

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

Australian Pipeline Association, Victorian Transmission Service (APA VTS): Supplementary Advice on APA VTS's proposed Return on Equity

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 APA VTS's access arrangement proposal dated 3 January 2017. The paper provides the Board and the AER staff with further explanations of the advice set out in Section 4 ("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 APA
in its access arrangement submission for 2018 to 2022

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

This paper represents a more detailed response to APA VTS's (APA) proposal for rate of return on equity. The Consumer Challenge Panel 11 (CCP11) provided a summary of the key issues raised in this paper in [Section 4](#) of its 3 March submission to the AER.¹ The current paper provides additional support to the recommendations in Section 4 of the CCP11 advice.

This more detailed response reflects concerns that some network businesses, including APA, are 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 networks have sought to vary from the AER's Rate of Return 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.

While this current supplementary paper is focussed on APA's proposal for the rate of return on equity, a number of the issues raised in this paper are similar to and relevant to the access arrangement proposals of the Victorian gas distribution companies, particularly Ausnet Services and Multinet. Australian Gas Networks (AGN) has largely followed the AER's Guideline with respect to the estimation of the rate of return on equity.

4.1 Summary

4.1.1 Overview

CCP11 has identified that a number 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. The AER's decisions are 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 rate of return on equity proposed by APA as part of APA's Access Arrangement for 2018-22.³

In particular, this section will discuss a number of aspects of APA's proposed return on equity. While APA suggests that it has broadly followed the AER's Guideline, APA proposes to vary some

¹ Consumer Challenge Panel Sub-Panel CCP11, Response to proposals by APA VTS for a revenue reset/access arrangement for the period 2018-2022, 3 March 2017, p.p. 29-35.

² AER, *Rate of Return Guideline*, December 2013; and the accompanying AER, *Explanatory Statement - Rate of Return Guideline*, December 2013.

³ APA, *Victorian transmission system access arrangement submission*, 3 January 2017.

of the key parameters and the conceptual framework in the AER's approach to estimating the return on equity as set out in the AER's 2013 Guideline.

APA's proposal for the return on equity differs from the Guideline in the following important ways:

- APA proposes an equity beta of 0.8 compared to the AER's Guideline of 0.7; and
- APA derives the MRP in a different way than set out in the AER's Guideline;
- APA proposes a market risk premium (MRP) of 7.74 per cent compared to the AER's Guideline of 6.5 per cent.

The combined effect of these changes to the return on equity parameters from the AER's Guideline approach is significant and is around 170 basis points.⁴

After considering the information provided by APA, it is concluded that APA has not adequately justified their proposal to vary from the AER's Guideline. Nor has APA adequately explained why it considers there have been such increases in the market risk premium and in the equity risk premium compared to the current regulatory period (2011-16). A return on equity based on the proposed revised parameters will not achieve the National Gas Objective (NGO), the National Gas Law (NGL) or the Rate of Return objectives in the National Gas Rules (NGR).

It is essential that in a market with substantial long-life assets but uncertain growth prospects in the future that the AER's decision on the rate of return represents the efficient cost of capital and does not provide additional incentives to invest over levels of prudent investment in the gas transmission or distribution systems.

The recommendation is, therefore, that the AER does not accept APA's proposals on 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.

At a high level, an increase in the equity beta to 0.8, a high MRP of 7.76 per cent, and the equity risk premium⁵ for a benchmark efficient gas network of 6.25 per cent is significantly higher than the corresponding parameters assessed on the basis of the AER's Guideline (0.7, 6.5 per cent and 4.55 per cent respectively⁶).

APA's analysis would therefore suggest that investors now perceive an increased level of risk in investing in the equity market in general and in a regulated efficient energy network. 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.

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 systematic risk in their new businesses. Despite possible limitations on growth, long term investors still recognise the

⁴ After allowing for different risk free rates.

⁵ The equity risk premium (ERP) is the difference between the total return on equity for the regulated gas network and the risk free rate.

⁶ Assuming a risk free rate of 2.24 per cent as proposed by APA.

benefits of the regulatory framework in Australia and the strong and reliable cash flows that are generated by these regulated network businesses.

Specific summaries of the equity beta, methodology and MRP estimations are set out below with details provided in subsequent sections of this supplementary submission.

4.1.2 The proposed equity beta:

APA has proposed an equity beta of 0.8, compared to the AER's Guideline of 0.7. The essence of APA's (and their consultants) argument appears to be:

- The most recent analysis indicates that the empirical equity beta is 0.7;
- In the Guideline, the AER states that its best point estimate of the empirical beta is 0.5 in a range of 0.4 to 0.7. However, the AER chooses the higher point of the range because it pays some heed to the theory that the SL CAPM equity model may underestimate the equity beta for low beta companies;
- APA agrees that there is low beta bias in the SL CAPM approach, and considers that the AER must now add a value of at least 0.1 to the empirical equity beta ($0.7+0.1 = 0.8$).

4.1.3 Change in the methodology to calculate the MRP

APA alleges that the AER has misconstrued the AER's preferred foundation equity model (the SL CAPM). The correct interpretation of the SL CAPM according to APA is to first estimate the total market return on equity, and to then deduct the risk free rate to derive the MRP.

That is, APA seeks to first estimate the return on equity for the market as a whole and to derive the MRP as the 'residual' after subtracting the risk free rate (RFR) from the overall return on equity. APA claims that this is the correct interpretation of the AER's return on equity foundation model, the Sharpe-Lintner Capital Asset Pricing Model (SL CAPM).

4.1.4 The proposed market risk premium (MRP)

APA also places greater reliance on what it claims are better measures of the prevailing cost of equity (and, therefore, the MRP), by relying more on other equity models, most particularly, the Dividend Growth Model (DGM). While APA have some regard to estimating the return on equity (and the MRP) using a particular form of an analysis of historical excess market returns, APA also considers that the DGM provides a better estimate of prevailing market expectations for equity returns.

In contrast, the AER calculates the MRP directly (rather than as a residual) and in doing so relies much more than APA on the findings its various analyses of historical excess returns.⁷ The historical analysis establishes a range of estimates for the MRP (usually around 5.0 to 6.0 per cent), while other market data, including the DGM, are used to select a point estimate for the MRP. Relevantly, the AER states in a recent draft decision:⁸

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

⁷ For example, the AER analyses include different historical time periods and both arithmetic and geometric averaging.

⁸ AER, *Draft Decision, Powerlink transmission determination*, Appendix 3, p. 3-109.

context, prevailing conditions can be considered 'prevailing expectations' over the relevant forward looking timeframe, which is 10 years...

4.1.5 Summary of Recommendations to the AER

The first three recommendations listed below relate to the AER's current decisions on the return on equity. It is suggested that the remaining three recommendations may be more relevant to the future development of a new Rate of Return Guideline which is planned for 2017-18.

1. Reject APA's proposal for a higher equity beta;
2. Reject APA's proposal to adopt a different approach to estimating the MRP and the revised value of MRP;
3. Adopt the parameter values set out in the AER's Rate of Return guideline;
4. Undertake further investigation into the equity beta to identify if there are any sustained changes in equity beta over a period of time relevant to the regulatory process;
5. Evaluate the role of the DGM given the AER's view that it is estimating the MRP for a forward-looking timeframe of 10 years.
6. Undertake further research on current trends in conditioning variables and assess their relevance to estimating a MRP given the AER's forward looking timeframe of 10 years.

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 proposal by APA 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. In particular, it would appear that there is some selective reference to the ERA decisions, which are more qualified than suggested in the APA proposal

Together, this information provides the basis of the recommendations provided to the AER

4.2 Background

4.2.1 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 drive significant changes in the overall revenue allowance determined by the AER and the efficiency of capital investment decisions by the Network Service Providers (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 businesses⁹ 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 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;¹⁰ 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 will therefore constrain its comments on APA's proposed return on equity 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 APA's Annual and Half Year Reports in the context of claims by various networks that the AER's decisions are inconsistent with its obligations under the Revenue and Pricing Principles (RPP) in the NGL and 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 gas distribution businesses.

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

APA's rate of return on equity proposal and the AER's assessment of this proposal 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 on equity:

⁹ 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>

¹⁰ 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.

- the National Gas Objective (NGO) and National Electricity Objective (NEO) set out in the NGL and NEL (respectively);¹¹
- the revenue and pricing principles (RPP) set out in the NGL and NEL;¹²
- the allowed rate of return objective (ARORO),¹³ and the associated allowed rate of return on equity objective and return on debt objectives, as set out in the NGR and NER;¹⁴ and
- factors that the AER must have regard to in determining the rate of return on equity.¹⁵

The overarching emphasis across all these regulatory requirements is that the AER must make its determination on the allowed rate of return components 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:¹⁶

- 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)¹⁷ 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.¹⁸

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'

¹¹ NEL, s. 16(1)(a); NGL, s. 23.

¹² NGL, s. 28(2)(a)(i); NEL, s. 16(2).

¹³ NER, cl. 6.5.2 (h); NGR, r. 87 (8).

¹⁴ NGR, r. 87 (2) – (3).

¹⁵ NGR, r. 87 (5).

¹⁶ NEL, s. 7A (2); NGL, s. 24 (2).

¹⁷ See NGL, s. 23 and NEL, s. 16(1)(d).

¹⁸ These changes in the NEL and NGL largely referred to the operation of the appeals process and the function of the Tribunal.

proposals and in 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.¹⁹

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

4.2.3 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.

¹⁹ 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 2013 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).

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.

4.2.4 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, including APA, is 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 have also proposed various changes to the value of the return on equity model input parameters that were specified in the Guideline. APA has also proposed an alternative specification of the Sharpe-Lintner CAPM (SL CAPM), which it claims is more theoretically correct than the AER's interpretation as discussed below.
- 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 submission on APA's return on equity proposal, the Tribunals' decisions have been 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 NSPs' consultants.

