunal has accepted the AER's assessment. The AER has applied to the Federal Court for a review of the first Tribunal's decision.

A number of appeals to the Tribunal or to the Federal Court by the NSPs for review of the AER's determinations are still to be determined. For example, Victorian electricity DNSPs have variously appealed to the Tribunal for review of the AER's decision on return on debt, gamma and inflation.

In this supplementary submission to the AER, some account has been taken of the outstanding matters being considered by the Federal Court and it is recognised that the decisions of these bodies will ultimately influence the AER's determination on the rate of return for the Victorian gas network businesses.

Nevertheless, as indicated above, the first Tribunal has ruled that the AER's approach to the return on equity is not in error and has dismissed the various appeals by the networks regarding the AER's approach.

It is concerning, therefore, that some of the Victorian gas NSPs are still proposing approaches and/or parameter values to the return on equity (that are not consistent with the AER's Guideline. This issue is discussed further below.

5.2.4 Summary Victorian gas NSPs' proposals on the rate of return on equity

As an overarching observation on the Victorian gas NSPs' proposals on the return on equity, it is noted that:

- Where the Tribunals have made clear decisions, such as the AER's approach to the return on equity, the NSP's claim they have adopted the AER's overall approach. However, two of the three Victorian gas distribution businesses (DNSPs) and APA VTS have also proposed various changes to the value of the return on equity model input parameters that were specified in the Guideline.

- Where the two Tribunals have come to different conclusions on matters under appeal, such as the AER's debt transition approach and the value of gamma, the majority of the NSPs have proposed approaches or values more consistent with the first Tribunal's decision.

In this supplementary submission, the reasoning of both Tribunals is considered at a high level. Similarly, the AER's reasoning in its more recent draft decisions is taken into account, as are the various reports prepared by the DNSPs' consultants.

5.3. Rate of return on equity proposed by the Victorian gas DNSPs

5.3.1 Overview

The three Victorian gas DNSP's differ in various aspects of their proposed return on equity and vary in the extent to which their proposal differs from the AER's Guideline. AGN, for instance, has put forward a proposal on the return on equity that appears to be consistent with the AER's Guideline approach. In contrast, both Ausnet and Multinet propose significant changes to the market risk premium (MRP) and a number of other parameters.

As a result, the proposed return on equity varies from 6.58 per cent (AGN) to 8.31 per cent (Multinet), while the overall weighted cost of capital (WACC) varies from 5.28 per cent (AGN), 5.63 per cent (Ausnet) and 6.12 per cent (Multinet). The differences between the three gas DNSP's is largely being accounted for by the differences in the return on equity components of the WACC.[28]

Ausnet and Multinet, however, do not appear to have adequately justified their respective variations from the AER's Guideline and have not demonstrated that their proposed rate of return provides the appropriate level of incentive for equity holders and for efficient investment in its Victorian gas distribution networks.

As a result, the network proposals to increase the return on equity above the Guideline does not comply with the NGO, the RPP, the NGR or the AER's Guideline and do not provide incentives for efficient investment in the network system.

This section 5.3 of the supplementary paper will discuss in detail the approaches adopted by Ausnet and Multinet to the MRP, Multinet's proposal for a 'alpha' factor to compensate for the claimed low beta bias of the SL CAPM and Ausnet's proposal to extend the averaging period for the risk free rate estimation.

[28] Note, the proposed return on debt is very similar for all three DNSPs, namely: 4.42% for AGN, 4.67% for Multinet and 4.52% for Ausnet. The return on debt contributes 60% to the overall WACC, the return on equity contributes 40%.

Table 5.1 provides a summary of the Vic gas DNSPs' proposals for the return on equity. Each of the Vic gas DNSPs claims that they have applied the AER's methodology based on the SL CAPM. However, as noted above, two of the Victorian gas DNSPs have varied the input parameter values from those specified in the AER's Guideline.

The changes introduced by Multinet and Ausnet result in a final return on equity for a BEE that is some 173 (Multinet) and 72 basis points (Ausnet) above the estimated return on equity using the AER's Guideline and the Guideline parameters. In addition, as illustrated in Table 5.1 (last row), the equity risk premiums for a BEE are 6.39 per cent (Multinet) and 5.26 per cent (Ausnet). The proposed equity risk premiums (ERPs) for a BEE are significantly higher than the ERP using the Guideline parameters of 4.55% and above the ERP approved for 2011-16 when there was significantly more uncertainty around the long-term impacts of the GFC.

Table 5.1: Return on Equity Parameters in SL CAPM (nominal)

SL CAPM parameters	AER 2013 Guideline	AGN proposal	Ausnet proposal	Multinet Proposal	Comment
Risk free rate (RFR)	10 year CGS average over 20 BD, prior to determination.	2.03%	2.04% based on using averaging over 8 months	1.92%	AGN & Multinet use 20 days and are compliant with AER's Guideline.
Equity beta (β)	Point estimate of 0.7	Point estimate of 0.7	Point estimate of 0.7	Point estimate of 0.7	
Market risk premium (MRP)	Point estimate of 6.5% derived from historical data and forward looking estimates	Point estimate of 6.5%	Point estimate of 7.5%	Point estimate of 7.5%	Ausnet and Multinet place more reliance on the Dividend Growth Model to reflect current market conditions
Return on equity for the equity market as a whole (*E(rM)*)	Implied point estimate for the market return on equity of around 8.53% (applying RFR of 2.03 % as per AGN estimate) [1]	Point estimate of 8.53%	Point estimate of 9.54%	Point estimate of 9.42% plus "bias" adjustment (alpha) of 1.14%	AER's implied estimate given AER's point estimate values for MRP and RFR and equity beta
Risk adjusted return on equity for a gas NSP (BEE)	Estimate of approx. 6.58% (applying RFR of 2.03% as per AGN estimate)	Point estimate of 6.58%	Point estimate of 7.3%	Point estimate of 8.31% (including adjustment)	

Equity Risk Premium for investment in gas NSP	4.55% (applying RFR of 2.03% as per AGN estimate)	4.55%	5.26%	6.39%	

1. Estimates of the total market return based on RFR plus (equity beta * MRP) = (2.03 + (1*6.5)) = 8.53%, assuming a market equity beta of 1.

The two DNSPs have not provided any 'real world' evidence to support an increase in either the MRP or the ERP since 2011, relying instead on the various equity models. Nor have their businesses been financial exposed, or had difficulty raising new equity or loans under the current allowances.

Notwithstanding the lack of general market evidence for a decline in conditions since 2011, an important reason for this variation is that both Ausnet and Multinet consider that "current market conditions" warrant a higher MRP based on, inter alia, the output of a Dividend Growth Model (DGM). Multinet also states that the SL CAPM outputs must be further adjusted for the downward bias in the SL CAPM estimates for low beta (low risk stocks).

For example, Ausnet states in its introduction to its proposed rate of return:[29]

> *Consistent with the Australian Competition Tribunal's first decision on the AER's Rate of Return Guideline, AusNet Services has* ***adopted the fundamental steps of the AER's Guideline*** *approach for estimating the cost of equity. However, in* ***current market conditions this approach warrants a higher Market Risk Premium than*** *has recently been applied by the AER.* [emphasis added]

This statement by Ausnet poses some difficulty. Arguably, there has not been a substantive change in market conditions since the AER's previous determination as noted above. Moreover, many of the "current market conditions" that Ausnet cites as a reason to amend the parameters in the AER's Guideline are temporary or cyclical factors that should only have limited impact on the AER's consideration of the return on equity parameters. In fact a number of these measures have already returned to normal or above normal conditions (see Section 5.3.2.4).

Indeed, these very changes give reason to support the AER in its approach to the return on equity parameters, in particular, the AER's greater reliance on outputs from historical analyses as a basis for estimating future market conditions. There will be further discussion on this issue in later sections of this submission.

It is understood that the AER's Guideline is not mandatory and it has been developed over three years ago. It is reasonable to consider whether significant new information has come to light that would lead an NSP, the AER or other stakeholders to come to different views.

[29] AusNet Services, *Gas Access Arrangement Review 2018-2022: Access Arrangement Information*, 16 December 2016, p. 187.

However, regulatory stability and predictability remains an important goal in its own right and provides ongoing assurance to consumers that the AER is not overly swayed by near term events. Therefore, as noted above, changes to the approach and parameter values set out in the Guideline should only be adopted if there is a compelling evidence to do so (absent a Tribunal or Court direction).

In practical terms this means that while any review of the NSPs' proposals should not be undertaken with a closed mind, particularly given that the Guideline is now over three years old. However, it is reasonable to expect that a very substantive case for change is made by the NSP. Selecting parameter values based on short-term events poses a particular risk of 'cherry picking'. Previous debates about averaging periods for bonds, for instance, have demonstrated the risks to consumers.[30]

Within the Australian regulatory framework under the NER and NGR, and driven by the objective of arriving at a decision that is in the long-term interests of consumers, it is even more important for the AER to look beyond the cyclical factors and/or 'bumps on the road' that are frequently associated with temporary and largely exogenous factors rather than long-term trends.

As summarised by the AER in a recent determination:[31]

> *Our estimate of the prevailing market risk premium for this decision is 6.5 per cent. This is a forward looking estimate of the risk premium – the return above the government bond rate –* ***on the market portfolio required by investors with a ten-year investment horizon.*** [emphasis added]

In another recent decision, the AER states the same principle albeit in the context of explaining that the SL CAPM is an equilibrium pricing model: [32]

> *The Sharpe-Lintner CAPM is an equilibrium pricing model and hence the market risk premium parameter of the model should reflect the premium that investors require in a market in equilibrium. ...* ***We consider that realised returns remain a reliable indicator of investor expectations in market equilibrium.*** [emphasis added]

The AER's statements above provide important insights to how the different parameters of the SL CAPM should be conceptualised. That is, the focus is the prevailing expectations about future equilibrium states or, in other words investors with a long-term 10-year investment horizon.

In contrast, there is a real risk of at least some NSPs selectively promoting different market indicators and different periods of the market depending on the peaks in the cycle or the bumps

[30] For example, the NSW NSP's proposals on averaging periods for the risk free rate during the 2008-09 GFC, which were allowed by the Tribunal, substantially increased costs to consumers above the efficient cost of capital.
[31] AER, *Draft Decision Ausnet Services transmission determination*, Attachment 3, July 2016, p. 3-57.
[32] AER, *Draft Decision, Powerlink Transmission Determination*, Attachment 3, fn. 375, p. 3-104.

on the road. This approach is not a "reliable indicator" of investor expectations in market equilibrium.

NSW consumers, for instance, are very mindful of the extremely poor outcome for NSW consumers in the AER's 2009-10 regulatory decisions.[33] In this instance, the AER's allowance for the WACC (as amended by the Tribunal) was made at the height of the GFC while the impact of the decisions lasted well past the GFC period. It is therefore important to place a much stronger emphasis on longer term historical data as a basis for estimating investor expectations over the longer term, rather than responding to current market "noise" and speculation.

