Overview of CEG analysis

A report for the JIA

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Table of Contents

1. Introduction

1. The purpose of this report is to summarise in the one place the key findings of various CEG reports for the JIA. The purpose is also to do so in a manner that allows us to make clear the relevance of these findings in the context of the entirety of the AER draft decision in relation to the cost of equity.

2. The individual CEG reports inevitably go into detailed discussion of both technical finance issues and also responses to specific issues raised in the AER draft decision. However, each of the WACC parameters are interlinked and many issues 'cut across' individual parameters. Moreover, much of the technical discussion has only small bearing on the key issue which, put simply, is should the AER alter the compensation for the cost of equity and, if so, in what direction? Consequently, we believe that an overview report such as this one is vital.

3. As well as our previous reports for the JIA, the individual CEG reports we draw on here are:

   - *Forward looking estimates of the equity premium - for regulated businesses and the market as a whole*, January 2009;
   - *Estimating the NER equity beta based on stock market data – a response to the AER draft decision*, January 2009;
   - *CGS as a proxy for the risk free rate – a response to the AER draft decision,* January 2009; and
   - *Term of the risk free rate under the NER*, January 2009.

4. Section 2 of this report analyses the draft decision (as it relates to equity returns) in the context of current equity market evidence. In doing so we rely largely on results from our report: *Forward looking estimates of the equity premium*. We conclude that the current cost of equity in the market (generally and specifically for regulated businesses) is substantially above an estimate based on current NER parameters. We argue that this is an important backdrop to an assessment of the entirety of the AER's draft decision.

5. Section 3 provides a discussion of the relevance of current market conditions to the AER's WACC review, especially given that it will set WACC parameters for the next five years.

6. Section 4 provides a discussion of why, irrespective of current market conditions, we do not believe that the AER's decision to reduce the NER equity beta from 1.0 to 0.80 is appropriate.

7. Section 5 provides a discussion of why we do not believe that the AER's decision to retain an MRP estimate of 6.0% is reasonable – especially in the context of a change to the proxy for the risk free rate from 10 to 5 year Commonwealth Government Securities (CGS).

8. Section 6 summarises our conclusions.

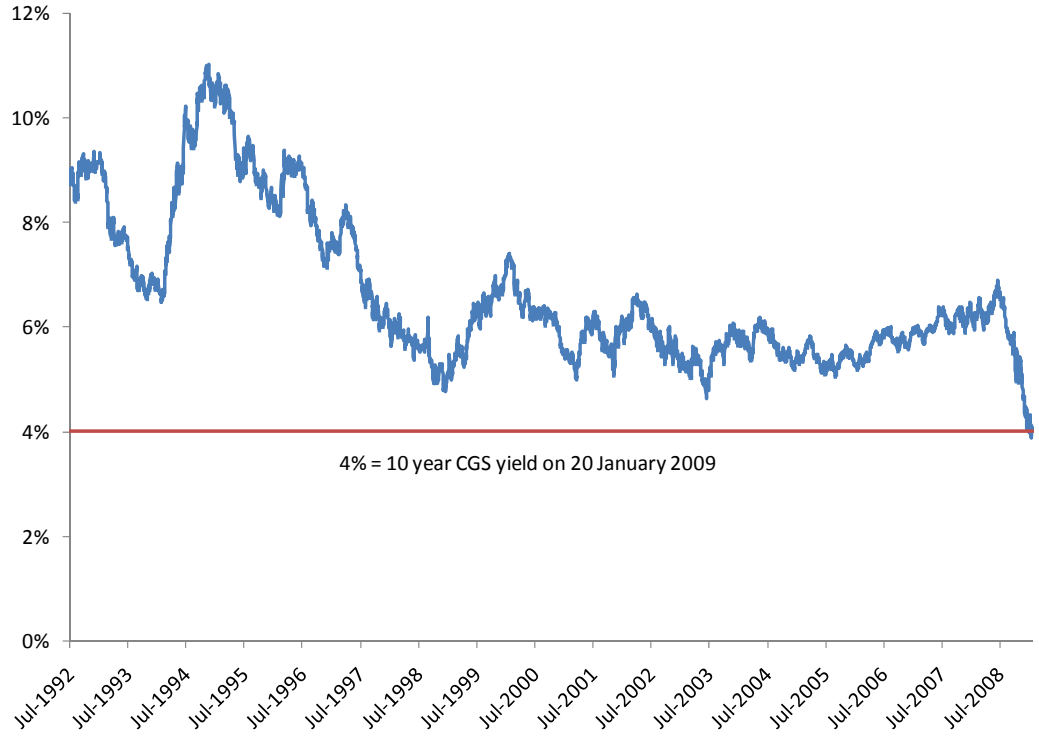
2. The draft decision in the context of current market conditions

9. The return on equity demanded by investors is historically high at the present time, reflecting a general repricing of risk in capital (both debt and equity) markets following the losses made in the US subprime mortgage market and compounding effects in global financial markets.