4.3 Rate of return on equity proposed by APA

APA's regulatory rate of return proposal includes some significant variations from the AER's rate of return approach and parameters. As a result, APA's proposed rate of return (the weighted average cost of capital (WACC)) is 7.88%, which is well in excess of the AER's recent decisions and is higher than any of the proposals submitted by the Victorian gas distribution businesses that range from 5.28% to 6.12%.

This is a result of APA proposing both a higher return on debt and a higher return on equity. APA's return on debt proposal is higher than the Victorian gas distribution businesses largely because APA proposes to adopt an immediate transition to the 10-year trailing average rather than the 10-year transition set out in the AER's Guideline and accepted by the Victorian gas distribution service providers (DNSPs) in their proposals.

As noted in section 4.2.3 above, the transition issue is currently before the Federal Court for a decision and is not discussed further in this current submission.²⁰

The APA Group earns a significant proportion of its Australian income from its non-regulated or "lightly" regulated gas pipeline businesses but these assets are not relevant to the current assessment process.²¹

²⁰ However, recent announcements by APA Group suggest it is currently raising long-term debt from overseas sources at a rate of around 4.25% (e.g. see announcement by APA dated 17 March 2017 at <http://www.asx.com.au/asx/share-price-research/company/APA>)

APA's gearing and credit status is similar to the AER's benchmarks of 60 per cent debt, BBB+ rating, although APA raises funds from a wide variety of sources largely outside Australia.²² The expansion of unregulated assets in the portfolios of the gas NSPs, including APA, should be considered as part of any explanation of historical trends for the listed entity such as assessing trends in the equity beta (see also discussion in 4.3.2 below on the equity beta).

The discussion below is focussed on APA's proposed return on equity for its regulated Victorian gas transmission businesses.

4.3.1 Overview of APA's Proposal for the rate of return on equity

Table 4.1 provides a summary of APA's proposals for the return on equity parameters.

Table 4.1: Return on Equity Parameters in SL CAPM (nominal)

SL CAPM parameters	AER 2013 Guideline	APA Proposal	Comment
Risk free rate (RFR)	10 year CGS average over 20 BD, prior to determination. AER's recent draft determinations indicate a RFR of around 1.95%	2.24%	APA uses 20 days ending October 2016 and is compliant with AER's Guideline.
Equity beta (β)	Point estimate of 0.7	Point estimate of 0.8	APA claims this figure is based on updated analysis of beta
Market risk premium (MRP)	Point estimate of 6.5% derived from historical data and forward looking estimates	Implied MRP point estimate of 7.76%	APA derives overall return on equity of 10% (below), with MRP as the 'residual', i.e. 10% - the RFR of 2.24%. ¹
Return on equity for the equity market as a whole ($E(r_M)$)	Implied point estimate for the market return on equity of around 8.74% ² (applying RFR of 2.24% as per APA)	Point estimate of 10.0%	APA assesses the market return on equity of 10% relying largely on measures such as the DGM
Risk adjusted return on equity for a gas NSP	Estimate of approx. 6.79% (applying RFR of 2.24% as per APA)	Point estimate of 8.45% ³	APA calculates the return on equity for gas NSP (beta 0.8) of 8.45%
Equity Risk Premium (ERP) for investment in a gas NSP	4.55% (applying RFR of 2.24% as per APA estimate)	6.2%	APA's ERP is based on difference between risk adjusted 8.45% and the

²¹ In its September 2016 Annual Report, APA states that its regulated revenue represents some 10% of FY 2016 revenues (s. 7.1, p. 16); regulated capex for Victoria VNI accounts for some 19% of FY 2016 capex (s. 8, p. 22); gearing ratio of 66% as at 30 June 2016 (s. 9.1, p. 23) and credit rating of BBB (stable)/Baa2 (stable), confirmed in March and April 2016 respectively. APAs Annual report was accessed from the ASX website at 20 Feb 2017. <http://www.asx.com.au/asxpdf/20160923/pdf/43bdn74cm199xw.pdf>

²² Ibid, s. 9.1, p. 23.

			RFR of 2.24%
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1. In the APA approach, the MRP = $(10.0\% - 2.24\% = 7.76\%)$
2. AER estimate based on RFR plus (equity beta * MRP) = $(2.24 + (1 * 6.5) = 8.74\%)$
3. APA estimate based on RFR + (equity beta * (return on market – RFR)) = $(2.24 + (0.8 * (10.0 - 2.24)))$

APA states that it has generally followed the AER’s Guideline in its approach to estimating the return on equity for a BEE. However, APA proceeds to make some significant changes to the Guideline that have the effect of increasing its overall return on equity for its regulated Victorian gas business by more than 170 basis points compared to the AER’s Guideline (8.45 per cent compared to 6.79 per cent, given a risk free rate of 2.4 per cent).

In addition, as illustrated in Table 4.1 above (last row), the proposed parameter values result in an equity risk premium (ERP) for a regulated gas network such as APA, of some 6.2 per cent. This equity risk premium is considerably higher than the equity risk premium allowed in the current access arrangement period (2011-2016).

APA has not provided any substantive justification for either the increase in the market risk premium or the equity risk for a BEE and therefore APA’s variation from the AER’s Guideline does not seem to be justified.

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

The discussion below will focus on the following elements of APA’s proposal:

- APA’s proposed equity beta for a benchmark efficient entity (BEE) of comparable risk; and
- APA’s proposed market risk premium, including APA’s alternative interpretation of the SL CAPM.

APA states that it has adopted the AER’s Guideline approach to assessing the return on equity and, in particular, APA states it has adopted the Sharpe-Lintner Capital Asset Pricing Model (SL CAPM) as the “foundation” model to estimate a range of values for the return on equity (and its components). APA has then considered other information sources including the output of the Dividend Growth Model (DGM) - as specified by APA to determine a point estimate.

However, APA also states that it has “updated” a number of the SL CAPM input parameters that were specified in the AER’s 2013 Guideline including the specific point estimate for the equity beta (β) and for the market risk premium (MRP). Table 4.1 above sets out the differences between the SL CAPM parameter values (point estimates) in the AER’s Guideline and in APA’s proposal.

APA has also (and perhaps more fundamentally) proposed that the AER has misinterpreted the SL CAPM. APA claims that the AER has incorrectly derived the value of the MRP directly as a single parameter in the SL CAPM model. APA argues that the correct interpretation of the economic principles behind the SL CAPM require an estimation of the overall market return on

equity²³ (using economic analysis and other information sources); the MRP is then calculated as the difference between the overall return on equity and the separately calculated risk free rate.

The following sections will further evaluate APA's approach to:

- the assessment of the equity beta; and
- the assessment of the expected return on the equity market portfolio (and implied MRP).

APA's approach to assessing the risk free rate is based on yields on 10-year Commonwealth Government Securities (10-year CGS) averaged over 20 days in October 2016. This figure of 2.24% will be updated by the AER in its Final Determination based on the averaging period agreed with APA.

4.3.2 Equity beta (β)

As indicated in Table 4.1 above, APA has proposed an equity beta of 0.8, which is above the figure of 0.7 set out in the AER's Guideline and which the AER has used in all its determinations since 2015.

In previous submissions to the AER, different CCP subgroups have stated their view that the AER's equity beta of 0.7 is conservative given the AER's own empirical and conceptual analyses.

APA should, therefore, provide strong reasons for suggesting a higher equity beta than the AER's Guideline, particularly given the Tribunal's acceptance of the AER's discretion regarding the return on equity parameters in this area. This submission concludes that APA has not provided substantial reasons for the AER to increase the prevailing equity beta from 0.7 to 0.8.

The AER's reasons for 0.7 and APA's arguments for a variation of this are discussed below as they inform the conclusions of this current submission to the AER.

4.3.2.1 The AER's assessment of equity beta in its Guideline and in recent determinations – empirical analyses

The expected equity beta cannot be observed ex ante. Investors will need to rely on analyses of historical market outcomes, market reports etc., to inform their expectations on relative exposure to systematic risk for a firm or a class of assets.

There are both empirical and theoretical reasons to suggest that the equity beta of a regulated benchmark efficient gas network is less than 1, although there is much debate on the extent to which it can be less than 1.

²³ For further clarification; the market return on equity referred to herein is the overall return on equity across the whole equity market (using public listed ASX companies). The MRP is the premium investors require in equity returns over and above the return on a 'risk free' asset – generally represented by the return on 10 year Commonwealth Government Securities (CGS).

The AER's consultant, Professor O. T. Henry (Henry) has conducted a series of statistical analyses on the variability of excess returns for Australian regulated networks relative to the market as a whole in 2008, 2009 and 2013-14. Henry's studies were very comprehensive given the limitations of the historical data. Henry undertook different regression analyses for a range of different historical periods. He also assessed the equity beta (and average beta) for both individual firms and for different 'portfolios' of those firms.²⁴

It is, therefore, appropriate to assign significant weight to the Henry studies given the robust statistical analyses underpinning Henry's report and the consistency of his findings over time.

That is, Henry's findings on the equity beta for Australian regulated NSPs network were remarkably consistent across the studies despite the time differences.²⁵ However, in each study he found a significant range in outcomes depending, inter alia, on the analysis techniques and historical period under review.

Henry concluded that the most reliable data sets/methodologies in his analyses suggested a range for beta of between 0.4 to 0.7 (2008 and 2009) and 0.3 to 0.8 (2013-14 study). For example, in Henry's 2014 study, the average of the ordinary least squares (OLS) estimate for **beta was 0.52 and the median estimate was 0.33.**²⁶ The fact that the median value fell well below the average value reflects the small sample of Australian listed network firms and the presence of outlier firm(s) with betas well in excess of the average beta. The CCP's previous detailed examination of Henry's data supported this fact that individual firms can have an overly strong effect on the average beta.²⁷

Henry's 2014 results are replicated in Figure 4.1 below in the form of a histogram.