The next sections (5.3.2 – 5.3.4) will cover the following aspects of Ausnet's and Multinet's proposals:

- the assessment of the MRP, noting that both Ausnet and Multinet provided similar proposals;
- Multinet's proposal for an uplift ('alpha factor) to the return on equity estimate of 1.14 per cent to remove what it regards as the "well known problem of downward bias in the SL CAPM".[34]
- Ausnet's proposal for a change in the methodology for calculating the risk free rate.

5.3.1.2 Recommendations on the overall claims

While the details are discussed below, the following summary recommendation can be made:

- The AER adopt the return on equity approach and parameters set out in the AER's 2013 Rate of Return Guideline;

- However, it is appropriate that the information provided by the DNSPs and from other sources (including the recommendations from the previous and current CCP members) should be considered as part of the review of the Rate of Return Guideline to be finalised by December 2018.

5.3.2 Market Risk Premium

As indicated in Table 5.1 above, both Ausnet and Multinet have proposed a MRP of 7.5 per cent, significantly higher than the MRP of 6.5 per cent included in the Guideline and in subsequent decisions by the AER. In explaining this difference, Multinet contends that:

> *Our issue, however, is that the Guideline is now three years old, and markets have moved. We believe that approaches to the WACC need to* ***be flexible to changing market conditions and allow new information to be incorporated****. Our point of departure is not, essentially, methodological, but merely reflects an update of the*

[33] These decisions were made under Rules that limited the AER's discretion.
[34] Multinet Gas, *2018-2022 Access Arrangement Information*, December 2016.

numbers used, following as best we can the AER's approach for deriving those numbers in the Guideline.[35] [emphasis added]

It is true that some flexibility is required, particularly given the delay in reviewing the Guideline. However, this flexibility must be exercised with great care taking into account the importance of balancing flexibility with regulatory certainty and the long-term interests of consumers.

In the task of 'balancing' alternative views, the AER should include an explicit assessment of how risks are shared under different approaches and parameters between investors and consumers and who is best placed to manage these risks. Investors in long-life monopoly assets have access to financial and capital management facilities to manage risks that are not available to the customer of their monopoly assets.

The following sections include a brief summary of the AER's Guideline approach, followed by a description of the proposals by Ausnet and Multinet for a higher MRP and some commentary and advice to the AER on these proposals. The focus of this commentary will be on whether the MRP and other parameters within the SL CAPM framework are best estimated in the first instance on the basis of analyses of historical data or by placing a stronger emphasis on current market conditions as suggested by Ausnet and Multinet.

5.3.2.1 The MRP in the AER's Guideline and the DNSP proposals

The MRP in the AER's Guideline is 6.5 per cent and, as noted, the AER has applied this figure to its determinations since the 2013 Guideline was implemented from 2015. The MRP in the Guideline is also consistent with the MRP of 6.0 to 6.5 per cent that was adopted by the AER in decisions prior to the Guideline.

The AER's estimate of the MRP, and the underlying methodology used to derive this estimate, has been challenged on multiple occasions by the networks in appeals to the Tribunal, both before and after the AER's Guideline was published. The Tribunal has consistently confirmed the AER's decision on the MRP, finding no reviewable error in its approach.

Likewise, the vigorous competition in the NSW privatisation process and the ongoing consolidation in the Australian privately owned networks (at RAB multiples significantly greater than 1)[36], suggest that the AER's return on equity, including the MRP, are not deterring investors from competing to purchase equity in the network businesses.

Nevertheless, at least some NSPs continue to propose values for the MRP that are higher than the AER's Guideline. In effect, these proposals imply that there has been a substantial increase in the market risk premium since the GFC.[37] Ausnet and Multinet, for instance propose an approach that implies a market risk premium of some 7.5 per cent (see Table 5.1) to be used as an input into the SL CAPM calculation for the regulatory period 2018 -22.

[35] Multinet Gas, *2018-2022 Access Arrangement Information*, December 2016.
[36] For details, see footnote 14.
[37] Immediately ffollowing the GFC, the AER increased the market risk premium for the regulated businesses from 6% to 6.5%. However, a number of decisions from 2011 reduced this back to 6.0% including the AER's 2011-16 decisions on the Victorian gas distribution and transmission NSPs.

In general, the AER's MRP of 6.5 per cent is a relatively conservative estimate given the multiple analyses of historical excess returns that have demonstrated a MRP predominately in the range of 5.0 to 6.0 per cent. Moreover, the AER decided to apply an MRP of 6.0 per cent in some determinations made before the Guideline was in effect including the Victorian gas distribution and transmission NSPs. The AER cited, inter alia, its view that the uncertainty associated with the GFC had diminished by then and no longer warranted an MRP in excess of the historical long-term estimates.[38]

Given that the AER's MRP in the Guideline is relatively conservative, and is built on multiple analyses of historical and current data, the two gas DNSPs must provide strong evidence of a significant and sustained change in the equity return requirements of investors in long-term investments in order to substantiate a change in MRP in the AER's Guideline.

This requires the two gas DNSPs to provide a clear explanation of the causes of such a change in the real world, outside the outputs of their various models. As noted above, however, neither Ausnet of Multinet have provided a convincing reason why long-term investors in the real world would be currently placing a premium on the market return on equity suggested in their respective proposals. by APA. Nor have they explained the increases in the ERP for a BEE gas network over the risk free rate (5.26 per cent and 6.39 per cent per cent respectively - see Table 5.1 for the ERP). Such an increase in market risks and the equity risk premium for regulated assets is particularly questionable when other market indicators such as Price/Earnings ratios are high and measures of share market volatility relatively low.

Both Ausnet and Multinet raise similar arguments and, in particular, emphasis the results of their DGM analyses. The AER has clearly demonstrated the weaknesses of the DGM within the regulatory framework in multiple reviews of the NSPs' claims. The DGM does not provide reliable and consistent outputs, rather it depends on the assumptions that users include in the model including assumptions on dividend growth rates, GDP forecasts, inflation and the profile of these growth factors over time. These assumptions are frequently based on implicit or explicit historical analysis.

Such subjective forecasts of future dividend yield growth paths, GDP growth and modelling approach (e.g. 2 or 3 stage DGM) merely "kick the can down the road" without adding clarity to the estimation of the 'true' 10-year forward looking MRP. Thus, despite the claim that the DGM reflects current market conditions it is ultimately reliant on historical data and subjective 'insights" to underpin forecasts by brokers (et al) of long-term dividend and GDP growth.

If anything, it is more consistent for the AER to place less reliance on the DGM than it did when the Guideline was developed, and to place more reliance on the analysis of historical excess return data, particularly given the AER has now more clearly defined its task as one of

[38] Cited in the Australian Competition Tribunal, *Application by Envestra Limited (No 2*)[2012] ACompT4 @ 131.

measuring expectations for equity returns by long-term investors.[39] Not only is the DGM unreliable and generates outputs of the MRP varying from less than 2% to over 10%, it is a methodology that is fraught with the risk of 'goal seek' behaviour – pick the inputs to suit the desired output from the model.

Consumers' long-term interests are not served by leaving the door open to ongoing regulatory gaming around model specifications and inputs into the model, or by over-reliance on models that are subject to short term fluctuations that do not appear to relate to long-term investment expectations.

For these reasons, Ausnet's and Multinet's proposal for a MRP of 7.5 per cent is not supported. The following sections consider the AER's approach in the Guideline, Ausnet's and Multinet's current regulatory proposals and the basis for the advice to the AER in this supplementary paper to not accept their proposal for an MRP of 7.5 per cent.

5.3.2.2 The AER's assessment of the MRP in the Guideline and in recent determinations

As noted above, the AER has included a point estimate of 6.5 per cent for the MRP in its Guideline and has used this same MRP for all subsequent determinations. In its initial 2008 Statement of Regulatory Intent (SoRI), the AER selected an MRP of 6.0 per cent. However, the AER increased this to 6.5 per cent[40] to reflect the risk and volatility in the market following the advent of the GFC. At the time, however, the AER also noted the importance of assessing the expected MRP within a longer time frame consistent with its assessment of the borrowing costs in the Commonwealth and BBB bond markets.

In reality, the AER is implicitly asking the question: "what is the best current estimate of the expected average MRP for the next X years?" - the AER is not asking (as is sometimes suggested by the networks) "what is the expected MRP for short term investment in the current market"?

This question is consistent with the AER estimating a forward looking yield on 10-year Commonwealth Government Securities (CGS) for equity and the yield on 10-year BBB credit range bonds for debt. In both these instances the AER looks at the current yields in the market, but they are the yields on 10 year-bonds, not the short-term yield on 1 to 5 year-bonds (which would, in any case lead to a reduction in the allowed return on equity and debt). As summarised by the AER in a recent draft determination:[41]

> *Our estimate of the prevailing market risk premium for this decision is 6.5 per cent. This is a forward looking estimate of the risk premium – the return above the*

[39] This is discussed in more detail in the next sections.

[40] See, AER, *Electricity transmission and distribution network service providers, Statement of the revised WACC parameters (transmission), Statement of regulatory intent for the revised WACC parameters (distribution)*, May 2009, p.p. 6-7. http://www.aer.gov.au/system/files/Attachment%2010-4%20Gamma%20Supporting%20Documents%20-%201%20WACC%20Review%20%20-%20SORI%20-%20May%202009.pdf

[41] AER, *Draft Decision Ausnet Services transmission determination*, Attachment 3, July 2016, p. 3-57.

government bond rate – ***on the market portfolio required by investors with a ten-year investment horizon.*** [emphasis added]

This does not mean that the MRP is a static concept. The AER agrees that the MRP might vary over time with different economic conditions and that such movements might also incorporate some recognition of "current" market conditions. This was recognised by the AER in the move from 6.0% in the SoRI to 6.5% for the AER's regulatory determinations from 2009 to 2011 as discussed above. However, the AER is, and should be, cautious about reacting too much to shorter-term factors. The economic environment and investment trends are largely cyclical and it is essential that shorter-term movements in the economic and investment environments, which may not be sustained over the long-term, do not overly sway the AER's decisions.

The difficulty for the regulator is that the market expectations for 10-year CGS and commercial bond yields are directly observable and independently verifiable, while the expectations of equity investors with a 10-year investment horizon are not; the MRP must be estimated from other data. That is why there have been many years of dispute about the 'true value' of the MRP and how this might best be estimated within the SL CAPM framework.

The AER's approach is to establish a baseline estimate of the MRP based on long term historical trends then consider other models and information sources to cast a light on nearer term investment sentiment and to define a point estimate within the range of historical based observations.

This process is outlined below. *Note: The figures below are taken from the AER's Draft Decision for Ausnet Services Transmission (July 2016) unless otherwise stated. More recent determinations (e.g. AER's Draft Decision for Powerlink Transmission (September 2016) have slightly different estimates reflecting changes in the risk free rate.*

Baseline estimate – Analysis of historical excess returns.

Consistent with the AER seeking to estimate the current expectations for returns over a 10-year horizon, the AER's first step is to establish a baseline estimate of the MRP based on analyses of historical excess returns in the equity market.