10. In debt markets, investors' higher required return is evidenced by significant reductions in the market value of debt – which is the mechanism by which interest rates (the return to debt providers) increases. The same is true in equity markets. Reductions in the value of equity reflect the unwillingness of investors to provide equity at previous low levels of dividend yields (analogous to interest rates in debt markets). From its peak the ASX S&P200 stock market index has dropped 45%. The RBA reports that this has been associated with a near doubling in dividend yield over the same period – from 3.66% to 7.03%. Just as higher interest rates in debt markets are a signal of higher cost of debt, higher dividend yields in equity markets are a signal of higher cost of equity.

11. However, the 'flight from risk' associated with an increasing cost of corporate equity/debt has been mirrored by a 'flight to safety'. The demand for government debt has risen dramatically with the effect that nominal CGS yields have fallen dramatically. CGS yields are currently at unprecedented low levels and there is no sign of any imminent recovery in these yields. This is illustrated in Figure 1 below.

Figure 1: Nominal 10 year CGS yields over time



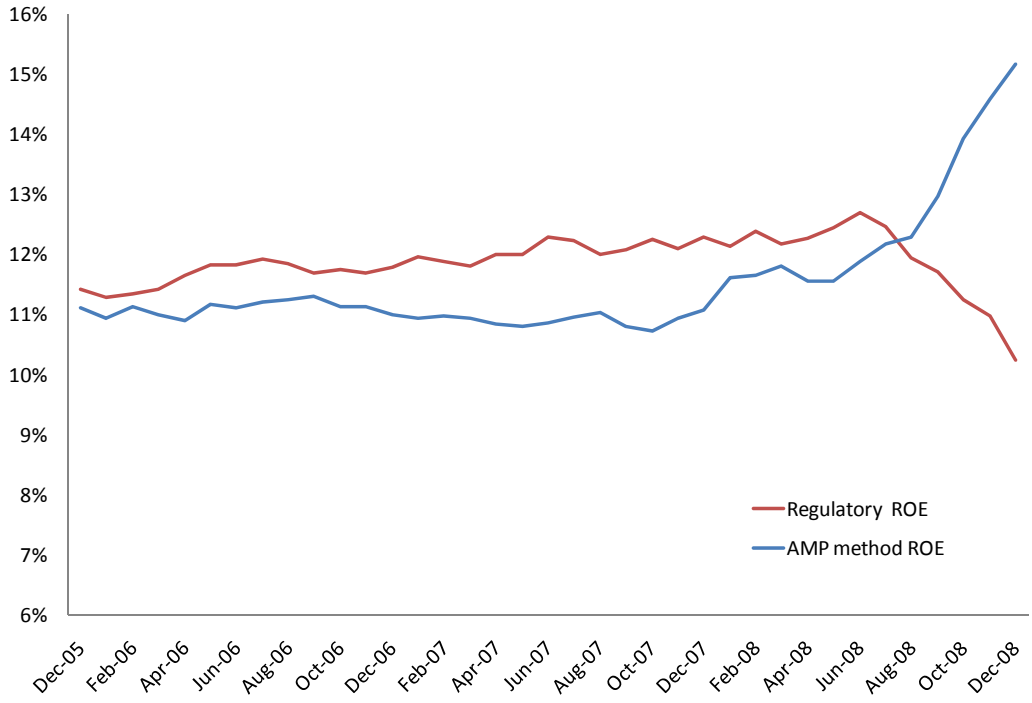
Source: RBA data

12. Under section 6.5.2 of the National Electricity Rules (NER), compensation for the cost of equity has been falling in line with the fall in nominal CGS and, consequently, is now at historically low levels. This is because the structure of the NER is such that only one parameter (the risk free rate) varies based on market evidence but other parameters (equity beta, market risk premium (MRP) and gamma) are all fixed for five year intervals.