Studies by the networks' consultant, SFG, over 2013 – 2015 suggested a higher empirical estimate of the equity beta, in the range of 0.8 to 0.9. However, SFG's studies included a larger sample of US energy firms. The recommended equity beta in SFG's 2013 study was based on a weighting of 75% US firms, 25% Australian network firms.

The AER and the previous CCP found these results were of limited value in the Australian context given the substantive differences between the US environment and the Australian regulatory environment. Moreover, SFG's assessment of the equity beta for the sub-sample of Australian firms indicated an equity beta of around 0.6, similar to Henry's findings.²⁸

²⁴ Henry also assessed the impact of other variables such as fixed weight and value weighting, Blume or Vasicek adjustment (used by some economic analysts), de- and re-lever raw estimates to benchmark gearing of 60%, weekly versus monthly returns.

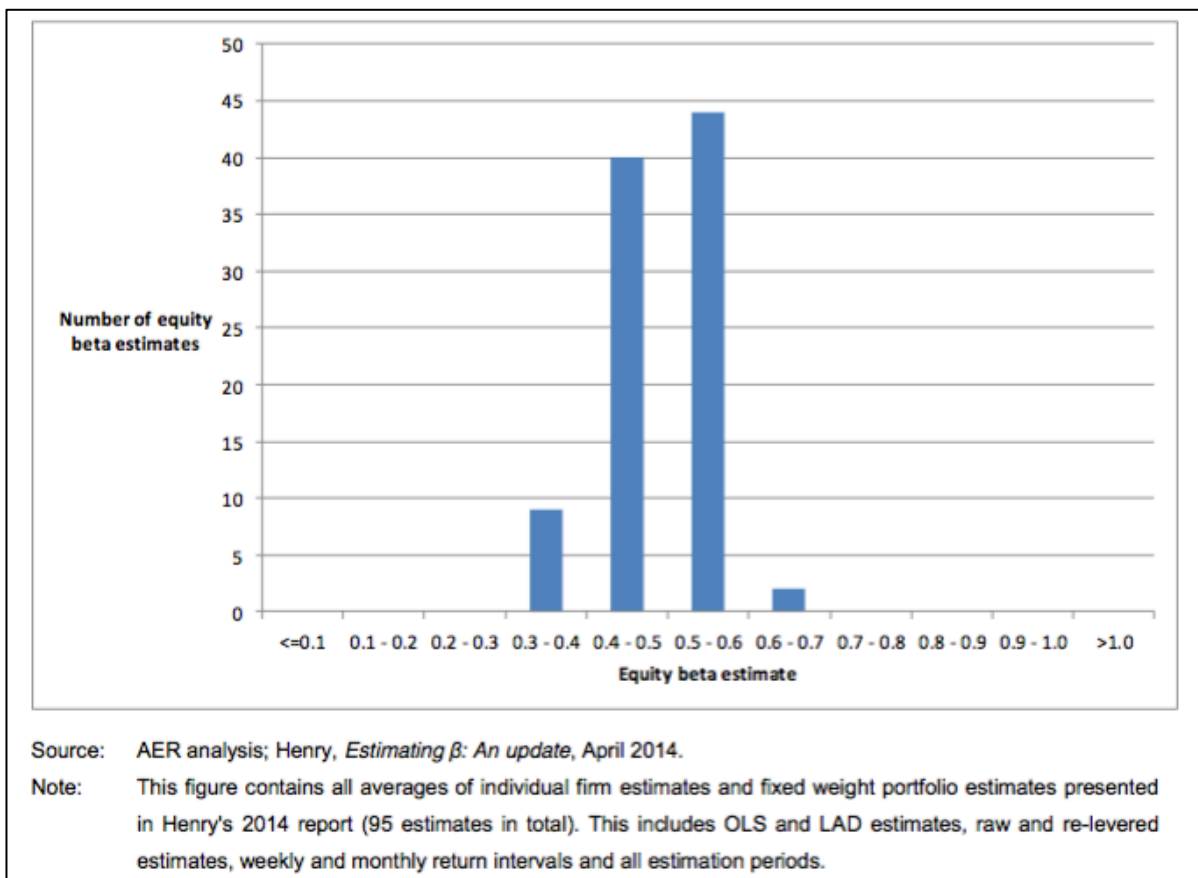
²⁵ See for instance, AER, *Draft Decision Powerlink*, Attachment 3, Table 3-24, p., 3-128. Table 3-24 summarises the empirical equity beta estimates including Henry 2008, Henry 2009 and Henry 2014.

²⁶ See Olan T. Henry, *Estimating β : An update*, April 2014, p. 63.

²⁷ See for instance in the 2014 Henry study and a similar 2014 study by Vo et al (for the ERA), Hastings Diversified Fund (HDF) – which was delisted in 2012 - had a significant impact on the average beta. Removing HDF from the portfolio analysis changed the average equity beta of the six firms in the study from 0.52 to 0.41. This issue has been raised by the CCP in previous submissions to the AER (e.g. CCP3 advice to the AER re the AER's Preliminary Decisions for Victorian electricity DNSPs' (p.p. 92 – 94)).

²⁸ See for instance, SFG Consulting, *Regression based estimates of the risk parameters of the benchmark firm*, June 2013, Table 4, p. 16.

Figure 4.1: Equity beta estimates from Henry’s 2014 report (average of individual firm estimates and fixed weight portfolio estimates)



Source: AER, *Draft decision, Powerlink transmission determination* – Attachment 3, September 2015, Figure 3-15, p. 3-127.

The AER concluded on the basis of all the evidence from the Henry studies that the best estimate of beta **based on the empirical analysis was approximately 0.5**, selected from the range of Henry’s observations of around 0.4 to 0.7 (or 0.3 to 0.8) that were based on the average of individual firm estimates and fixed weight portfolio estimates.²⁹

The AER’s conclusion on the best empirical beta of 0.5 is reasonable given the profile of Henry’s results using different samples and techniques and noting the statistical uncertainty inherent in small sample regressions. However, the AER’s final assessment of an equity beta of 0.7 diverges from the results of the empirical analyses.

In particular, the AER considered other evidence to select the point estimate for the equity beta of 0.7, an estimate at the top of its observed empirical range. The AER suggests that it was

²⁹ This range ignored some of the results of Henry’s analysis, but was consistent with Henry’s initial recommendations. Henry 2014 revised this advice suggesting that the appropriate range was 0.3 to 0.8. The AER however has persisted in the view that the 0.4 to 0.7 best represents the range of outcomes for the benchmark efficient entity. CCP11

guided by both policy considerations (such as regulatory certainty) and by other relevant information including:³⁰

- empirical estimates from overseas energy networks – the equity beta from these overseas observations is generally higher than 0.5;
- the theoretical principles underpinning the “Black CAPM” which postulates that for equity betas less than 1, the SL CAPM has a “low beta bias”.

4.3.2.2 The AER’s assessment of equity beta in its Guideline and in recent determinations – empirical analyses

The AER also commissioned two expert studies to assess the ‘conceptual’ risks of the benchmark efficient regulated network businesses (BEE). These studies were based on qualitative assessment of systematic risk rather than empirical research as conducted by Henry. One study by McKenzie and Partington advised the AER that the systematic risks facing a benchmark efficient network business were amongst the lowest risks.³¹ A second study by Frontier Economics identified many areas where the regulated businesses were relatively protected from volatility in returns.³²

The AER has summarised how the Rules mitigate risk for a regulated network relative to unregulated networks. These include demand risk, revenue risk, inflation risk (including protection of the real value of the RAB), and interest rate risk.³³ Additional financial protection is provided, inter alia, by the ability of a NSP to seek a pass through for significant new costs, the protection from credit default by their customers³⁴ and the rights to appeal the AER’s decisions.

The findings of the independent conceptual analyses and the AER’s review of the regulatory protections in the rules, support an equity beta for the Victorian gas NSPs that is significantly below 1. That is, the conceptual analyses and the AER’s own assessment of risk provide substantive support for the AER’s conclusions from Henry’s studies.

Moreover, the AER’s own findings raise the question of why the AER continues to use an equity beta of 0.7 given the above. It would appear that the AER has maintained its position in its determinations to date on the basis of the following:³⁵

- the 0.7 is within the range of the empirical findings;

³⁰ See for instance, AER, *Rate of Return, Explanatory Statement*, p. 15.

³¹ See for instance, McKenzie and Partington, *Report to the AER, Part A: Return on Equity*, October 2014. The paper has been updated several times with similar conclusions.

³² Frontier Economics, *Assessing risk when determining the appropriate rate of return for regulated energy networks in Australia*, July 2013.

³³ See for instance, AER, *Draft decision, Powerlink*, Attachment 3, p. 3-21 – 3-22, and in particular, Table 3-3.

³⁴ For example, APA Access Arrangement, section F (Transmission Payment Deed Terms) sets out payment requirements (within 10 business days before interest added to charge (cl F2)) and prudential requirements in the form of a parent company guarantee, bank guarantee, or similar security (F3)). Further protection against counterparty default is provided indirectly through AEMO’s power to suspend a market customer and the associated retailer-of-last resort arrangements.

³⁵ AER, *Draft decision, Powerlink*, Attachment 3, September 2016, p.p. 3-50-3.51.

- the theoretical principles underpinning the Black CAPM, which the AER states is: “reasonably consistent with an equity beta towards the upper end of our range”. However, the AER then notes the limitations of the Black CAPM and considers it does not warrant a specific uplift or adjustment to the equity beta point estimate; and
- transparency and predictability in the rate of return decision; the 0.7 beta is: “a modest step down from previous regulatory determinations”.