The AER's more recent draft decision on Powerlink (September 2016) suggests an MRP of approximately 5.0 to 6.0 per cent for the MRP based on historical excess returns, within a range of 4.9 per cent to 6.0 per cent.[42]

In particular, the AER's historical analysis of excess return for the period 1988-2015 demonstrates an MRP of 5.6 per cent (arithmetic average) and 4.0 (geometric average). This is

[42] AER, Draft Decision, *Powerlink Transmission Determination*, Attachment 3, September 2016, p. 3-47

slightly below the average MRPs calculated over longer periods[43] and therefore provides no support for an increasing MRP over time.[44]

The assumption is that investors in long-term assets will base their long-term expectations for equity return on long-term historical trends. Investors in long-life assets are not (generally) looking for 'quick bucks'; they are looking for consistent returns over the longer term. This is why, for instance, pension funds have been seeking to acquire interests in network assets in Australia and are willing to pay RAB multiples that are well above 1.[45]

Selecting the point estimate – the DGM and other models

The AER acknowledges the theoretical basis for the DGM and its use by some brokers and investment advisor, although rarely are these parties focused on long-term investment considerations. The AER's own DGM 2 and 3-stage analyses set out in recent determinations suggest a range of 7.57% to 8.84% for the MRP.[46] The DGM results were used by the AER as evidence that the MRP may be higher than the MRP based on historical excess returns alone.

However, the AER also recognises the many limitations of the DGM; the DGM relies on assumptions about future growth in dividends and GDP growth and there is a lack of consensus about how the model should be specified (such as 2 stage, 3 stage models and other variants). There are issues too around "sticky" dividends – near term dividend yields can reflect behavioural factors such as the reluctance by management and boards to change the 'promised' level of growth in dividend payouts even when faced with significant contraction in earnings.

The AER concludes that: "…we do not consider that the dividend growth model estimates are reliable on their own, but they do provide some support for a point estimate above the range from historical returns". [47]

Selecting the point estimate – survey evidence, stakeholder views and conditioning variables

The AER states that survey evidence supports a MRP of around 6.0 to 6.5 per cent. The AER also concluded that other regulators' estimates indicate that a MRP estimate of "around 6.5 per cent

[43] Ibid, Table 3-16, p.p. 3-104 – 3.105. The 1988-2015 period follows the introduction of the dividend imputation system; given the imputation may impact on investors' perceptions of equity, this range (1988 – 2015) provides a more consistent series. However, Table 3-16 also includes longer periods, adjusted for a theta of 0.6.

[44] However, it does not necessarily prove there has been a reduction.

[45] See for instance, Anthony Macdonald, "Pension funds lining up for NSW $25 billion electricity sale", Australian Financial Review, 17 Feb 2015. http://www.afr.com/news/special-reports/energy-and-infrastructure/pension-funds-lining-up-for-nsw-25-billion-electricity-sale-20150129-130v0v. The Canadian Pension Fund took a 24.99% equity in the consortium that purchased Transgrid 100-year lease. A consortium of Australian super funds acquired the whole of the 50.4% of equity available to investors in Ausgrid in October 2016. Both purchases have been made at RAB multiples significantly greater than 1 and with the full knowledge of the AER's approach to the assessment of the rate of return, including the MRP.

[46] AER, *Draft Decision Ausnet Services transmission determination*, Attachment 3, July 2016, p. 3-59. The AER's Draft Decision Powerlink Transmission determination has slightly greater range (7.54% – 8.86%)

[47] Ibid.

is reasonable".[48] Stakeholders considered a MRP estimate of 6.5 per cent was conservative, including previous CCP sub-panels.[49]

The AER also indicated in its Guideline that it would consider movements in a number of 'conditioning variables' including changes in yield spreads, dividend yields and implied volatility. The AER explains that these conditioning variables can provide some insight into the current market sentiment, as follows:[50]

> *These conditioning variables can provide information about prevailing market conditions and whether or not the market is in a period of heightened risk aversion.*

The AER concludes that at this particular time there is little evidence of a sustained trend away from long-term averages of these conditioning variables. In addition, the AER makes three important observations in its recent draft determinations:

- conditioning variables should be considered symmetrically through time to avoid bias;[51]
- conditioning variables are close to their long-term averages; and
- there is little evidenced of a sustained trend away from long-term averages.

A further important clarification by the AER is that the appropriate approach is to consider expectations over the longer time frame that underpins the other parameters in the SL CAPM and the return on debt. The AER relevantly states:[52]

> *It is important to note that we are estimating a 10-year forward-looking market risk premium with regard to the prevailing conditions in the market for equity funds. In this context, prevailing conditions can be considered 'prevailing expectations'* ***over the relevant forward looking timeframe, which is 10 years. Therefore we consider short term fluctuations in conditioning variables should be treated with caution.***
> [emphasis added]

As a result of this conceptual framework, the AER's analyses of the DGM, survey data and the conditioning variables, the AER has selected a point estimate that is just above the historical excess returns based estimates. That is, the AER's decision to apply an MRP of 6.5 per cent in the Guideline is made by giving some 'weight' to the DGM analyses. In this, the AER has used its discretion in a manner that is generally consistent with the rate of return Guideline that recognises that the MRP may move over time (though not as a function of the risk free rate).

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[48] Ibid. The AER's September 2016 Draft Decision Powerlink Transmission determination indicates a range of 4.4% to 6.8% (p. 3-48).

[49] For example, CCP4 recommended a MRP of no more than 5.0 per cent. See: AER Consumer Challenge Panel (CCP4), Hugh Grant & David Headberry, "Submission to the AER, Powerlink Queensland 2018-22 Revenue Proposal", p.p. 3 and 45.

[50] AER, *Draft Decision Ausnet Services transmission determination*, Attachment 3, July 2016, p.p. 3-80 -81.

[51] In the AER's Draft Decision for Ausnet Transmission (July 2016), the AER notes that various service providers have presented the information on conditional variables asymmetrically, e.g. when volatility is high, the NSPs may use this to support a higher MRP, but when it is low, the NSPs do not raise this. Ibid, p. 3-208.

[52] AER, *Draft Decision, Powerlink transmission determination*, Appendix 3, p. 3-109.

The AER also highlights that in recent years most service providers have proposed a MRP of 7.8 to 7.9 per cent following the recommendation of their consultants such as SFG. SFG recommended a weighted average of estimates of the MRP from a DGM (as specified by SFG), historical excess returns, the Wright approach and independent valuation reports.

The AER has largely rejected this approach by the NSPs and has expressed its concern about the extent to which the NSPs have relied on the DGM, the Wright approach and the independent valuation reports in forecasting expected equity returns and the MRP over a 10-year horizon.[53]

The AER concludes that the DGM models "are likely to produce upward biased estimates [of the MRP or the return on equity] in the current market".[54]

The AER has also considered the argument raised by most of the NSPs that the overall return on equity is relatively stable. The NSPs claim that if the overall market return on equity is relatively constant, there must be an inverse relationship between risk free interest rate and the MRP. That is, if the risk free rate falls, ceteris paribis, the MRP must increase (within the SL CAPM framework). The 'Wright CAPM' (Wright) approach for instance is consistent with this view that the overall market return on equity is relatively stable with the implication that the risk free rate and the MRP are strongly negatively correlated.

As discussed below, this is largely the approach that APA adopts in their current regulatory proposal. While APA states that its approach is not based on the Wright approach, the outcome is similar in that the MRP is a figure derived from the calculation of the market return on equity and the risk free rate rather than assessed independently.

The AER has rejected reliance on the Wright approach in estimating the MRP although it has used a range from the Wright CAPM to inform the overall return on equity. In the AER's view there is no theoretical basis for assuming a direct and inverse correlation with the risk free rate and there is conflicting evidence on the direction of any relationship. Further, the AER cites the advice of Handley who states two objections to the NSPs' claims:[55]

> *It [the MRP] is "a single estimate of a single item. It is not an estimate of the expected return on the market and an estimate of the risk free rate. ..and … The theoretical justification for such an assumption* [of the negative correlation of the MRP and RFR] *is far from clear whilst the empirical evidence this is presented in not compelling. More importantly, this is a proposition whose widespread use and acceptance is yet to be established.*

[53] For example, AER, *Draft Decision Ausnet Services transmission determination*, Attachment 3, July 2016, Table 3-5, p. 3-61-62. In this table, the AER addresses each of the NSPs concerns with the AER's approach.
[54] Ibid, p. 3-59.
[55] Handley, "Advice on the return on equity", 16 October 2014, p.p. 17-18. Cited in Ibid, p. 3-188.

5.3.2.3 Ausnet's and Multinet's proposed MRP for 2018-22.

Multinet and Ausnet and a number of other NSPs commissioned Frontier Economics (Frontier) to conduct a study on the market risk premium in September 2016[56] in response to a number of draft determinations by the AER. Both Multinet and Ausnet have relied on this report as the basis for their proposal for an MRP 7.5 per cent.[57] For this reason, it is worth considering the Frontier report in some detail.

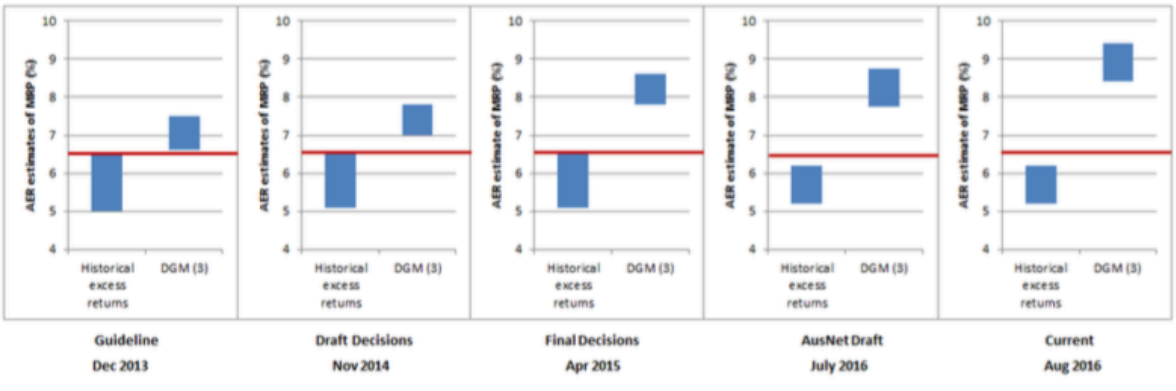
Frontier Economic's Report on the MRP.

The core of the argument presented by Frontier for a MRP of 7.5 per cent appears to be as follows:[58]

- The 2013 Guideline indicated that although the AER would rely largely on the analyses of historical excess returns, the AER would also place some reliance on the DGM when selecting a point estimate within the range.
- At the time the Guideline was published there was a degree of overlap between the MRP range from the historical excess returns analyses and the range from the DGM analyses.
- However, since 2013 the overlap between the two methodologies has disappeared and there has been a progressive widening of the gap between the historic excess returns and the DGM estimates (see Figure 7.1);
- At the time the Guideline was published, the yield on 10-year government bonds was 4.1 per cent; the yield has now fallen by at least 200 basis points (as at September 2016).
- Nevertheless, the AER has maintained its MRP of 6.5 per cent. It appears that now the AER's MRP estimate is based almost exclusively on the historical excess returns estimate rather the prevailing market conditions as revealed by the DGM.
- The problem with the application of the AER's approach is that the AER's MRP is "nearly constant" and, therefore, the required return on equity always falls one-for one with every decline in government bond yields. Analysis of return on equity does not support this conclusion by the AER.