13. Recent events in financial markets create an important contrast between the movements in the NER cost of equity and the actual cost of equity in the market place. The former has fallen to historically low levels at the same time the latter has risen to historically high levels. This is illustrated in Figure 2 below which estimates the forward looking market cost of equity based on a method used by AMP Capital Investors (and is reproduced from our companion report).[1]

[1] The AMP methodology and assumptions are outlined in our companion report: CEG, *Forward looking estimates of the equity premium - for regulated businesses and the market as a whole*, January 2009. This figure is a reproduction of Figure 5 in that report.

Figure 2: Recent movements in the regulated and market return on equity (excluding draft decision)



Source: RBA data, AMP Capital Investors methodology, CEG analysis

14. The AER draft decision notes that the cost of equity derived using this method was commonly below the AER cost of equity (assuming a beta of 1.0). We concur with this but note that there is currently a dramatic divergence in the other direction. With the cost of equity in the Australian market around 15-16% in December 2008. When we deduct the December 2008 yield on CGS of around 4% from this we get an estimate for the MRP of approximately 12% – double the 6% MRP established in the NER.

15. We also note that utilities have not been immune from this general repricing of risk. This is despite "*the stable cash flows of regulated utilities"* ascribed to them in the AER draft decision.[2] Along with the general level of stock prices, the prices

[2] See page 192 of the AER draft decision.

of utility stocks[3] have fallen by almost exactly the same amount as the broader stock market.[4]

16. We perform a sensitivity analysis around the above estimates and conclude that there are no reasonable set of assumptions that would make current share market prices consistent with a MRP of 6.0%.[5]

17. This demonstrates that utility stocks have not been immune from the general repricing of equity risks.

- there has been a significant repricing of equity risks in general; and
- utility stocks have not been immune from the general repricing of equity risks.

18. The reduction in the regulatory ROE illustrated in Figure 2 is solely due to the fall in CGS yields in the latter half of 2008 – a fall in yields that is demonstrably coincident with a rise in the actual cost of equity observed in the market. This inverse relationship between government bond yields and the return on equity is not surprising and is well documented in the finance literature.[6]

19. The effect of the draft decision, if implemented, would be to widen the gap between the prevailing market cost of equity and the regulatory cost of equity. The draft decision makes changes to WACC parameters (beta, the term of the risk free rate and gamma) that would reduce the allowed return on equity by

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[3] The simple average of the six Australian listed and regulated energy transport businesses: Australian Pipeline Trust, DUET, Envestra Limited, Hastings Diversified Utilities, SP AusNet and Spark Infrastructure Group.

[4] Since the subprime crisis in the US first became evident (early August 2007) until 3 December 2008 the general level of stock prices and the prices of the utility stocks examine in the previous section have fallen by almost exactly the same amount as the broader stock market (38%).

[5] See section 3.2 'Sensitivity analysis' of or report: CEG, *Forward looking estimates of the equity premium*, January 2009. For example, to be consistent with December 2008 dividend yields for the Australian stock market reported by the RBA, real dividends would have to:

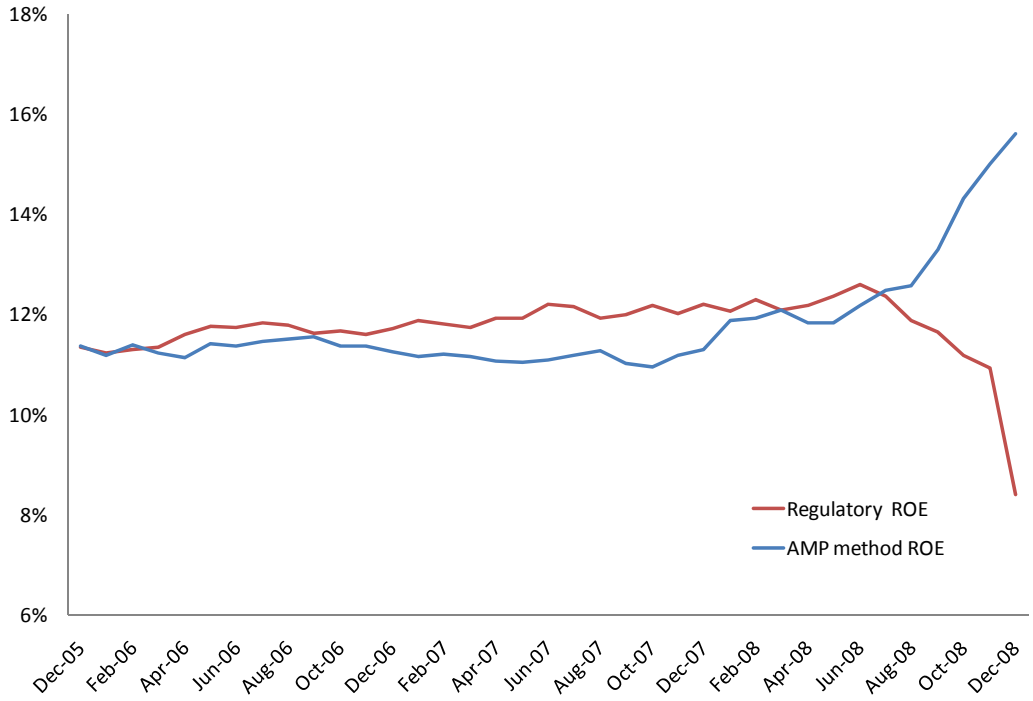
- immediately more than halve from their 2008 level;
- stay at that new low level for four years;
- then rise at a 4.1% real (6.6% nominal) (which is consistent with the long term average for real GDP growth plus inflation of 2.5%).

Under this scenario, real dividends would not reach their 2008 levels again until 2035 (27 years later).

[6] For example, Lettau, Martin and Sydney Ludvigson, 2001, "Consumption, Aggregate Wealth and Expected Stock Returns," Journal of Finance 56 (3), pp. 815—849. Amongst other findings, they found a strongly statistically significant inverse relationship between the change in US Treasury yields and the change in the observed MRP relative to Treasury yields. Lettau and Ludvigson found that when the risk free rate fell the MRP tended to rise by the same amount as the fall in the risk free rate and vice versa. That is, a 1% reduction/increase in the risk free rate tended to be associated with a 1% increase/reduction in the MRP (measured relative to Treasury yields).

around 162 basis points (1.62%).[7] Figure 3 below replicates the analysis from Figure 2 except it includes a 1.6% reduction in the regulatory cost of equity in the month of December 2008 – to reflect the effect of the draft decision if implemented.

Figure 3: Recent movements in the regulated return on equity (including draft decision)



Source: RBA data, CEG analysis

20. This figure illustrates the combined effect of historically unprecedented low CGS figures *and* the proposed changes to the NER parameters in the AER's draft

[7] The total (including the value of imputation credits) estimated cost of equity under the existing NER rules in December would be 10.2% (risk free rate of 4.2% + equity premium of 6%). However, in cash terms this must be reduced by the assumed value of imputation credits. At a gamma of 0.5 and a corporate tax rate of 0.3 this requires that 10.2% be divided by 1 + 0.5*0.3/0.7 = 1.21. This gives cash compensation for the cost of equity of 8.4%. However, under the draft decision proposals the total cost of equity falls to 8.7% (risk free rate of 3.9% based on 5 year CGS instead of 10 year CGS yields + equity premium of 4.8% which is 1.2% lower to reflect the reduction in beta from 1.0 to 0.8 while the MRP of 6% is retained). To convert this to a cash cost of equity this must be divided by 1.28 to reflect the proposed gamma of 0.65 (1.28 = 1+.65*0.3/0.7). This gives cash compensation for the cost of equity of 6.82%. The difference between 8.44% and 6.82% is 1.62 percentage points. As a percentage of 8.44% this is a 19% reduction.

decision. It contrasts this with an estimate of the average return on equity actually required by investors in the equity market today.

21. As described above, utilities are not immune from this repricing of risk. In our companion report,[8] we use a dividend growth model to estimate the equity risk premium (relative to CGS) for these same firms. The results are summarised in Table 1 below.