The AER concluded in its recent draft determination for AusNet transmission services as follows:³⁶

*We consider the evidence in Henry’s 2014 report suggests a best empirical estimate for the **equity beta of approximately 0.5**. However, we consider that the international estimates, in conjunction with considerations of the Black CAPM and investor certainty (as discussed above), support a higher estimate and an estimate in the upper end of our range. [emphasis added]*

The AER’s assessment points to a continued emphasis on conservative decision-making. However, in the context of assessing APA’s proposal for an equity beta it is more relevant to focus on APA’s reasons for an increase the equity beta compared to the AER’s Guideline. The next section discusses APA’s reasons for increasing the equity beta.

It is noted, more generally, that the complexity of interpreting any future empirical analysis of equity beta for the regulated networks will increase because of the consolidation of ownership of network assets and the growth in unregulated pipeline assets as a proportion of a NSPs’ portfolio of assets. The APA Group, for instance, receives only 10 per cent of its overall energy infrastructure revenue from its regulated pipeline assets.³⁷

4.3.2.3 APA’s proposed equity beta of 0.8

As indicated in Table 4.1, APA has proposed an equity beta of 0.8, an increase over the AER’s equity beta of 0.7. All other things being equal, the proposed increase in the equity beta will result in a higher return on equity, a higher WACC and, therefore, increased costs to consumers.

Under the SL CAPM, the equity beta represents the sensitivity of a firm or asset class to the overall movements in the equity market. The AER defines this further as being the “uncertainty around its [the NSPs’] expected return relative to the expected returns on the market”.³⁸

This concept of relative variation in returns is central to any assessment of APA’s proposal and its conclusion that a higher equity beta than the AER’s Guideline is warranted.

APA’s argument for a higher equity beta

APA’s argument for a higher equity beta than the AER’s Guideline appears to rely on a mix of theoretical and empirical analyses. Key aspects of APA’s proposal include:

³⁶ AER, *Draft decision, Ausnet Services transmission determination*, Attachment 3, July 2016, p. 3-65.

³⁷ APA Group, *Half Year Report Presentation*, February 2017, p.p. 12 & 30.

³⁸ AER, *Draft Decision, Powerlink 2017-22*, Attachment 3, p. 3-18.

- The AER’s assessment of the equity beta point estimate of 0.7, from a range of 0.4 to 0.7 (with a median of approximately 0.5)³⁹, is based in the first instance on studies using data on historical excess returns data over a range of periods up to 2013. APA considers that the return on equity is a forward looking estimate and historical data up to 2013 may not be relevant to estimating equity beta in current market conditions.
- In its 2013 decision on APA GasNet’s Access Arrangement (pre the Guideline), the AER stated that an estimate above the range of 0.4 to 0.7 was justified: “in recognition of the level of imprecision around beta estimation, and taking into account the desirability in regulatory decision making over time”.⁴⁰ As a result, the AER allowed an equity beta of 0.8 in its 2013 determination. APA considers the AER’s view is still relevant to its current regulatory proposal and should be preferred over the AER’s Guideline.
- The Final Decision in May 2016 by the Economic Regulatory Authority of Western Australia (ERA) for the Dampier to Bunbury Natural Gas Pipeline (DBP) included an updated analysis of the equity beta.⁴¹ The new analysis indicated a range of 0.479 to 0.870 for Australian energy network businesses (at the 95% confidence level) with an average portfolio equity beta (or “central estimate”) of 0.669. On this basis the ERA adopted an equity beta value of 0.7 as the best statistical estimate and did not apply any further “uplift” to the statistical estimate for other factors such as the Black CAPM theory.⁴²
- In work undertaken for DBP for the 2016 determination, DBP’s consultant (CEG) reported that “structural break tests” which it has carried out using betas estimated from recent market data showed “multiple structural breaks”. CEG concluded that the “best estimate of the most recent β is higher than that reported by the ERA ...the most recent mean estimates (not bias adjusted) of 3 year betas are around 0.91...”.⁴³
- Frontier estimated beta using “current data” and “statistical methods which were similar to those used by Professor Henry”.⁴⁴ Frontier used weekly data for five years from September 2011 to September 2016, on the four remaining listed networks.⁴⁵ The average equity beta derived from value and equally weighted portfolio ordinary least square (OLS) regression (only) was reported as 0.65 and 0.72 respectively with a mean of 0.68. Frontier concluded:

³⁹ As noted, the previous CCP sub-groups considered that the AER was overly conservative in selecting a point estimate of 0.7 and considered that a better value for equity beta based on the empirical data was around 0.3 to 0.6 (different CCP groups varied in their preference).

⁴⁰ See reference in APA VTS, *Revised Access Arrangements Proposal*, 2018-22, 3 January 2017, p. 137.

⁴¹ The ERA had previously adopted the range found in the Henry 2014 study of 0.3 to 0.8, with a point estimate of 0.7 at the top end of the range, taking into account the theory underpinning the Black CAPM.

⁴² See for instance, ERA, *DBP Final Decision*, Attachment 4, paragraph 473-474.

⁴³ Cited in APA VTS, *Revised Access Arrangements Proposal*, 2018-22, p. 139-141.

⁴⁴ *Ibid*, p. 140.

⁴⁵ Progressive consolidation and sales of the energy network industries means that the sample of relevant ASX listed businesses has reduced to four, including APT (holding company for APA), AusNet, DUET (holding company for Multinet) and Spark Infrastructure, with further consolidation and delisting likely given recent offers by CKI for DUET.

“these recent re-levered equity beta estimates are materially higher than the best statistical estimate of 0.5 adopted by the AER in its decisions since the Rate of Return Guideline.”⁴⁶

Frontier, however, also noted that it generally preferred 10-year samples (September 2006 to September 2016) rather than the 5-year analyses described above. The results of Frontier’s 10-year analyses are similar to Henry’s findings with portfolio betas of 0.52 (equal weighting) and 0.57 (value weighting).⁴⁷

Based on these various analyses, APA concludes: “Beta has risen, but the magnitude of the increases is difficult to gauge”.⁴⁸ Therefore, “an updated estimate of beta is essential when estimating return on equity having regard to prevailing conditions in market for equity funds”.⁴⁹ APA states that the updated estimate should be 0.8, representing an increase on the AER’s 2013 Guideline assessment of 0.7.

This proposed ‘uplift’ from earlier estimates is in line with more recent studies by ERA, Frontier and others who reported an increase in the equity betas compared to the AER’s 2013/2014 studies using similar approaches. What APA appears to be claiming here is that as other studies have indicated an increase in the equity beta since 2013, the AER should (correspondingly) increase its estimate of beta from 0.7 to 0.8.

If this is what APA is suggesting, then it does not appear to take into account the ERA’s conclusion in its recent determinations that the best current estimate of equity beta of 0.7. Nor does it take into account Frontier’s recommendation to use 10-year historical data, the analysis of which suggests an equity beta closer to the Henry’s preferred empirical value for equity beta (i.e. Frontier found equity betas on 10 year data of 0.52 – 0.57 (see above)).

4.3.2.4 Assessment of APA’s proposal for equity beta of 0.8

As noted above, the AER’s Guideline should be applied consistently to all the network determinations including the gas NSPs in Victoria unless there is clear and compelling evidence to the contrary. Moreover, it is particularly important that changes are not made to parameters where this is based on analyses that show significant variance in outcomes across samples and over time, and/or where there is little underlying theory to explain the reasons for such a changes.

The question to address, therefore, is whether APA has made a case to reassess the AER’s equity beta point estimate of 0.7, and in particular, whether APA’s proposed equity beta of 0.8 represents a better estimate of the forward looking beta for the purposes of the SL CAPM and the estimation of the return on equity for a BEE.

⁴⁶Frontier, *An equity beta estimate for Australian energy network businesses*, Report prepared for APA Group, December 2016, paragraph 60. Cited in APA VTS, *Revised Access Arrangements Proposal, 2018-22*, p.p. 140-141.

⁴⁷ *Ibid*, Table 2, paragraph 60.

⁴⁸ APA VTS, *Revised Access Arrangements Proposal, 2018-22*, p. 143.

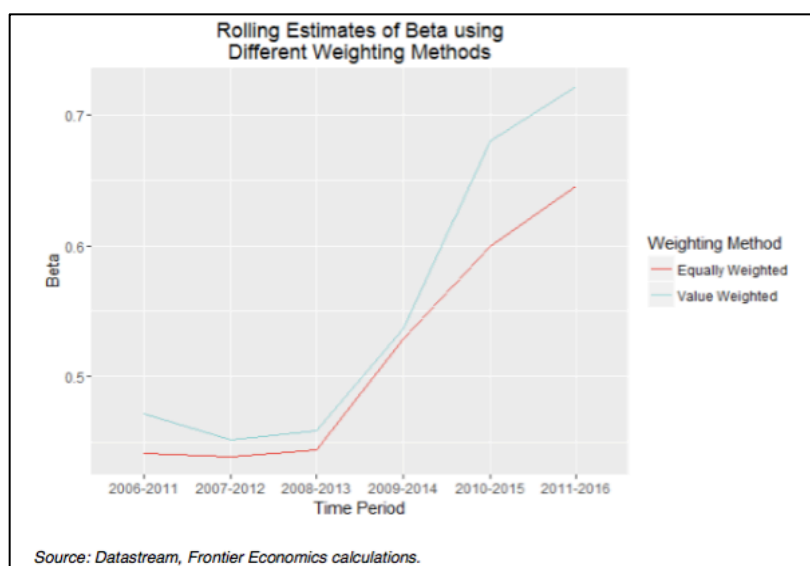
⁴⁹ *Ibid*, p. 142.

Clearly, the ERA has suggested that there is some evidence from recent empirical analyses of an increase in the equity beta over the last five years. Nevertheless, the ERA maintained its view that the best estimate of beta for the networks was 0.7 based on the empirical data. Importantly, however, the ERA has not made an adjustment, or “uplift” to account for the theory of the Black CAPM or other factors.