In support of its argument, Frontier presented a chart that it claims reveals the progressive growth in the gap between the range of historical excess returns estimates and the range of the DGM estimates (see Figure 5.1).

Figure 5.1: The AER's primary MRP estimates



Source: Rate of Return Guideline; Ausgrid Draft Decision; Ausgrid Final Decision; AusNet Draft Decision; Current estimate using risk-free rate of 1.9%.

Source: Frontier Economics, *The market risk premium*, September 2016, Figure 1 at paragraph 14. The chart only demonstrates the AER's 3 stage DGM, the AER also assessed the MRP using a 2 stage DGM.

Frontier concluded as follows:[59]

> *In persisting with a 6.5% MRP (such that its allowed return on equity has been reduced by more than 25% since the Guideline) the AER is apparently applying* ***no weight*** *to any of this evidence. In particular, as the AER's own DGM estimates of the required return on equity have remained stable, it has apparently afforded that evidence progressively less weight – reducing the allowed return by more than 25%.* [emphasis added]

Frontier states that it has calculated an MRP of 7.5 per cent, using an approach similar to the DGM approach that the AER used in the Guideline when it set a point estimate within the ranges defined by the historical excess returns.

Frontier explains its conclusions based on the AER Guideline approach as follows:[60]

- 7.5 per cent is the midpoint of the AER's stated preferred estimate from the historical excess returns of 6.0% and its mid-point 3-stage DGM estimate of 9 per cent.
- The upper bound of the AER's historical excess returns approach is 6.5 per cent, and the lower bound of the AER's 3-stage DGM is 8.4 per cent. The mid-point between of the gap between the two is 7.5 per cent.
- The upper bound of 6.5% and the lower band of the 2-stage DGM is 8.2 per cent. The mid-point of the gap is 7.4 per cent.
- The mid-point of the combined range (5.5 per cent to 9.4 per cent) is 7.5 per cent.
- An MRP of 7.5 per cent implies a market return of 9.4 per cent, which Frontier states is "materially below the 10.5 per cent allowed market return at the time of the Guideline".[61]

Frontier further states that it came to a similar MRP estimate of 7.5 per cent using their 'preferred approach rather than the AER's approach. The steps in Frontiers approach are set out below:[62]

- adopts a theta of 0.35, commensurate with a gamma of 0.25, when estimating the MRP (the AER uses a theta of 0.6);
- places no weight on the geometric means of historical excess returns;
- places no weight on historical excess return estimates that use periods that begin in the 1980s as these represent too small a sample for statistical reliability;
- apply an adjustment recommended by NERA to better match dividends paid in the early part of the historical sample; and

[59] Ibid, at paragraph 45.
[60] Ibid, at paragraph 39.
[61] Ibid, paragraph 41. The implied market return of 10.5 is based on a risk free rate of 4.0% and MRP of 6.5%.
[62] ibid, paragraph 283.

- have regard to the Wright approach as an estimate of the MRP.

Frontier concludes that:[63]

> *… the historical excess returns and Wright estimates represent two ends of a spectrum…Since the truth is likely to lie between these two end points, we assign material weight to both.*

The estimates from the historical excess return analysis by Frontier (using three historical periods) ranged from 5.8 per cent to 6.5 per cent. The Wright CAPM estimates of MRP ranged from 9.3 per cent to 9.7 per cent. Even weighting historical estimates by a factor of 2, the resulting MRP is 7.4 per cent.[64]

Frontier has undertaken a DGM analysis using different scenarios of GDP growth rate. Table 5.2 is taken from the Frontier report.

Table 5.2: DGM estimates: Theta set to 0.35. No deduction for long run GDP growth rate

Growth rate	Two-stage	Three-stage
3.8%	7.2%	7.5%
4.6%	7.9%	8.1%
51%	8.4%	8.5%
5.6%	8.9%	8.9%

Source: Frontier calculations. Data to end July 2016

Source: Frontier Economics, *The market risk premium*, September 2016, Table 8, paragraph 283 ((j)

Frontier considers that, on the basis of the information above an allowed MRP of 7.5 per cent is "very conservative". They note that the MRP of 7.5% lies between:[65]

1. The view that the MRP is constant over all market conditions, so that the required return on equity rises and falls one-for-one with changes in the risk-free rate; and
2. The view that the required return on equity has remained stable over the period since the Guideline.

Frontier concludes by claiming that the AER has given progressively less weight, or even "no weight" to the DGM results and other evidence since the Guideline. Frontier considers this approach as "unreasonable" and that: "the allowed return on equity should respond to market

[63] Ibid, paragraph 283 (f).
[64] Ibid, paragraph 283 (g)-(i). Note, the historical excess return estimates apply a "NERA correction" and theta is set to 0.35.
[65] ibid, paragraph 42.

conditions and should not be set **by adding a fixed premium to the contemporaneous government bond yield**.[66]

Frontier also suggests that the MRP of 7.5 per cent is consistent with the decisions of other regulators including the Economic Regulatory Authority (ERA), IPART, Ofgem and the US FERC rate cases. [67] Such comparisons are, however, fraught with issues arising from very different regulatory arrangements and approaches. A later section in this supplementary paper will provide a discussion of the ERA's most recent decisions and ERA's reconciliation of their MRP with the AER's MRP, to illustrate the difficulties of making direct comparisons. The majority of MRP decisions made by Australian regulators are on, or below, the AER's point estimate of 6.5.[68] The exceptions are ERA and IPART both of who assign more weight to the DGM estimates.[69]

The Essential Services Commission of South Australia (ESCoSA) explicitly chooses not to use the DGM, have considered that the DGM approach was "potentially volatile and unreliable".[70]

5.3.2.4 Response to Ausnet's and Multinet's proposal for the MRP

The proposals by Ausnet and Multinet to include a MRP of 7.5 per cent rather than the AER's Guideline value of 6.5 per cent is not supported by the evidence provided by the two DNSPs. As noted, a high standard of evidence is required to move from the Guideline and this evidence must establish that the relevant changes reflect long-term investor expectations not just short-term fluctuations. For example, even if the Frontier analysis is appropriate, a so-called 'trend' observed over the limited period 2014 to 2016, without clear theoretical underpinnings, is insufficient for the AER to adopt different parameter values for the MRP.

Before considering the detail of the proposals it is important to address the claim by Frontier that: "the AER is apparently applying no weight to any of this evidence"[71] from the DGM et al. Frontier goes on to state that:[72]

> *…the AER's approach of setting the allowed return on equity by adding a fixed premium to the contemporaneous government bond yield is based on assumption rather than evidence.*

This seems, however, to be a misrepresentation of the AER's position. The AER's approach does not mean that it is rigidly adding a "fixed premium" to the risk free rate as stated above. The

[66] Ibid, paragraph 47.
[67] Ibid, paragraph 187. Frontier reports on the ERA, IPART and Ofgem and a number of FERC rate cases. However, Frontier does not report on the analyses of MRP by the Queensland Competition Authority or the Essential Services Commission of South Australia.
[68] See for instance, AER, *Draft Decision, Powerlink transmission determination*, Attachment 3, Figure 3-14, p. 3-123.
[69] As discussed later in this submission, the ERA explains much of the difference by reference to the term of the risk free rate (5-year CGS yields) and considers if it used the 10-year CGS yields it would be more likely to approach the estimation in the same way as the other regulators with an emphasis on historical excess returns.
[70] ESCoSA, *SA Water Regulatory Determination, Final Determination*, June 2016, p. 124.
[71] Frontier Economics, *The market risk premium, Report prepared for AGN, Multinet Gas, AusNet Transmission and Ausnet Gas*, September 2016, paragraph 279.
[72] Ibid.

AER's continued use of the MRP of 6.5 per cent merely means that the AER has not been provided with sufficient evidence to change its initial view, bearing in mind the need for the AER to balance flexibility with consistency in its decision-making.

In addition, if the AER puts aside or otherwise places less importance on a particular type of information that is preferred by the NSPs, this does not mean that the AER has not originally considered the information. The Tribunal has also addressed this concern in response to appeals by the NSPs on various matters. The Tribunal concludes as follows:[73]

> *It [the AER] need not give particular weight to any one source of evidence, and indeed it might treat particular evidence as having little or no weight in the circumstances. It is for the AER to make that assessment.*

Relevantly, the Tribunal went on to specifically discuss issues around the MRP, concluding as follows: [74]

> *On the topic of the MRP, the Tribunal does not conclude that the AER's decision was factually erroneous. It selected an available starting point. It addressed the relevant material. It applied its own experience to the qualitative findings to be made, and it sought to cross-check them with other sources of information.*

This explanation of the scope of the AER's discretion is important when considering the proposals by Ausnet and Multinet as a large part of the differences between the Frontier assessment and the AER rests on weight that each places on historical analyses versus the DGM.

This supplementary paper has indicated its support for the Guideline approach based on the principles of consistency and given the extensive consultation that has taken place both during and since the Guideline' publication.[75] However, this support should not be taken as an endorsement of individual parameters. Rather, it is support for the general approach and also reflects a consideration that changes to the parameters are now better addressed as part of the review of the Rate of Return Guideline that commences in 2017. This will ensure continuity and provide for extensive consultation on any changes.

The mere finding that a particular variable at a particular point in time is different than those included in the AER's Guideline is not sufficient; there must be evidence of a sustained change in the fundamental relationships.

[73] Australian Competition Tribunal, *Applications by Public Interest Advocacy Centre Ltd and Ausgrid* [2016] ACompt 1 at 713.
[74] *Re Public Interest Advocacy Service Ltd and Ausgrid Distribution* [2016] ACompT1 at 803.
[75] In providing this support, it is noted that a number of the parameters in the AER's return on equity model have been the subject of criticism by both previous CCP subgroups and individual consumer representatives. As highlighted in the text above, it now seems preferable that these matters are reviewed as part of the legislated review of the AER's Rate of Return Guideline.

Moreover, there is no evidence that the Vic gas DNSPs have faced financial difficulties as a result of the AER's previous decisions that allowed for a MRP of 6.5 per cent.[76] For example, AusNet Services, whose portfolio of assets very largely consists of regulated network assets, report an EBITDA margin on their gas business for the half-year to September 2016 of 79.2 per cent, and EBIT margin of 61.2 per cent.[77] In the same half year, the EBITDA for the gas business increased by 12.7 per cent compared to the previous half year (September 2015).[78]

These strong financial results are not determinative and it is recognised that the business profit outcomes will reflect many factors, including depreciation and tax arrangements. Nevertheless, they are interesting in the context of the oft-cited RPP requirements in the NEL and NGL, to enable a regulated network business to recover at least the efficient costs of providing the regulated services. It would seem that to date, the networks have not suffered in their profits or share prices as a result of the AER's approach.[79]

Other, more specific reasons, for the recommendations to not accept the proposals by Ausnet and Multinet for a higher MRP are outlined below.

The AER's long-term perspective of the MRP within the SL CAPM framework

The task facing the AER that - within the framework it has established for the SL CAPM – is to find a current estimate of the efficient returns required by an investor in low risk assets over the long term. The AER's contention has been previously accepted by the Tribunal. The Tribunal re-states the AER's position (which it did not reject) as follows:[80]

> *In the AER's view, the short-term MRP will vary from the long run estimates of MRP at times but that in order to maintain regulatory consistency, a long-term MRP with a notional ten year investments consistent with the term of the risk free rate ought to be considered.*

The question then turns to finding the best estimate of these long- term excess returns.

The AER places significant emphasis on developing a reasonable range for the MRP based on the analyses of long-term historical excess returns. The AER's reliance on long-term averages to estimate the expected MRP in the "prevailing conditions in the market for equity funds" has

[76] The AER made its current determination in 2013 prior to the rate of return guideline. However, the approach was similar except for the equity beta (0.8) and the debt transition (on-the day only).
[77] Ausnet Services, Half Year Report Presentation, 30 September 2016, p. 29. https://www.ausnetservices.com.au/Misc-Pages/Links/Investor-Centre/Company-results
[78] ibid, Operational Review, Gas Distribution.
[79] Although Ausnet noted in its FY 2017 half year report (op cit) that NPAT from its electricity distribution utility in Victoria was adversely impacted by lower revenues as a result of the AER's recent electricity distribution price review (2016-20) which Ausnet says is: "based on a substantially lower weighted average cost of capital than the 2011-15 regulatory period. The lower revenues have been partially offset by lower financing costs". https://www.ausnetservices.com.au/en/Misc-Pages/Links/Investor-Centre
[80] Australian Competition Tribunal, *Application by Envestra Limited (No 2*) [2012] ACompT4 at 136. The AER had proposed a MRP of 6.0 per cent based largely on the historical analysis having also considered other evidence including the DGM. Note that while this decision was made prior to the implementation of the revised NGR and the AER's Guideline, the requirements in the NGR rule 87 still applied, i.e. for the AER to have regard to prevailing conditions in the market for equity funds.

been tested directly in the Tribunal and the Tribunal has confirmed that the AER's approach is reasonable as cited above.

Given the first leg of the SL CAPM is the risk free rate and that the AER determines this by reference to yields on 10-year CGS bonds, it follows that the focus of the MRP should be on estimating the longer term MRP or as sometimes stated, the 'equilibrium MRP'. The best methodology for estimating the longer term equilibrium position, and avoiding the bias inevitably created by an over reliance on short term assessments, is to provide the 'base' estimate of the MRP using long term historical data. The AER summarises this position in its recent draft determination for Powerlink as follows:[81]

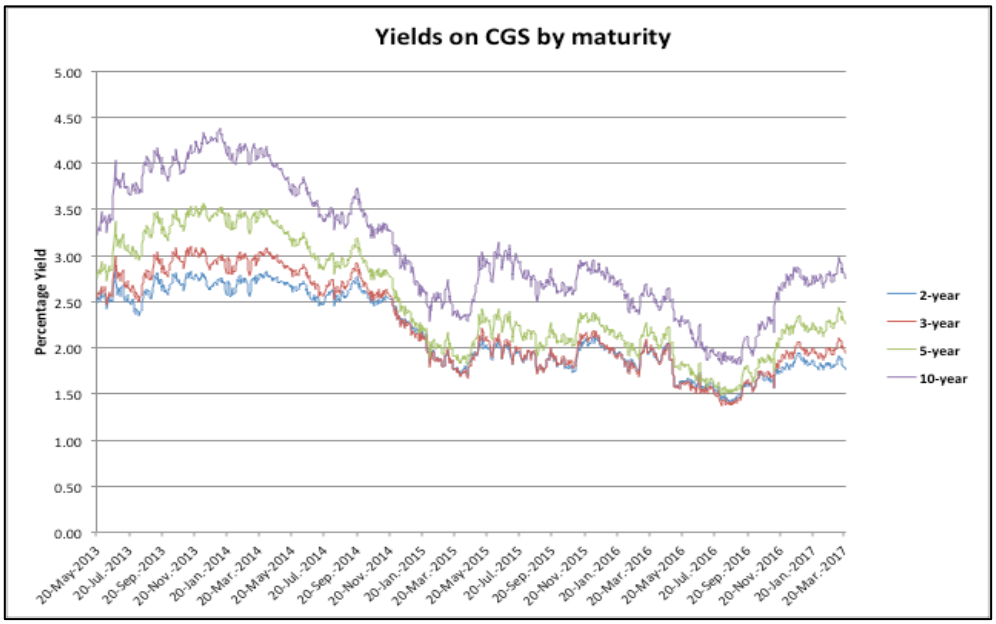
> *The Sharpe-Lintner CPAM is an equilibrium pricing model and hence the market risk premium parameter of the model* ***should reflect the premium that investors require in a market in equilibrium****. In this section we examine returns that have been realised in practice, over periods in which the market may not have been in equilibrium. This data is used for practical reasons – the ex-ante required equilibrium return of investors is not observable.* ***We consider that realised returns remain a reliable indicator of investor expectations in market equilibrium****.*

Arguably, therefore, it would be inconsistent for the AER to combine in the same SL CAPM equation the 10-year CGS yields for the risk free rate and a market risk premium assessed on the short term. Either the AER uses short-term CGS yields (such as the ERA does (5-years), and which APA does not want) with an increased weight on near term measures such as the DGM. Or the AER uses a long-term CGS yield (10 years) with an MRP assessment based on investors views of risk and return over the long term.

The difference between the short term and long-term yield on CGS (and therefore the risk free rate) is illustrated in Figure 5.2 below which indicates a range of up to 200 basis points between 2-year and 10-year CGS yields and around 100 basis points between 5-year and 10-year yields.

[81] AER, *Draft Decision, Powerlink transmission determination*, Attachment 3, September 2016, p. 3-104, fn 375.

Figure 5.2: Commonwealth Government Securities: Yield for 2, 3, 5 and 10-year securities



Source: RBA, Statistics Report f02d.xls, accessed 25 March 2016.
http://www.rba.gov.au/statistics/tables/#interest-rates

The role of the DGM and "current market conditions" in estimating the equilibrium MRP

Despite the AER's concerns with the DGM, the AER pays some limited reliance on the DGM as an indicator of prevailing estimates of the MRP. As noted previously, the AER considers the DGM has some value in informing the AER on its point estimate for the MRP that sits within the range arising from the long-term historical analyses, or close to the range. To date, the AER has continued this approach despite concerns by many of the NSPs that the DGM is no longer within the same range as the historical excess returns analysis (see Figure 5.1 above).

The question on the value of the DGM not only rests on its relevance to estimating equilibrium MRP. There remain many concerns with the validity of the assumptions in the DGM and the relevance to establishing a MRP point estimate within the regulatory context. That is, in most forms of the DGM, assumptions must be made about multiple variables for both the short and long term horizons. These include forecasts about the dividend growth rate, the GDP growth rates, the relationship between the two, the inflation forecasts and even the specific construction of the DGM. As the Tribunal noted some four years ago in its Envestra decision:[82]

> *The choice of methodologies and assumptions has the potential to significantly alter the result, as was demonstrated particularly by reference to the DGM analysis.*

[82] Re *Application by Envestra Limited (No 2*) [2012] ACompT4 at 146.

For some of these forecasts, reference can be made to what is generally regarded as relatively independent and objective parties. Others forecasts are more subjective and therefore open to bias and argument. For example, SFG Consulting stated in 2014:[83]

> *The AER contends that listed firms cannot grow at the rate of GDP growth, and this is an area of disagreement, but it is certainly plausible that the average listed firm grows at about the same rate as the nominal GDP.*

The final selection of the long-term growth rates for dividends has a significant impact on the DGM outputs yet reasonable parties can disagree on such a basic component.

The ERA (amongst others) highlights the limitations of the DGM estimates, albeit it appears to place greater reliance on its DGM model for the estimate of the 5-year MRP. The ERA notes that there is no clear agreement amongst experts as to the best form of the DGM, or its input assumptions. The ERA also notes that:[84]

- analysts' forecasts ('consensus forecasts') have a tendency to be upwardly biased reflecting "over-optimistic" expectations for target prices and earnings;
- DGMs may not reflect market conditions if firms follow a stable dividend policy (i.e a policy of issuing dividends that are not directly proportional to earnings);
- DGMs do not capture non-dividend cash flows, such as share purchases or dividend re-investment plans.

With respect to the ERA's second and third point, an article in the RBA's March 2016 Quarterly Bulletin noted that dividend payouts may grow even when earnings are flat or declining. In reference to the growth in dividends between 2010 and 2015, the article stated: [85]

> *These increases have occurred alongside modest growth in earnings. Dividend paying companies appear to* ***generally smooth these payments****, having been* ***reluctant to reduce their dividend payments in particular.*** *The increase in dividends over recent years could reflect* ***an increase in shareholder preference*** *to receive income payments or a perception among company managers that there are fewer viable investment opportunities…* [emphasis added]

For these reasons, it is reasonable to ask the AER whether indeed the DGM is, or can, provide useful information as an estimator of current expectations for the MRP (or return on equity) for investors making long-term investments. If the DGM approach no longer has much value, then it is less concerning if the AER has (as alleged by NSPs) placed less emphasis on the DGM to determine a point estimate for the MRP. In contrast, the AER's reliance on the historical excess

[83] SFG Consulting, *Alternative versions of the dividend discount model and the implied cost of equity,* May 2014, paragraph 183.
[84] ERA, *Final Decision on Proposed Revisions to the Access Arrangements for the Goldfields Gas Pipeline*, 30 June 2016 (as amended 21 July 2016), paragraph 1027.
[85] Bergmann, M, "The Rise in Dividend Payments", Reserve Bank Quarterly Bulletin, March 2016, p. 47. https://www.rba.gov.au/publications/bulletin/2016/mar/pdf/bu-0316-6.pdf

returns to provide a 'base estimate' of the MRP provides some confidence that the MRP is calculated on the appropriate basis and in the context of the AER's regulatory framework.

The real test will be whether the DGM approach will be equally promoted by the NSPs if, at a particular point in time, the DGM proves to be significantly lower than the long-term historical average.

In addition, it should be recognised that the DGM inputs often rely on some analysis of historical data. For instance, the long-term GDP growth factor used in both the 2 and 3 stage DGM generally requires an estimate of GDP growth that is likely to be based in part on historical trends. The long-term expectations for GDP growth by investors and market analysts will be based largely on the history of GDP growth and the expectation that, over time, GDP growth will be 'mean reverting'.