Similarly, Frontier concluded that the more recent empirical data indicated an empirical estimate of around 0.7 (range 0.65 and 0.72 with a mean of 0.68). However, Frontier’s analysis also suggested that using a 10-year horizon was statistically preferable and their 10-year analysis indicated a re-levered beta of 0.52 - 0.57 (equal and value weighted portfolio respectively) – an outcome similar to the AER’s empirical beta from the Henry studies of 0.5 as noted above.

Figure 4.2 is an extract from the Frontier paper illustrating rolling 5-year portfolio beta estimates. Until 2008-13 the results are consistent with, or even lower than, the AER’s empirical best estimate of 0.5. However, after that date, the 5-year average beta increases to a point close to the AER’s final figure of 0.7.

Figure 4.2: 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.

While not in a position to fully assess the statistical validity of Frontier’s analysis, APA’s argument can be broadly summarised as follows:

If the AER believes it is appropriate to adjust its empirical best fit beta of 0.5 upwards to the top of the empirically derived range (0.7), in order to accommodate the theory of the Black CAPM, international observations and other financial data – then the AER should be consistent and increase the “new” empirical best fit estimate to something greater than 0.7 for these same reasons.

However, the ERA’s and Frontier’s analyses do not provide sufficient support for APA’s proposal to vary the equity beta in the AER’s Guideline. The reasons for this conclusion are summarised below.

- Frontier’s preferred formulation results in a range of empirical equity betas for the 5-year data of 0.65 to 0.72. The AER’s approach with respect to the Black CAPM specifically rejected allocating a precise “uplift” quantity to the SL CAPM results. Rather, the underlying theory behind the Black CAPM has guided the AER in its choice of a point estimate within the observed range. The same reasoning would lead the AER (should it accept the analysis itself) to select a higher value within the observed range of 0.65 to 0.72 rather than to select a point estimate outside the observed range. The top of the Frontier range is 0.72, and given the uncertainty around the precise numbers it would be reasonable for the AER to round this figure to 0.7.
- Frontier’s analysis of 10-year data (which it prefers to the 5-year analysis on the basis of better statistical reliability) shows an equity beta range well below the 5-year analyses. In general, the AER has preferred to use longer-term data to ensure its forecast of expected values is not overly influenced by short-term factors. Frontier’s 10-year analysis would be more consistent with the AER’s approach to the SL CAPM parameters.⁵⁰
- The ERA’s analysis in its 2016 DBP draft determination identified an increase in the empirical beta since its 2014 study (using 5-year data). However, the ERA was also satisfied that there was no need to provide an “uplift” from the empirical best estimate of 0.7 for the Black CAPM theory or other factors including international data. In its Final Decision, the ERA states:⁵¹

The Authority has estimated a beta of 0.7, derived from an Australian comparator sample. ... This estimate sits within its most recently estimated – May 2016 – 95 per cent confidence interval range for the benchmark sample of Australian utilities, which is between 0.5 and 0.9 on the basis of portfolio estimates.

- The ERA’s view on the alleged low beta bias in the SL CAPM has modified since 2015 on the basis of a more detailed examination of the issue of beta bias between its Draft and Final Decisions for the Dampier Bunbury Natural Gas Pipeline (DBNGP). In its Final Decision, the ERA stated that:⁵²

*The Authority concludes there that it is clear there is little evidence that the Authority’s estimates of beta used in the SL-CAPM are biased. The Authority is now satisfied that **once the ‘low beta’ bias issue is properly framed, there is no evidence to justify any adjustment** to the Authority’s estimates of the beta term for use in the SL-CAPM.*

[emphasis added]

⁵⁰ As discussed in later sections, the AER’s approach to the return on equity is to estimate the current expectations of investors for returns on long-term investments.

⁵¹ See for instance, ERA, *Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline*, paragraph 1144 – 1145.

⁵² Cited in *Ibid* at paragraph 954-956. See also, ERA, *Final Decision on Proposed revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline 2016-2020*, 30 June 2016, Appendix 4.

- In addition to responding qualitatively to the Black CAPM theory, the AER provided two other reasons for selecting the top end of the range of empirical betas. They were the preference for regulatory consistency and the findings of international studies that were generally (but not always) higher than Australian equity beta observations. None of these factors provide a reason for the AER to automatically apply an increase to any newly calculated equity beta (should the AER accept the new empirical findings presented by APA). In brief:
 - As noted above, given the lack of any clarity in the Black CAPM assumptions on the value of the zero beta, it would be unreasonable for the AER to select a figure outside the “new” observed range of 0.65 to 0.72 (such as 0.8);
 - Similarly, there are many difficulties in allocating a precise “uplift” quantity as a result of international data. The ERA, for instance, noted that the international analyses pointed to a “wide range” of empirical estimates (i.e. 0.45 to 1.3). Therefore, they added little to the ERA’s decision on a point estimate. In addition, there were significant issues with re-levering international estimates that may, in turn, “render them [the re-levered equity betas] unreliable”.⁵³
 - Regulatory consistency would be best achieved by the AER retaining its equity beta until and unless there is evidence of a sustained change in the relative risk profile of a BEE.⁵⁴
- There is no clear theoretical basis or substantive empirical rationale provided to explain the stated increases in the empirically derived equity beta of the regulated energy network businesses since 2014. This is particularly important given evidence of a relatively long period of stability in the empirically derived equity beta using data prior to 2014, despite the changes in the state of the economy over the historical assessment period.

Given this past stability, there needs to be a clear justification from APA for concluding that there is some more fundamental and sustained change in equity beta since 2014 that warrants applying an increase to 0.8 for the forecast period (2018-2022). That is, given the lack of any theoretical underpinning for a change in the empirical beta, consumers can have no confidence that the recent observations (using 5-year data) represent a longer term ‘break’ in the historical data analyses which have remained fairly consistent since Henry 2008 (see also Figure 4.2). The analysis referred to above by CEG appears to be similarly based on short term data (3-years).

Moreover, there is no evidence provided that the market in general perceives a change in risk for regulated network assets. Nor does APA or other listed regulated gas networks appear to identify such a change in risk in their annual reports to shareholders. In fact, the listed networks continue to promote to investors the benefits of stable and predictable cash flows from their regulated businesses.

The AER is, therefore, advised not to accept APA’s proposed equity beta of 0.8.

⁵³ Ibid, paragraph 1146.

⁵⁴ As noted previously, it is possible that the risk profile of the total APA Group (APT) may have changed given that most of its income is derived from its pipeline assets that are not regulated or only subject to light regulation.

4.3.3 Market Risk Premium (MRP).

4.3.3.1 Overview of the MRP in AER's Guideline and APA's proposal

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)⁵⁵, 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.⁵⁶ APA, for instance proposes an approach that implies a market risk premium of some 7.76% (see Table 4.1) to be used as an input into the SL CAPM calculation for the regulatory period 2018 -22.

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. The AER cited, inter alia, its view that the uncertainty associated with the GFC had diminished and no longer warranted an MRP in excess of the historical long-term estimates.⁵⁷

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

This requires APA to provide a clear explanation of the causes of such a change in the real world, outside the outputs of their various models. For example, APA has not 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 by APA (7.76 per cent) and, more specifically, an equity risk premium for regulated assets (over the risk free rate) of some 6.2 per cent (see Table 4.1 for the ERP). Such an increase in market risks and the equity risk premium

⁵⁵ For details, see footnote 7.

⁵⁶ Immediately following the GFC, the AER increased the market risk premium for the regulated businesses from 6% to 6.5%.

⁵⁷ Cited in the Australian Competition Tribunal, *Application by Envestra Limited (No 2)*[2012] ACompT4 @ 131.

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.

APA's arguments for a higher MRP also revolve around a theoretical interpretation of the SL CAPM model that is not supported in the literature or in practice, and on the outputs of its Dividend Growth Model (DGM) to estimate the overall market return on equity.

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 measuring expectations for equity returns by long-term investors.⁵⁸ 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, APA's implied MRP of 7.76% is not supported. The following sections consider the AER's approach in the Guideline, APA's current regulatory proposal and the basis for the advice to the AER to not accept APA's proposed MRP.

4.3.3.2 The AER's assessment of the MRP in its 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

⁵⁸ This is discussed in more detail in the next sections.

AER increased this to 6.5 per cent⁵⁹ 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:⁶⁰

*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]*

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.

⁵⁹ 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>

⁶⁰ AER, *Draft Decision Ausnet Services transmission determination*, Attachment 3, July 2016, p. 3-57.

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. In its more recent determinations, the AER states that historical excess returns indicated a point estimate of the MRP of approximately 5.5 to 6.0 per cent (from a range of 4.9 to 6.0/6.5 per cent).⁶¹

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 1.⁶²

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.⁶³

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.

⁶¹ Ibid, 3-47. The AER appears to rely on the arithmetic average rather than the geometric average although it considers both.

⁶² 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.

⁶³ 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%)

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”.⁶⁴

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 is reasonable”.⁶⁵ Stakeholders considered a MRP estimate of 6.5 per cent was conservative, including previous CCP sub-panels.⁶⁶

The AER also indicated in its Guideline that it would consider movements in a number of ‘conditioning variables’ including 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:⁶⁷

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;⁶⁸
- 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:⁶⁹

*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]

⁶⁴ Ibid.

⁶⁵ Ibid. The AER’s September 2016 Draft Decision Powerlink Transmission determination indicates a range of 4.4% to 6.8% (p. 3-48).

⁶⁶ 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.

⁶⁷ AER, *Draft Decision Ausnet Services transmission determination*, Attachment 3, July 2016, p.p. 3-80 -81.

⁶⁸ 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.

⁶⁹ AER, *Draft Decision, Powerlink transmission determination*, Appendix 3, p. 3-109.

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).

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.⁷⁰

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".⁷¹

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 paribus, 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:⁷²

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

⁷⁰ 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.

⁷¹ *Ibid*, p. 3-59.

⁷² Handley, "Advice on the return on equity", 16 October 2014, p.p. 17-18. Cited in *Ibid*, p. 3-188.

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.

4.3.3.3 APA's proposed MRP for 2018-22.

APA's approach to the estimation of the MRP is based on a number of arguments and, in particular, rests on the following two claims:

- (1) the AER's specification of the SL CAPM is incorrect; and
- (2) in any case, the AER's estimation of the MRP is incorrect.

Claim (1): The AER's specification of the SL CAPM is incorrect

APA states that the correct specification of the SL CAPM requires the AER to estimate two parameters - the market return on equity and the risk free rate. The MRP is then derived based on the difference between these two estimates.⁷³ APA, therefore, sees the primary task is to provide a robust estimate of the forward-looking return on market equity.

In assessing the AER's estimation of the MRP (6.5 per cent), APA's view can be summarised as follows:⁷⁴

- The AER has stated that the MRP may vary over time. If this is the case, then a method of estimation that is "anchored" in the average of historical excess returns is unlikely to lead to a forward looking estimate of the market risk premium;
- Rule 87(7) of the NGR requires that, when estimating the return on equity, regard must be had to the prevailing conditions in the market for equity funds. The AER fails to give sufficient weight to prevailing conditions as assessed through the DGM and conditioning variables.

APA then concludes as follows:⁷⁵

An estimate of 6.5 per cent, which is anchored on historical excess returns and which is not forward looking, would not be an appropriate estimate for application of the SL CAPM, and could not lead to an estimate of the return on equity which contributed to a rate of return commensurate with the efficient financing costs of the benchmark efficient entity referred to in Rule 87 (3).

APA supports its conclusions by reference to the recent decisions of the Economic Regulatory Authority of Western Australia (ERA) on the Goldfields Gas Pipeline (GGP)⁷⁶ and its assessment of the expected market equity return. The latter assessment is in turn based on APA's stated

⁷³ The MRP is then adjusted by the equity beta for the network business (as per the SL CAPM formula) to derive the estimated return on equity required by an investor in a business of similar risk to the network service providers. The relevant equity risk premium (ERP) for the regulated gas business represents the premium of this estimated return on equity over the risk free rate.

⁷⁴ Summarised from APA VTS, *Revised Access Arrangements Proposal, 2018-22*, January 2017, p. 146.

⁷⁵ *Ibid*, p.p. 146 -147.

⁷⁶ ERA, *Final Decision on Proposed Revisions to the Access Arrangements for the Goldfields Gas Pipeline*, 30 June 2016. The ERA's analysis of the GGP's proposal on return on equity (the GGP proposal is very similar to the proposal by APA VTS) is set out in paragraphs 960 to 1152 of ERA's Final Decision.

view that the primary estimation parameter in the SL CAPM is the estimation of the expected return on the market and the risk free rate.

It should be noted that APA VTS and GGP are part of the same APA Group and it is not surprising that APA VTS and GGP put similar arguments forward to the respective regulators (AER and ERA). The APA Group also owns the Roma to Brisbane Pipeline (RBP), which is also subject to the AER's economic regulation regime.

APA's explanation of the ERA's methodology to estimate MRP

The ERA follows a similar series of steps as the AER and provides a range and point estimate of the MRP.

However, APA also states that the ERA has "inverted" the AER's approach in that the ERA derived its estimate of the range of MRP values from a set of dividend growth models and used the average of the historical excess returns as a cross check on any market return on equity using the DGM.⁷⁷ *Note: in practice the ERA indicates that it uses both approaches to estimate the MRP.*⁷⁸

In establishing a point estimate, APA states that the ERA concluded as follows:

- range of the MRP implied by recent estimates made using the dividend growth model of 7.6 per cent to 8.8 per cent;
- range of the MRP implied by historical excess returns of 5.4 per cent to 8.5 per cent;
- analyses of the conditioning variables suggested:
 - dividend yield – forward looking MRP was above the mid-point of the range implied by historical excess returns;
 - interest rate swap and bond default spreads were relatively high, indicating slightly elevated risk premiums;
 - the ASX 200 volatility index indicated an MRP below the mid-point of the range of implied historical excess returns; and
 - qualitative assessment of the RBA in its May 2016 statement of Monetary Policy, that there was uncertainty concerning future growth in the Australian economy, which would drive a somewhat higher MRP at this time.

The ERA concluded from this data that while the DGM estimates tended to overstate returns, the conditioning variables suggested that the MRP should be above the long-term historical average MRP. The ERA's point estimate of the MRP in their Final Decision was 7.4 per cent, significantly above the AER's 6.5 per cent. APA considers that the ERA's estimate of the MRP is "more closely grounded in prevailing market conditions in equity markets than the estimate made by the AER, and better reflects the requirement for a forward looking estimate".⁷⁹

⁷⁷ See APA, *VTS Revision Proposal submission*, January 2017, p. 148.

⁷⁸ ERA, *Final Decision on Proposed Revisions to the Access Arrangements for the Goldfields Gas Pipeline*.

For example, see paragraphs 984 and 1014.

⁷⁹ See APA, *VTS Revision Proposal submission*, January 2017, p. 150.

However, the ERA's decision was more nuanced than indicated by APA in its proposal to increase the MRP and its detailed analysis does not support APA's proposal. This will be explained in more detail in section 4.3.4.4 below.

APA's approach to estimating the expected return on the overall equity market

APA obtained an estimate of 10.0 per cent for the expected return on the market in the context of the SL CAPM. That is, APA considers 10.0 per cent represents the expected returns on a portfolio of assets at this time. It derives this figure by considering two models:

- averaging of past values of the return on equity to provide an estimate of the forward looking expectations for return on equity (range of 9.9% to 12.5%);⁸⁰ and
- apply a DGM to determine a forward looking estimate of equity market returns (range of 9.5% to 11.4 % nominal).⁸¹

Based on the yield on 10 -year Commonwealth bonds of 2.24 per cent, an equity beta of 0.8 and market return of 10.0 per cent, APA states that the expected equity returns for an investor in a gas utility under the SL CAPM foundation model is 8.45 per cent $(2.24\% + (0.8*(10-2.24\%)))$.

Importantly, in explaining its claim that the SL CAPM requires an estimation of the total market returns rather than the MRP, APA rejects the view that it has (in effect) adopted the "Wright" approach. APA claims that its approach makes no ex ante assumptions about any inverse relationships between the MRP and the risk free rate as postulated in the Wright approach.

APA states that this is because APA calculates the return on market equity and the MRP is simply what the numbers say it is, based on the difference between the empirically estimated return on equity and the observed risk free rate. APA therefore claims that Wright approach, along with the concerns expressed by the AER and other regulators with the Wright approach, is not relevant to APA's approach to the estimation of the equity market return and the MRP.

More generally, APA states it has made no assumption about whether the return on the market is relatively constant. Nor has APA proposed any correlation between the risk free rate and returns on the market.

The differences in the return on equity parameters for the BEE between APA and the AER are set out in Table 4.2. Table 4.2 also includes the final parameters adopted by the ERA. This is included in the table because APA's proposal on the MRP makes significant reference to the ERA's recent decision on the market risk premium in its determination for the Goldfields Gas Pipeline (June-July 2016) which is also owned by the APA Group.

Of interest is the observation that while the MRP estimated by the ERA is higher than the AER's estimate (at a similar time period), the final risk adjusted return on equity for a BEE is lower. This outcome will be further discussed in the following sections of this submission.

⁸⁰ Ibid, p. 161, Table 7-1p. 162. APA refers to a Table produced by the AER in its *Draft Determination for Powerlink Transmission*, September 2016.

⁸¹ Ibid, p. 162, Table 7-2. The range is defined by the findings of 4 different studies (SFG, Frontier Economics, AER and ERA) over the period May 2015 to September 2016.

Table 4-2: Summary of Return on Equity for a Benchmark Efficient Entity (BEE) by AER, ERA & APA VTS

Parameter	AER (Vic DNSPs) May 2016 ⁽¹⁾	ERA Goldfields June 2016 ⁽²⁾	APA VTS proposal Jan 17 ⁽³⁾
Term (bonds)	10 years	5 years ⁽⁴⁾	10 years
Nominal RFR (10-year Cth Bonds)	2.93%	1.82%	2.24%
Market Risk Premium	6.50%	7.40%	7.76% ⁽⁵⁾
Equity Beta	0.7	0.7	0.8
Overall market return on equity	9.46% ⁽⁶⁾	9.22%	10.0%
Return on equity for a BEE (nominal post- tax)	7.5%	7.0%	8.45%
Equity Risk Premium for a BEE	4.55%	5.18%	6.21%

Sources:

- (1) AER, *Final decision AusNet distribution determination*, Attachment 3, Table 3-2, p. 3-13. The AER has made more recent draft decisions quoted elsewhere in this report. However, for comparability with the ERA, the most recent Final Decision of the AER has been selected for this table.
- (2) ERA, *Final Decision on Proposed Revisions to the Access Arrangement for the Goldfields Gas Pipeline*, 30 June 2016 as amended on 21 July 2016 (this decision is referred to by APA in their proposal). See paragraph 1150 for summary of equity parameters.
- (3) APA VTS, VTS Revised proposal, January 2017, summarised in 7.2.5, p. 163.
- (4) The ERA makes a determination using 5-year Commonwealth bond yields for assessing the return on equity and the related equity parameters
- (5) APA does not directly calculate an MRP. The MRP reported here is the difference between the estimated market return on equity and the risk free rate.
- (6) The AER does not provide a point estimate of the market return on equity although a range of estimates of the total return on equity for the market portfolio are provided in Appendix C.2, Attachment 3, p.p. 3-214 – 3-215. The figure of 9.46% is ‘reverse calculated’ from the other parameters, assuming a market beta of 1.

4.3.3.4 Response to APA’s proposal for the MRP

APA’s proposal to vary from the AER’s Guideline and adopt a point estimate of the MRP of 7.76 per cent (as derived from the difference between APA’s estimate of the market return on equity of 10 per cent and the risk free rate of 2.24 per cent) is not supported in this submission.