The ERA's decisions and the MRP

In a number of recent decisions, the ERA has accepted a MRP of 7.4 per cent, significantly higher than the AER's Guideline and reflecting its greater reliance on the output of the DGMs to select a point estimate. [86] The ERA's decision has, in turn, been quoted by various parties in support of the AER using a higher MRP in its current round of decisions.

The ERA has also sought to reconcile its MRP estimate with the AER's 6.5 per cent estimate. The ERA's analysis is interesting in the context of the AER's view that the AER is assessing the long-term MRP with a notional 10-year investment profile.

The ERA notes that the AER's approach and established range for the MRP is "comparable" to that of the ERA, however, the overall point estimate is somewhat lower than the ERA's.[87]

The ERA then concluded that the greater part of this point estimate difference related to the risk free rate difference, in particular, the different yields for different term to maturity of CGS. That is, the ERA uses the yield on 5-year CGS bonds while the AER uses the yield on 10-year CGS bonds. The ERA also notes that the remainder of the difference in the MRP point estimates relate to the differences in the "weighting" of other evidence and the degree of regulatory discretion applied to this. It is worth quoting the ERA's conclusions in full given its MRP is cited as evidence by the DNSPs:[88]

> *1130: This* [the difference in the MRP] *can be reconciled through the Authority's use of a 5 year term for the risk free rate instead of a 10 year term. The comparable 10 year risk free rate on 31 May 2016 is calculated at 2.32 per cent; 50 basis points higher than that (1.82 per cent) used by the Authority to derive the MRP. This would bring the Authority's MRP estimate down to 6.9 per cent.*

[86] See for instance, ERA, *Amended Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline*, July 2016, paragraph 1142.
[87] Ibid, paragraph 1129.
[88] Ibid, paragraph 1130 -1132.

1131: The remaining 40 or so basis points appear to result from differences in the information used by the Authority to arrive at a point estimate within the established range. Differences include the Authority's reliance on forward looking indicators of risk and the economic outlook and the AER reliance on surveys and stakeholder submissions.

1132: The Authority considers the AER's estimate is comparable to this Final Decision, once differences in parameter estimates and judgement are accounted for.

In paragraph 1131 the ERA is, in large part, referring to its greater reliance on the output of the DGM. The ERA recognises the limitations of the DGM but it considers the DGM (along with other data) provide some information that is more reflective of the near term expectations of investors than the historical excess returns analysis.

However, it is also important to note that the ERA itself provides some further qualification on this matter. For example, after comparing its MRP findings with those of other Australian regulators, the ERA notes that by selecting a CGS yield for a shorter term to maturity (5 years), the ERA allows greater deviation in the MRP from the long run value employed by other regulators. In its final Goldfields Gas Pipeline decision, the ERA states:[89]

1138: As discussed in paragraphs 1086 to 1093 the Authority's estimates are forward looking over the next 5 years and hence can deviate from the long run historical averages implied by mean reversion or the 'Ibbotson' approach. As shown in table 79, ***these estimates tend to be around 6 to 6.5 per cent range****. The Authority notes that this range of estimates coincides with those typically employed by other regulators****. If the Authority were to adopt a longer term view, it would be logical to adopt this range.*** *However, the Authority adopts a 5 year risk free rate in the return on equity and correspondingly allows deviation in the MRP from the long run value typically employed by other regulators.* [emphasis added]

Note that in calculating the risk free rate component on the return on equity, both Ausnet and Multinet have relied on yields for 10-year CGS bonds. This is the same risk free period as the AER has selected in assessing the rate of return parameters. In other words, Ausnet and Multinet have claimed the higher risk free rate from 10-year CGS bonds while supporting an emphasis on shorter-term market measures. The ERA's analysis exposes the inconsistencies in this approach.

That is, the ERA's analysis not only provides support for the AER's conclusion on the MRP when allowing for different risk free terms, it also supports the importance of the correct conceptualisation of the AER's task and the consistency of its approach within the SL CAPM framework used by the AER.

[89] Ibid, paragraph 1138.

The MRP and conditioning variables

In explaining their proposal for a higher MRP than set out in the AER's Guideline, Ausnet and Multinet indicate the need for the AER to recognise changes in market conditions. One aspect could be changes in the factors underpinning the DGM as discussed above.

Another element of their MRP proposals, however, is changes in "conditioning variables" which the AER defines as market data that can be used to inform (or "condition") an initial estimate. The AER states that it does not consider conditioning variables provide reliable estimates on their own, but are useful for indicating changes in market conditions.[90]

The AER Guideline identifies three types of conditioning variables to inform the estimate of the MRP: dividend yields, yield spreads and implied volatility. However, the AER is also cautious about the use of this data. The AER relevantly states:[91]

> *It is important to note that we are estimating a 10-year forward-looking market risk premium with regard to the prevailing conditions in the market for equity funds. In this context, prevailing conditions can be considered 'prevailing expectations'* ***over the relevant forward looking timeframe, which is 10 years. Therefore we consider short term fluctuations in conditioning variables should be treated with caution.***
> [emphasis added]

The AER is correct in concluding that conditioning variables must be treated with some caution, particularly if each variable is taken in isolation. However, taken together, they do provide a useful indicator of the overall market sentiment about the future and, in particular, the perception of 'riskiness' of that future.

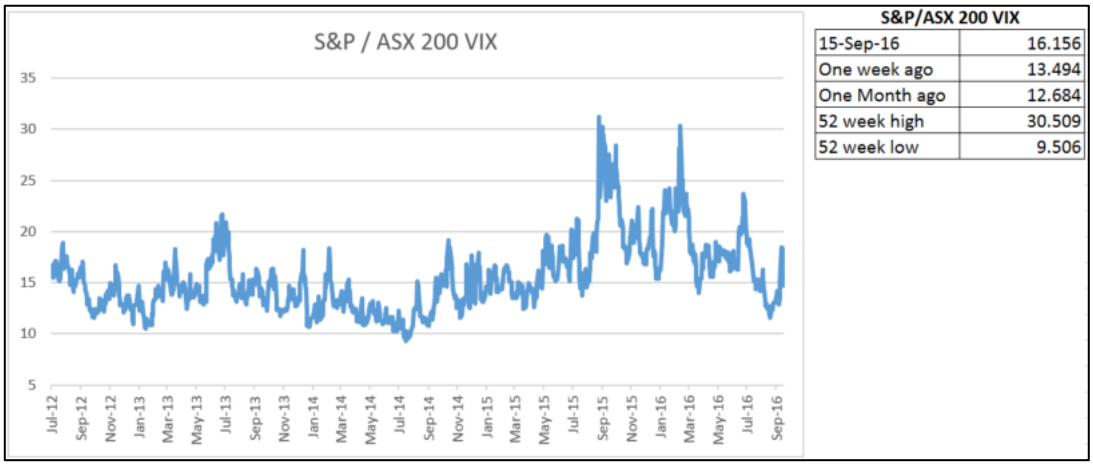
For example, the ASX 200 Volatility Index (ASX 200 VIX) is currently below the long term average; an observation that is generally considered to indicate that investors expect lower volatility in returns and, therefore, lower risk in their investments. A low VIX would, therefore, generally support the conclusion that the short-term MRP would bebelow the long-term average. The ASX summarises this relationship as follows:[92]

> *If people are confident of the future direction they will regard the transaction as low risk and will factor in less of a risk premium. When they are really uncertain [as expressed on high volatility] they regard any trades based on future prices are risky, so a risk premium will be factored in.*

[90] See for instance, AER, *Draft decision, Powerlink transmission determination,* Attachment 3, September 2016, p. 3-109.
[91] AER, *Draft Decision, Powerlink transmission determination*, Appendix 3, p. 3-109.
[92] ASX Report by Marcus Christoe, "An Index that looks forward not back", 2013.
http://www.asx.com.au/products/201310-an-index-that-looks-forward-not-back.htm

The ASX 200 VIX 200 index varied between 9.5 and 30.5 over the 52 weeks to September 2016, with the more recent observations showing a return to lower levels as indicated in Figure 5.3.

Figure 5.3. S&P/ASX 200 VIX 15 September 2015 to 15 September 2016.



S&P/ASX 200 VIX	
15-Sep-16	16.156
One week ago	13.494
One Month ago	12.684
52 week high	30.509
52 week low	9.506

Source: http://www.asx.com.au/products/sp-asx200-vix-index.htm Accessed on 24 February 2017.

However, an examination of the daily VIX observations since the September 2016 date, and over the period 31 January to 24 February 2017, indicates a VIX range of between 11 and 13, **well below the long term averages and indicative of investors' perception of lower risk.**

Notably, IPART has developed an "uncertainty index". IPART uses this index to select a WACC point estimate from the range of WACC estimates for different regulated businesses.[93] The index is updated monthly with a 6 monthly public report. The index includes measures of volatility, dispersion in analysts' forecasts, Credit spread and Bills-OIS spread. This broader measure of uncertainty was last updated in February 2017. In the 12 months to January 2017, the measure indicated that the monthly market outcomes are all within one standard deviation of the long-term average.[94]

At the very least, such observations do not support a view that the conditions have changed (in the way suggested by the DNSPs), such that the MRP for long-term investors should be amended by the AER or that there has been significant increase in volatility in the market since 2012.

The data clearly demonstrate the difficulties in placing too much reliance on single estimates and short-term perceptions when estimating a MRP that is consistent with current long term

[93] See IPART, *Fact Sheet - Guide to IPART's Uncertainty Index Model, February 2016*. The index is made up of measure of implied volatility (S&P/ASX200 Volatility Index), Dispersion in Analysts' forecasts, Credit spread, and Bills-OIS spread. See: https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/information-management-policy-biannual-utility-price-increases-sea/fact_sheet_-_guide_to_iparts_uncertainty_index_model_-_february_2016.pdf

[94] See IPART, *WACC Biannual Update*, February 2017, Figure 5, p. 7. IPART reports both a short term MRP (40 days) and a long term MRP (10 years), the short term MRP increased between 29 July 2016 while the long term MRP remained the same at 6.0% (see Table 2, p. 2 in the WACC update). The AER's approach is closer to the long-term perspective on MRP as discussed in this paper.

expectations of risk. That is, if the VIX data was sampled in July 2016, then you might conclude (as the AER does in its Draft Decision for Powerlink) that the market is close to its long run average of 18.2 per cent. However, more recent sampling would suggest that volatility is very low (11 to 13) compared to the long-term average and that investors current expectations of market risk are lower than average – contrary to the claims of some NSPs.

A further indication that the claim of an increase in the MRP by the NSPs is not supported 'on the ground' is the competition that is now occurring for equity in Australian energy network assets. It is clear that there continues to be a strong demand for these assets even though the buyers, and their bankers are well aware of the AER's approach to the rate of return assessments.

5.3.2.5 Summary of the assessment of Ausnet's and Multinet's proposed MRP in the AER's SL CAPM framework.

In summary, Ausnet's and Multinet's proposal for an MRP of 7.5 per cent demonstrates the following problems and limitations:

- The importance of the regulatory principles of consistency and predictability means that there must be a substantial body of evidence provided of sustained changes in rate of return parameters set out in the Guideline, along with the opportunity for consultation on these proposed changes. Responding to short-term events runs a significant risk of embedding biases in the approach within and between regulatory periods particularly when the economic parameters are likely to be 'mean reverting'.