That is, following a careful review of APA’s proposal, it is concluded that APA has not provided sufficient reason for the AER to vary from its interpretation of the MRP within the context of the SL-CAPM. Nor should it vary the MRP parameter value set in its Guideline.

The AER’s interpretation of the SL CAPM and the MRP has been the subject of considerable consultation over the years and to various Tribunal reviews.

In response to the claim by some NSPs that the AER has not paid sufficient attention to various sources of evidence on the rate of return on equity, the Tribunal relevantly described the scope of the AER's discretion in meeting its obligations as a regulator to give consideration to a range of sources of evidence and analysis. In considering a range of sources of evidence and analysis, the Tribunal provides specific instructions on how this obligation should be fulfilled. It concludes as follows:⁸²

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. [emphasis added]

Clearly, after considering a range of evidence as required by the Rules and over a series of regulatory decisions, the AER has the discretion to place more 'weight' on some methods over others.

Regulatory consistency is also an important principle. As noted previously, the requirement for the AER to publish a Guideline was introduced by the AEMC as part of the 2012 changes to the NER and NGR explicitly to provide some certainty to the NSPs and other stakeholders. This was in response to concern by the NSPs that the AEMC's proposed rule changes provided greater discretion to the AER and that this would, in turn, create greater uncertainty for investors and lenders to the networks. The current uncertainties, however, are largely created by many of the NSPs seeking to change the approach or parameter values (or both) in the Guideline and/or appealing the AER's decisions when these are made in accordance with the Guideline.

It is essential therefore, that the AER's approach as set out in the Guideline is not changed without very substantial evidence to support the need for that change. 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.

Moreover, there is no evidence that APA (or other NSPs) have faced financial difficulties as a result of the AER's previous decisions, including the AER's decision for APA for the 2013-17 regulatory period.⁸³

For example, the APA's recent first half-year report (dated February 2017) states that APA's EBITDA for its Victoria/SA pipelines has increased by 13.8% compared to the corresponding period in the previous financial reporting year.⁸⁴ *Of course, these profit results are not determinative; they are noted in this submission to the AER in the context of the oft-cited*

⁸² Australian Competition Tribunal, *Applications by the Public Interest Advocacy Centre Ltd and Ausgrid* [2016] ACompt 1 @ 713.

⁸³ The AER made its 2013-17 determination for APA in 2013, prior to the Rate of Return Guideline and the implementation of the current rules. However, the approach was similar except for the equity beta (0.8) and the debt transition (on-the day only).

⁸⁴ See, https://www.apa.com.au/globalassets/asx-releases/2017/1h-fy17-interim-results-presentation--clarification_cda-010.pdf, published February 2017. p. 11. Note, APA Group does not separate its regulated assets from its non-regulated assets in Victoria/SA. However, the bulk of gas provided in this region is through the Victorian Transmission System (VTS).

Revenue and Pricing Principles in the NEL and NGL, which require the regulator to make a decision that allows a regulated network business to recover the efficient costs of providing the regulated services.

The other more specific reasons for the advice not to accept APA's proposed market risk premium estimate of 7.76 per cent, are set out below.

APA's contention that the AER has incorrectly specified the MRP calculation in the SL-CAPM. This is a theoretical debate about the conceptual framework of the SL CAPM and is not an area that can be assessed in this submission. However, it is noted that the general practice amongst financiers and advisors is to interpret the SL CAPM formula as requiring an assessment of the expected value for the MRP which can be cross checked against the expected value of the overall market return on equity.

For instance, the ERA argues that despite the claim by the APA Group in its Goldfields Gas Pipeline (GGP) proposal that the APA Group was not applying the Wright approach, its approach was consistent with the Wright approach "albeit in this case based on a somewhat broader set of information (that includes the Wright method of interpreting the historic data, among others)." ⁸⁵ The ERA concludes as follows: ⁸⁶

*The Authority does not accept this 'Wright style' approach is the only interpretation possible for interpreting the MRP, or historic data. The Authority is of the view **that the term $[E(r_m) - r_f]$ has generally been considered as the MRP in the finance literature.** The MRP is a well established concept and GGT appears to agree on this view.*
[emphasis added]

In addition, the claim that the MRP is inversely related to the risk free rate has been proposed by other NSPs at various times and has been considered in detail by the AER in many of its decisions and by the various Tribunals on appeal by the NSPs. The Tribunal has upheld the AER's position.

It is also noted that the studies on such relationships between the risk free rate and MRP do not consistently support a negative correlation and some support a positive correlation particularly in the Australian equity market. A preliminary hypothesis might suggest that it 'all depends' on why the risk free rate is declining (increasing).

In any case, the overall point is that when there is such a level of ambiguity in the reasons for, and reliability of, the relationships between the risk free rate and the MRP, it is important that the MRP is calculated independently of the risk free rate. ⁸⁷

⁸⁵ ERA, *Final Decision on Proposed Revisions to the Access Arrangements for the Goldfields Gas Pipeline*, 30 June 2016 (as amended 21 July 2016), paragraph 983.

⁸⁶ *Ibid*, paragraph 984.

⁸⁷ The AER's consultants, Professor Partington et al, have made this same point in many reviews of the NSPs' proposals.

Moreover, the ERA has considered carefully the differences between the ERA's assessment of the MRP and the AER's assessments. The ERA notes that while the AER's established range for the MRP is "comparable" to that of the ERA, the AER's overall point estimate is somewhat lower than the ERA's.⁸⁸

The ERA concluded, however, that the greater part of the difference in the point estimate of the MRP is related to the different term for the risk free rate (the ERA adopts a 5-year term, while the AER adopts a 10-year term). The remainder of the difference in the point estimate relates to the differences in the "weighting" of other evidence and the regulatory discretion applied to this. It is worth quoting the ERA's conclusions in full:⁸⁹

1130: This 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.

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 large part, in paragraph 1131 the ERA is 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 shorter term for the CGS (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, ERA states:⁹⁰

*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***

⁸⁸ ERA, *Final Decision on Proposed Revisions to the Access Arrangements for the Goldfields Gas Pipeline*, 30 June 2016 (as amended 21 July 2016), paragraph 1129.

⁸⁹ *Ibid*, paragraph 1130 -1132.

⁹⁰ *Ibid*, paragraph 1138.

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, APA has relied on yields for Australian Government Securities (CGS) with terms to maturity of 10 years.⁹¹ This is the same risk free period as the AER has selected in assessing the rate of return parameters. APA has rejected the ERA's approach of using a 5-year term and the ERA notes that GGT has continued to propose a term for the risk free rate of 10 years.⁹²

It appears that APA has selectively used the decisions of the ERA to propose a higher MRP than the AER's. It is quite clear from the quotations above that the ERA calculates the MRP using a 5-year CGS yields for the risk free rate and that this informs the ERA's approach of placing more reliance on near term deviations in the MRP than regulators such as the AER that apply 10-year CGS yields.

Unlike the ERA, however, APA has adopted the higher 10-year CGS yield for the risk free rate while focusing its analysis of the overall return on equity and the MRP (by implication) on shorter term events as measured by the DGM and other current market data. In effect, APA is 'cherry picking' the data sources. When it comes to the risk free rate, it prefers to use the yield on 10-year CGS bonds that is significantly higher than the 5-year yield as demonstrated by the ERA. However, when it comes to the risk premiums it chooses to emphasise the findings of models that best measure market expectations for near term returns, such as the DGM.

APA explicitly rejects the AER's approach of placing greater reliance on the long term trends in assessing the MRP although the long term historical trends are likely to be better measures of the long term equilibrium MRP.

In this context, it is useful to reiterate that within the framework adopted by the AER, the AER's task is to find a current estimate of the efficient equity returns required by an investor in low risk assets over the long term. Further, this interpretation by the AER is consistent with its overall rate of return framework and it is one that the Tribunal has previously accepted. The Tribunal re-states the AER's position (which it did not reject) as follows:⁹³

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. [emphasis added]

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

⁹¹ APA, *VTS Revised Proposal*, Jan 2017, p. 136.

⁹² See for instance, ERA, *Final Decision on Proposed Revisions to the Access Arrangements for the Goldfields Gas Pipeline*, 30 June 2016 (as amended 21 July 2016), paragraph 752.

⁹³ Australian Competition Tribunal, *Application by Envestra Limited (No 2)* [2012] ACompT4 @ 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

As discussed 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 equilibrium MRP. The best methodology for estimating the longer-term equilibrium position is to provide a forecast based on long term historical data. In this way, the AER avoids the type of bias that can be created by an over reliance on short-term sentiment to estimate the long-term equilibrium.

Nevertheless, the AER pays some limited reliance on other sources of data that are claimed to provide better indication of investors' views of the equity market in the near term in order to inform its decision on a point estimate for the MRP within the range arising from the long term historical analyses.

The AER places some reliance on this data, notwithstanding its ongoing assessment of the limitations of these various 'short term measures' such as the DGM, market survey reports and conditioning variables. Previous CCP sub-groups have expressed concern that the AER places reliance on these latter measures to select an MRP at the top of the observed range based on historical analysis, particularly in the context of the AER's view that it is estimating equity returns over the longer term (see above).

Regulatory decisions must be made with regard to consistency (see above) and to ensuring there is minimal bias over the longer term. However, the DGM outputs are very sensitive to assumptions about the near term dividend growth rate, the long term dividend growth rate, GDP growth rates, inflation forecasts and the specific construction of the DGM model.

It is concerning that this approach opens the door to further debates on each of these parameters and leaves considerable room for NSPs to cherry pick the set of inputs that suit their business objectives at a point in time. This is not a satisfactory basis for determining regulatory outcomes where the risks of error fall ultimately on customers. As the Tribunal noted some four years ago in its Envestra decision:⁹⁴

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

For example, the AER's long-term nominal dividend growth rate in its version of the DGM is 4.5 per cent nominal per annum.⁹⁵ This long-term dividend growth rate is, in turn, estimated by adjusting the long-term growth rate in real gross domestic product for the net creation of shares and expected inflation. Thus, at least four new estimations enter the analysis in order to forecast the short term consensus dividend growth rate, the long term dividend growth rate (in perpetuity), real GDP growth, new share creation and expected inflation and all are controversial as indicated by the debates between various advisors to the AER and between the

⁹⁴ *ibid*, @ 146.

⁹⁵ Based on a forecast of real GDP growth of 3%, an adjustment down of between 0.5 to 1.5% to allow for new share creation from new issues and new firms, and expected inflation rate of 2.5%. There are debates about each of these components. For instance, the long term real GDP growth by Lally is based on long-term historical growth in GDP from 1900 to 2011 with some reference to short term forecasts. Arguably the current real GDP growth rate forecasts are below the long-term average.

AER and the NSPs' advisors. Adopting a 3-stage model requires further estimations of the 'slope' of change between the short and long term estimates of dividend and GDP growth rates.

The ERA (amongst others) also notes 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:⁹⁶

- 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.

In this context, it may be useful for the AER to consider the significant commentary on current business practices with regard to dividend payout ratios and share buy-back policies, combined with reluctance by businesses to use earnings to reinvest in new capital formation.

For example, an article in the RBA's March 2016 Quarterly Bulletin noted that dividend payouts may grow even when earnings are flat or declining (at least in the shorter term). In particular, in respect to the observed significant growth in dividends between 2010 and 2015, the article stated:⁹⁷

*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]*

Either way, the 'stickiness' of actual dividend payments means that the resulting forecast of dividend growth even in a 1-2 year horizon, may well be distorted and reduce the value of dividend growth forecasting.

APA's claim that the AER's estimate of the MRP is 'anchored' in the past and not necessarily reflective of the current market conditions is also worth examining.

One response to this, noted above, is that the AER is not estimating a short term MRP, it is estimating the current expectations of risk for long-term investments. It would be inconsistent for the AER to combine in the same SL CAPM equation, the 10-year CGS yields and a short-term risk premium. Either the AER uses shorter-term CGS yields (such as the ERA does, and which

⁹⁶ 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.

⁹⁷ 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>

APA does not agree with) together with an increased weight on near term measures such as the DGM. Or the AER uses a long-term CGS yields (10 years) with an MRP assessment correspondingly based on investors views of risk and return over the longer-term.

In addition, the DGM inputs require either implicit or explicit assessments of historical data. For instance, the long-term GDP growth factor used in both the 2 and 3-stage DGM identified by the AER, requires an estimate that is likely to be based on historical trends in GDP growth rates. Again, this is an instance of ‘kicking the can down the road’. Investors and market analysts long term expectations for GDP growth will be based largely on the history of GDP growth and the expectation that, over time, GDP growth will be ‘mean reverting’.

If, however the DGM was accepted as a useful model to provide some directional information regarding short term expectations despite its known limitations, it is important for the AER to examine in detail the assumptions underpinning the DGM models adopted by APA’s consultants. Similarly, it is expected that the AER will review its assumptions about the near term conditioning variables that were included in the Guideline.

In particular, if the AER proposes to use the 2 and 3-stage DGMs and conditioning variables to inform its decisions in some manner, then the AER should review APA’s assumptions and compare with the AER’s assumptions with respect to:

- GDP growth (nominal and real)
- Inflation
- Dividend yields
- Volatility
- Earnings (P/E ratio)

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. A low VIX would support a MRP that is below the long-term average. As expressed by the ASX:⁹⁸

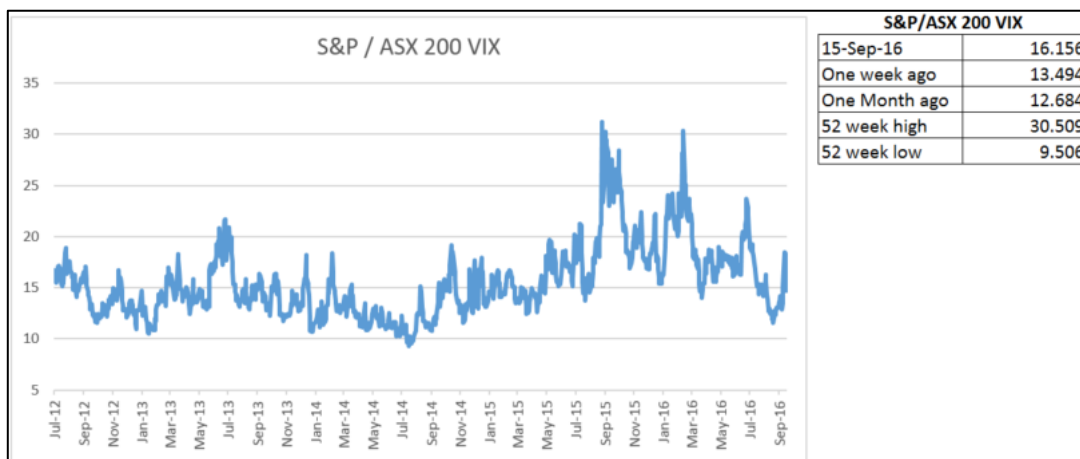
If people are confident of future direction they will regard the transaction as low risk and will factor in less of a risk premium. When they are really uncertain [as expressed on high volatility] they regard any trades based on future prices are risky, so a risk premium will be factored in.

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 4.3.

⁹⁸ 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>

Figure 4.3: S&P/ASX 200 VIX 15 September 2015 to 15 September 2016.



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

In its July 2016 determination on Ausnet Services, the AER suggested that while “implied volatility and dividend yields increased above their long term averages towards the end of 2015”.⁹⁹ However, the AER also considered that there was insufficient evidence of a sustained trend away from these long-term averages.

Since September 16, the ASX 200 VIX has steadily fallen. An examination of the daily VIX observations over the period 31 January to 24 February 2017 indicates a range of between 11 and 13, well below the long term averages and indicative of investors’ perception of lower risk. Had the AER been overly swayed by the late 2015 volatility, it would have overestimated the short term market risk, thus illustrating the risks associated with using such measures for forecasting returns over longer periods.

At the very least, such observations do not support a view that the MRP for long-term investors should be as high as 7.74 per cent as proposed by APA, particularly given this is a substantial increase over the long term historical averages observed by both the AER and the NSPs’ consultants.

On this basis alone, it can be concluded that APA has failed to provide sufficient evidence to support an increase in the MRP for investors in long-term assets compared to previous regulatory periods.

To summarise; it is recommended that the AER does not accept APA’s approach to calculating the MRP for the following reasons:

- The importance of the regulatory principles of consistency and predictability that underpin the obligation in the NGR for the AER to provide a rate of return 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

⁹⁹ AER, *Draft Decision Ausnet Services transmission determination*, Attachment 3, July 2016, 3-208.

approach within and between regulatory periods particularly when the economic parameters are likely to be 'mean reverting'.

- APA's alternative approach to estimating MRP is based on the claim that the AER erred in treating the MRP as an individually estimated parameter rather than the residual derived from estimation of the market portfolio return on equity and the risk free rate. However, there is ample precedence to estimating the MRP directly as set out in the AER's Guideline and the case is not made for a change in the AER's approach.
- While the ERA's most recent assessment of the MRP is closer to APA's proposal (see Table 4.2), the ERA itself has explained that most of the difference reflects the difference in the term assumed for the risk free rate between the ERA and the AER (5- years versus 10-year CGS bond yields); the MRP for the AER's SL CAPM should be calculated on the same basis as the risk free rate, i.e. based on current expectations of long term MRP.
- Given this requirement, APA's focus on near term measures of the return on equity and MRP, such as the DGM, is misplaced. In any case, the DGM has significant weaknesses as a tool to measure return on equity or the MRP (whether short or long term). These include known upward bias in its estimates and sensitivity to the model structure (of which there are many) and to assumptions about expected short and long term GDP, dividend and inflation changes. In the view of CCP11, this means that the DGM is unsuitable as a tool for establishing the return on equity (or the MRP) within the regulatory setting as proposed by APA.
- The AER is correct in giving most reliance (but not all) on estimating a MRP derived from 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.
- To the extent that the AER's has adopted a point estimate on the high side of the historical excess returns to reflect more current market events, the AER needs to review the more recent values for the conditioning variables that it includes in the Guideline. For example, the level of volatility as measured by the ASX 200 VIX is currently at levels well below long-term averages. 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 determination.

4.4 Recommendations

- (1) It is recommended that the AER does not accept APA's proposed equity beta of 0.8.
- (2) It is recommended that the AER does not accept APA's proposed market risk premium approach and parameter value of 7.75 per cent.

- (3) Despite the legitimate reservations by previous CCP sub-groups around the AER's conservative approach to estimating point estimates for the equity beta and market risk premium, it is recommended that the AER continue to apply the approach and parameter values set out in the AER's Rate of Return Guideline. This recommendation is made in the interests of regulatory certainty and in the face of multiple appeals and cross appeals to the Tribunal and the Federal Court that remain outstanding at the time of writing this submission. The CCP's position may be reviewed following the outcomes of these appeals, however, prudence requires that any changes to the Guideline approach are limited at this time.
- (4) It is recommended that the AER undertake further research into the possible trends in the equity beta to assess if there have been any fundamental changes since 2014 in the market perception of the systematic risks associated with investment in a regulated network business in Australia. However, the results of this investigation are better incorporated into the AER's review of the Guideline in 2017-18.
- (5) It is recommended that the AER carefully evaluate the role of the DGM in providing relevant data in the context of the AER's view that it is estimating the return on equity required by long-term investors.
- (6) It is recommended that the AER undertake further research on the current trends in conditioning variables identified in the Guideline and whether other variables are relevant to assessing the direction of the MRP, again in the context that the AER states it is estimating the return on equity required by long-term investors.