- Given this, reliance on near term measures of the return on equity and the MRP, such as the DGM and various conditioning variables, is misplaced. In any case, the DGM has significant weaknesses as a tool to measure expectations on the return on equity or the MRP, particularly in measuring expectations for longer-term investments as required in the AER's SL CAPM framework. The reliance on multiple, often subjective assumptions, make the DGM susceptible to bias, and means that it is unsuitable as a tool for establishing the MRP within the regulatory setting.

- The AER is correct in giving most reliance (but not all) on estimating a MRP using a range of analyses of historical excess returns. Such an approach is most likely to achieve an unbiased assessment of the MRP in which the risks of over or under recovery are shared between NSPs and the consumers over time.

- While the ERA's most recent assessment of the MRP is higher than the AER's (7.4 per cent versus 6.5 per cent) the ERA itself has explained that most of this difference is a result of the different terms in the risk free rate calculation (5 years versus 10-year CGS bond yields). Given a five-year horizon it is reasonable for the ERA to place more reliance on the MRP. However, the AER's SL CAPM should be calculated on the same general principle as the risk free rate, i.e. based on current expectations of long-term investment risk.

- To the extent that the AER's has adopted a point estimate on the high side of the range of historical excess returns in large part because of its consideration of the DGM, it is suggested that the AER carefully examine the role of the DGM within its SL CAPM framework. Frontier's claim of a growing spread between the historical excess returns and the DGM outputs is also relevant to this review.

- It is also suggested that the AER reassess a number of the conditioning variables in the Guideline while recognising the limitations of this data. For instance, market volatility appears to be at a point now well below the market average. To the extent that the AER places some (albeit limited) value on this short-term data, it is appropriate for the AER to update the conditioning variables in this coming determination. Other conditioning variables might include consumer and business confidence, both of which are relevant to assessing expectations.

5.3.2.6 Recommendations to the AER on Ausnet's and Multinet's proposal for the MRP

It is recommended for the reasons set out above that:

- the AER reject the proposals by Ausnet and Multinet to increase the value of the MRP from 6.5 per cent to 7.5 per cent;

- the AER evaluate the future role of the DGM type analysis and conditioning variables in the development of the new Rate of Return Guideline in light of the AER's clarification that the MRP reflects the current market views on long term investments.

5.3.3 Low Beta Bias & the return on equity

Multinet has proposed an additional 1.14 per cent to be added to the return on equity to compensate for the so called "low beta bias" in the SL CAPM model. As a result of the two factors (7.5 and 1.14 per cent), Multinet's proposed an overall return on equity of 8.31 per cent, implying an equity risk premium of 6.39 per cent (given a risk free rate of 1.92 per cent. (See Table 5.1).

5.3.3.1 Multinet's proposal to include an uplift factor ('alpha') to offset low beta bias.

The low beta bias that Multinet claims to be addressing in its proposal refers to the observations made in some studies that the SL CAPM has underestimated the return on equity required by investors in low beta stocks (beta <1). The lower the beta, the greater the bias in the SL CAPM equity estimates.

The low beta bias issue has been raised by many of the NSPs for many years. The claim is that the Black CAPM approach, which includes a 'zero beta adjustment', should form an explicit component of the return on equity, in that the model provides a mechanism to address the low beta bias that was perceived as a critical weakness of the SL CAPM to explain actual equity market returns.

Previously, the Black CAPM estimate of the return on equity was included as one of the four models that were proposed in the 'multi-model' approach advocated by the majority of the networks.[95] While the AER rejected the multi-model approach it did note the Black CAPM provided some information and, along with other information, suggested to the AER that it should adopt an equity beta at the high end of the range observed from the empirical analysis. That is, the AER selected an equity beta of 0.7 from a range of 0.4 – 0.7 (or 0.3 –0.8) found in the empirical studies by Professor O Henry (Henry).

In its 2016 decision on the NSW/ACT electricity distribution networks and Jemena Gas Networks, the Tribunal found no error in the AER's reliance on the SL CAPM as the foundation model and with the AER's overall approach, including the AER's treatment of the Black CAPM, the White CAPM, the DGM and the Fama-French models (the AER rejected this later model as having no relevance to the AER's task). The Tribunal noted that there were many alternative theories and approaches and, given the AER gave consideration to the alternatives, it was reasonable for the AER to use its discretion in adopting the approach set out in the AER's Guideline for the return on equity and the return on equity parameters.[96]

Since the Tribunal's decision, many of the NSPs have investigated ways that the Black CAPM, and the White CAPM could be used within the AER's SL CAPM foundation model framework and to also provide a greater focus on the DGM outputs.

Multinet has taken a further step. Multinet has proposed an additional 1.14 per cent to be added to the SL CAPM output to compensate for the alleged bias in the SL CAPM for low beta stocks. Thus, Multinet's proposed return on equity is made of a risk free rate of 1.92 per cent, a MRP of 7.50 per cent, an equity beta of 0.7 and a 'bias adjustment' or 'alpha' of 1.14 per cent; a total equity beta for a BEE of 8.31 per cent.

In an attempt to quantify what it believes is a low beta bias; Multinet sought advice from HoustonKemp. Multinet's terms of reference to HoustonKemp direct HoustonKemp to:[97]

> *(a) determine the smallest fraction of an estimate of the equity's alpha that, when added to the forecast, delivered by the SL CAPM, of the equity's required return, will ensure that the forecast of the return does not exhibit, in past data, significant bias; and*
>
> *(b) determine the weighted average of an ordinary least squares (OLS estimate of the equity's beta), which places the largest weight on the estimate, that when used in computing a forecast, delivered by the SL CAPM, of the equity's required return, will ensue that the forecast of the return does not exhibit, in past data, significant bias.*

[95] These included SL CAPM (including the historical and Wright specifications of the SL CAPM), Black CAPM, DGM and Fama-French equity models. The output of each models was given a weighting according to the NSPs assessment of the strength of the models; the SL CAPM was generally given a weighting below the other three models.

[96] See for instance: *Re Public Interest Advocacy Service Ltd and Ausgrid Distribution* [2016]ACompT1 at 803.

[97] HoustonKemp, *The Cost of equity and the Low-Beta Bias, A report for Multinet*, November 2016, p. vi.

Houston Kemp advises that:[98]

> *We conclude that, for an equity that **has a beta of 0.7**, the minimum uplift applied to a current OLS estimate of the equity's beta that will ensure a forecast of the return on equity that uses the SL CAPM and does not exhibit significant bias will lie between 0.17 and 0.27. With a value for the MRP of 6.50 per cent per annum, an uplift of between 0.17 and 0.27 to beta will correspond to an **uplift of between 1.10 and 1.75 per cent per annum to the cost of equity** otherwise determined by the SL CAPM.* [emphasis added]

Based on this advice, Multinet has selected a value of 1.14 per cent to include in its proposed return on equity.

5.3.3.2 Assessment of Multinet's proposal for a low beta bias uplift

A full examination of the detail of the modelling undertaken by HoustonKemp has not been conducted. However, it is presumed that the AER will consider the material provided in the HoustonKemp report and examine its reliability and relevance to quantifying the impact of any low beta bias in the AER's SL CAPM, should it be established that a consistent bias does exist.

For instance, there is considerable literature quoted by all parties on the question of whether there is a "low beta bias" in the AER's SL CAPM that needs to be compensated for and/or which can be compensated for in a reliable and consistent manner (discussed below).

The AER's approach in the 2013 Guideline is to acknowledge the possibility of such a bias and to note there is some theoretical basis for the Black CAPM. However, the AER correctly cites the very inconsistent findings of the Black CAPM studies in terms of quantifying the amount that the SL CAPM should be adjusted to address this bias.

However, the AER's consultants appear more cautious than the AER on the value of the Black CAPM for regulatory purposes. For instance, Partington and Satchell state that the problems of estimating a value for the zero beta factor are: "virtually intractable and estimates, such as those of the zero beta return are so problematic and unreliable as to render them virtually worthless".[99] Handley, confirmed the view that: "our understanding of the low beta bias is still far from clear".[100]

It is a reasonable conclusion by the AER given the lack of clarity on what the zero beta is measuring and the absence of a reliable estimate of the Black CAPM zero-beta premium. It is therefore, not appropriate to use this adjustment (or equivalent) in the precise quantitative way that Multinet has proposed and has been calculated by HoustonKemp. This weakness is particularly significant in the context of the AER's view that it is estimating investor expectations for the long-term (10-year) horizon.

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[98] Ibid, p. viii.

[99] Partington and Satchell, *Report to the AER: Analysis of criticism of 2015 determinations*, October 2015, p. 18; cited, for instance, in AER, Final Decision AusNet distribution determination, Attachment 3, May 2016, p. 3-183.

[100] Handley J, *Report prepared for the AER, Further advice on the return on equity*, April 2015, p. 6.

Instead of selecting a fixed point, the AER uses the theory of the Black CAPM as a guide to where it selects the point estimate from the range of beta estimates provided by Henry's empirical analyses of beta. At the time the Guideline was published, Henry's analyses suggested an empirical range of 0.4 to 0.7 for the equity beta of an Australian regulated NSP (based on ASX listed energy network firms).

The AER selected the highest point in the range in part because it sought to take account of the theory of the Black CAPM. However, the AER did not make a precise quantification of the independent impact of the Black CAPM theory because of its concerns about the lack of consistent results. For example, the AER states:[101]

> *The theoretical principles underpinning the Black CAPM are reasonably consistent with an equity beta towards the upper end of our range. … However, we do not consider the theory underlying the Black CAPM warrants a specific uplift or adjustment to the equity beta point estimate.*

Multinet, however, appears to conclude that there is a precise value that can be attributed to any biases in the SL-CAPM and which can added to the return on equity estimated within the AER's SL CAPM framework. Multinet justifies its proposal as follows:

- there has been an increase in the SL CAPM empirical equity beta since the AER's estimate of the empirical beta in the 2014 Henry study, and using an approach similar to the Henry's OLS regression approach (i.e. from 0.5 in 2014 to 0.7 in 2016); and

- the AER's Guideline approach includes an addition to the empirical equity beta estimate to reflect the theory of the Black CAPM. Therefore, having established that there has been an increase in the empirical equity beta from 0.5 to 0.7, the AER must allow for an additional adjustment to reflect the impact of the Black CAPM. This could be an increase in the beta (as proposed by APA VTS[102]), or some equivalent increase in the return on equity derived under the SL CAPM, as proposed by Multinet's 'alpha' factor.

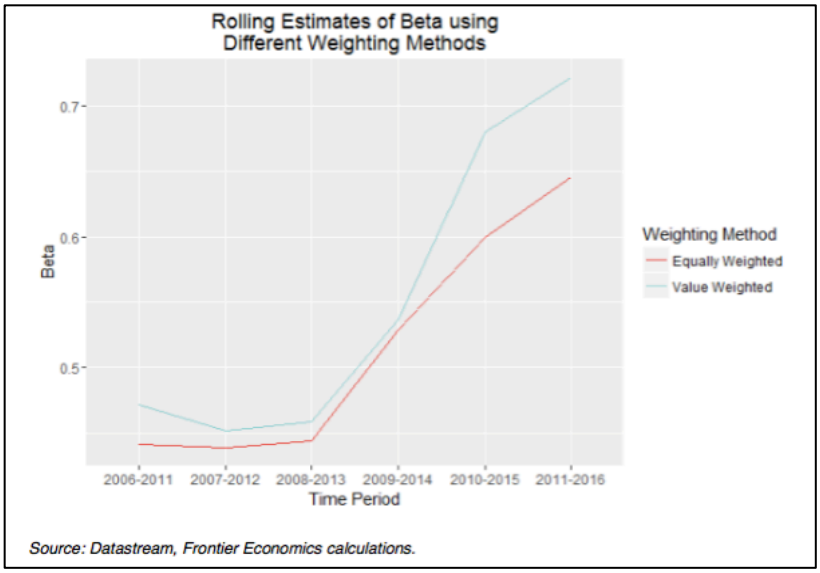
Having considered Multinet's reasoning and the HoustonKemp report, it is recommended that the AER not accept Multinet's proposal for an 'uplift' in the SL CAPM for the following reasons:

- A number of the AER's consultants have disputed whether bias in the SL CAPM is, in fact, a sustained feature of the Australian market. Further, if there is such a bias, there is no meaningful way to quantify the impact on the return on equity required by investors in a benchmark efficient entity of the equivalent level of risk (see above). There is a significant risk that a perceived error in one direction (low beta bias) will be compensated by an adjustment factor that results in an error in the other direction.

[101] AER, *Draft Decision, Powerlink Transmission determination* – Attachment 3, September 2016, p. 3-50.
[102] APA VTS proposes an increase in beta from 0.7 to 0.8 to capture this perceived increase in beta over time. See, APA VTS, *Victorian transmission system, access arrangement submission*, 3 January 2017, p.p. 136 – 144.

- It is not clear if there has been a sustained increase in the equity beta as proposed by Multinet. Following a review of the material supporting Multinet's claim, it is concluded that it does not provide a convincing demonstration of a sustained and statistically reliable change in the empirically derived equity beta. For example:
    - Frontier's preferred formulation of the empirical 5-year rolling estimates of beta (commencing 2006-11 to 2011-2016) demonstrates a range of 0.65 to 0.72. The AER's equity beta of 0.7 is within this range and slightly above the mid-point. It remains unclear what precise value the AER should add to this for the Black CAPM on the basis of Frontier's assessment.
    - It is also surprising that Frontier's assessment of the value-weighted portfolio has increased more than the equally weighted portfolio as this implies that larger firms (or firm) have higher equity betas (dragging up the average) than smaller firms. Generally, research into equity betas finds that larger firms have lower betas relative to small firms in the same industry.[103]

Figure 5.4: Rolling 5-year portfolio estimates of beta



Source: Frontier *An equity beta estimate for Australian energy network businesses*, Report prepared for APA Group, December 2016, Figure 2, paragraph 63.

    - In any case, Frontier has indicated that it prefers an analysis of 10-year data to the above analysis of 5-year data on the basis of improved statistical reliability given the sample of four firms. Similarly, the AER prefers to use longer-term data to ensure its expected value for beta is not overly influenced by short-term factors. In a small sample of four firms, movements in one firm in a 5-year period arising from exogenous factors can have a significant impact on the empirical beta.

[103] See for instance, SFG Consulting, *Cost of equity in the Black Capital Asset Pricing Model*, May 2015, Table 1, paragraph 87. SFG concludes that: "on average, small stocks have higher beta estimates than large stocks (1.11 versus 0.92)", paragraph 88.

Frontier's empirical 10-year weekly estimates for equally-weighted portfolio and value-weighted portfolio do not appear to be materially different than the AER's best statistical estimate from the empirical Henry 2014 analysis of 0.4. In summary, Frontier reports the following betas based on 10-years of data:[104]

- Raw beta: 0.49 (equal-weighted) and 0.54 (value-weighted)
- Re-levered beta: 0.52 (equal weighted) and 0.57 (value-weighted).

- Multinet's approach to quantifying the 'alpha' or uplift factor appears to be a case of 'reverse engineering', at least based on the terms of reference provided by Multinet to its consultant HoustonKemp. It has asked the consultant to identify an alpha factor that, when used in the forecast of the required return delivered by the SL CAPM, will ensure the forecast does not exhibit in past data a significant bias. It would seem that Multinet is starting from the assumption of an expected return on equity and seeking to solve for alpha given the other SL CAPM parameters.

  If this is the correct interpretation of Multinet's terms of reference, then the AER should ensure that the proposed alpha factor is not just a number that arises from reverse engineering Multinet's expected return on equity for the BEE.

- There is no information provided by Multinet about why the empirical estimates of equity beta should be increasing over the last few years, along with the increase in the MRP (see above). Without such an explanation, there can be no confidence that the increases claimed over recent years represents a sustained trend in the market. Certainly an examination of recent market indices such as consumer and business confidence, volatility, GDP growth trends, share prices, price-earnings ratios, company earnings etc., do not support a view that investors are seeing significant risk in the more immediate future.

More generally, the approach of adding in 'bits and pieces' to the SL CAPM outputs is of significant concern. Such 'adjustments' should only be made after very careful consideration of the theory of the SL CAPM, the nature of systematic risk and the interrelationships with each of the parameters in the SL CAPM and the overall WACC.

Without a careful consideration of interrelationships, the AER risks falling back into the trap of estimating individual components of the return on equity and the WACC in isolation, and without regard to the overall return on equity. The 2012 amendments to the Rules are clear that the AER's focus must always be on the overall rate of return objective, as must the Tribunal's attention (following the parallel changes to the NEL and NGL).

In addition, if these 'add ons' are made without a clear connection to theoretical framework that underpins the AER's SL CAPM framework, the inclusion of an extra factor based on various

[104] Frontier *An equity beta estimate for Australian energy network businesses*, Report prepared for APA Group, December 2016, Table 2, paragraph 60.

empirical studies can be a statistical illusion or temporary factor that is unsuitable for the regulatory task facing the AER.

The 'alpha' factor is also qualitatively different than the AER exercising its discretion to select a point estimate within the range identified by its empirical analyses. The alpha factor is proposed with minimal consultation and peer review, based on a single report by HoustonKemp.

It is also interesting in this context that Multinet's holding company, DUET Group (DUET), as DUET has not indicated in its public documents that is facing higher risk that would warrant a higher regulatory return on equity than allowed in the current AER determination for Multinet (7.92 per cent versus Multinet's proposed 8.31 per cent).

The DUET Annual Report for 2015-16 records an increase of 3.3 per cent in proportionate earnings compared to 2014-15[105] although the AER's allowed return on equity for 2015-16 was 7.92 per cent. Similarly, the associated equity risk premium was 4.8 per cent compared to Multinet's current proposal of 6.39 per cent. Nor have the potential buyers of DUET indicated a concern with increasing systematic risk given their recent offer of around 1.5 -1.6 times RAB.

5.3.3.3 Recommendations re Multinet's proposal for a low beta bias uplift

For the reasons outlined above, it is recommended that:

- the AER does not accept Multinet's proposal to include an adjustment for the claimed bias in the SL CAPM model.
- The AER investigate whether there has been a sustained change in the equity beta and, if appropriate, determine how this might be quantified and included within the SL CAPM framework. This work might form part of the AER's review of the Rate of Return Guideline.

5.3.4 Ausnet's proposed averaging period for the risk free rate

The AER's Guideline requires that the risk free rate is calculated from the yield on 10-year CGS over a period of 20 business days as specified (in confidence by each NSP) but as near as possible to the AER's final determination. The current proposals include risk free rates are based on 'indicative' 20 business days averaging periods, with the exception of Ausnet.

5.3.4.1 Ausnet's proposed averaging period

Ausnet agrees with the AER's Guideline that the best estimate of the prevailing risk free rate is based on the average yield on Commonwealth Government Securities (CGS) with a 10-year term. However, Ausnet has proposed to extend the averaging period for estimating the risk free rate.

[105] See, DUET Group, Annual Report 2016, p. 008. http://www.duet.net.au/Investor-centre/Investor-reports.aspx

Ausnet's proposal is to extend this averaging period for the 10-year CGS yields to 8 months. Ausnet explains its proposal as follows: [106]

> *The averaging period chosen* [8 months] *means the cost of equity is not as vulnerable to sudden movements in the market that might fall into a 20 business day period but still allows for it to capture fundamental changes in equity markets.* ***The longer averaging period also goes some way to addressing issues associated with the AER's current approach which combines a spot interest rate with a long term equity premium****. The proposed approach protects both customers and businesses from the "lottery" effect of an ex-ante short sample period.*
>
> *The departure from the Guideline provides a* ***greater level of stability in returns and customer prices*** *across regulatory periods which we believe furthers the long term interests of consumers.* [emphasis added]

5.3.4.1 Response to Ausnet's proposed averaging period

Ausgrid's proposal to extend the risk free averaging period may have some merit. However, it is preferable to adopt a cautious approach when recommending such a change. Considerably more investigation of the impact of such a change, over time, and the extent to which it would benefit consumers by stabalising prices and returns is required before it could be accepted by the AER and by consumers.

As Ausnet notes, there may be some discrepancy emerging between the various SL CAPM parameters. For instance, the risk free rate is set on the basis of 10-year CGS bonds. Moreover, the AER has clearly stated in its more recent determinations that the SL CAPM (as applied by the AER) seeks to estimate of investor expectations over the longer-term period of 10-years.

It may also be relevant that the averaging period on the return on debt has been extended and the yield on 10-year BBB commercial bonds estimated over a period up to a year and the AER has adopted a 10-year trailing average, with annual updating for the return on debt. The reasons for these changes relate, at least in part, to promoting more stability in outcomes while still reflecting current market conditions to some extent.

It follows that a longer-term view of the risk free rate may be now more consistent with the AER's return on equity, and the overall WACC framework.

It may, therefore, be appropriate for the AER undertaking further investigation of Ausnet's proposal, taking into account whether such an approach better fits the conceptual framework of the SL CAPM as applied by the AER.

However, it is appropriate to undertake this investigation as part of the review of the Rate of Return Guideline in 2017-18. It is not recommended that the AER accept this proposal within the current regulatory cycle and in the absence of extensive investigation of the benefits and risks of such a change.

[106] AusNet Services, *Access Arrangement Information 2018-2022*, December 2016, p. 191.

5.3.4.1 Recommendations re Ausnet's proposed averaging period

For the reasons outlined above, it is recommended that:

- the AER does not accept Ausnet's proposal to extend the averaging period for the risk free rate for the purposes of this determination.

- It is also recommended, however, that the AER undertake further research on the averaging period for the risk free rate as part of the development of the new Rate of Return Guideline over 2017-18.