Table 1: Proposed equity risk premium (ERP) relative to DGM based ERP - November 2008

Firms	Proposed ERP	Implied cost of equity with assumed nominal dividends growth rate post 2013 of:			
		Inflation (2.5%)	Zero (0.0%)	Negative 5%	Negative 17.1%
Aust Pipeline Trust	4.8%	12.4%	11.0%	8.3%	2.7%
DUET	4.8%	15.8%	14.5%	12.1%	7.2%
Envestra Limited	4.8%	15.8%	14.6%	12.2%	7.3%
Hastings Div Utils	4.8%	14.7%	13.4%	10.9%	5.8%
SP AusNet	4.8%	11.8%	10.3%	7.6%	1.8%
Spark Infrast. Grp	4.8%	14.9%	13.4%	10.4%	4.0%
Average	**4.8%**	**14.2%**	**12.9%**	**10.3%**	**4.8%**

Source: CEG Analysis, Bloomberg data

22. This DGM analysis takes the average of analysts' forecasts of dividends (reported by Bloomberg in November 2008) out to 2013 and a CEG assumed growth rate in dividends beyond 2013. We then estimate the discount rate that will equate this future dividend stream with the prevailing average share price in November. Finally, we subtract the average yield on 5 year CGS in November to calculate the implied forward looking equity risk premium (ERP) for these utilities relative to five year CGS.

23. At the AER's proposed equity beta of 0.80 and market risk premium of 6.0% the proposed equity risk premium (ERP) for utilities is 4.8% (0.8*6.0%). The implied forward looking ERP depends on the post 2013 growth rate assumed by CEG. If dividends are assumed to grow in line with inflation (2.5%) beyond 2013 the average implied ERP is 14.2% - which is three times the AER's proposed ERP. Notably, in order to arrive at the AER's 4.8% estimate one must assume that dividends will fall by 17.1% pa for every year in perpetuity after 2013. Further, not reported in the above table is the fact that even if one assumes dividends are only expected to grow in line with inflation and that the value of gamma is zero

[8] CEG, *Forward looking estimates of the equity premium,* January 2009

(ie, no scaling up of cash dividends for imputation credits) the forward looking ERP is still almost double the proposed ERP (9.0% vs 4.8%).

24. Clearly these results support the view that the market is applying an ERP to utilities that is in line with the MRP it is applying to stocks in general. This is demonstrably well above 4.8%.

25. The important conclusion is that the AER draft decision comes at a time when:

- the NER formula is already giving an historically low return to equity investors (due to the historically low CGS yield); and
- the actual cost of equity in the market for funds is at historically high levels.

26. The consequence of the AER's draft decision, if implemented, would be to materially widen this already significant gap.

3. What regard should the AER have to current market conditions?

27. This raises the obvious question as to what regard the AER should have to current market conditions? In particular, what regard should the AER have to current market conditions given that the first regulatory period that will be affected by any change to WACC parameters will begin in July 2010 (18 months away) and the last regulatory period affected will begin in July 2014 (66 months away).

28. It may be reasonable to conclude that the WACC parameters set now should have regard to the expected cost of equity over that time (ie, not to solely focus on the currently prevailing cost of equity). However, any such adjustment must be based on an explicit forecast of future events in capital markets. To the extent that the market cost of equity can be forecast to fall over that period and the yield on CGS can be forecast to rise then the current observed gap between the market and regulatory cost of equity can be expected to close over time (and may even reverse at some future point).

29. Whether this will actually be the case is currently unknowable. It depends on whether the recent 'repricing of risk' that we have observed in capital markets is a temporary or permanent phenomenon. If it is a temporary phenomenon it depends on how long it takes for current risk premiums to revert back to some more normal level and it also depends on whether any such 'new' normal level will be higher than the 'old' normal level.

30. In our view it is reasonable to assume that current risk premiums (in both debt and equity markets) will not be permanently sustained into the future. If this were to be the case then the market risk premium (MRP) would need to be maintained at current levels – which we estimate to be around 12%. This is substantially above the historical average of between 6.1% and 6.7% as estimated by the AER and is also significantly above the JIA estimate of 7.0% (including the value of imputation credits).

31. It may be reasonable to forecast that at least some of this heightened risk premium will diminish in the future assuming that market volatility (which is at all time highs) will itself diminish. However, such a forecast must, inevitably, be treated as highly uncertain. Even if it were actually borne out that the cost of equity eventually returned fully to average historical levels this would still likely leave businesses undercompensated in the mean time.

32. Moreover, it is not, in our view, reasonable to forecast that all of the recent repricing in risk will be eliminated in either the medium term (5 plus years) or the short term (1 to 5 years). In our view, this repricing of risk should be treated as having a permanent component and is, at least in part, a reflection of the fact that in the recent past corporate risk was underpriced by the market. This mistake is now clear to market participants (who have seen the value of their corporate debt and equity portfolios approximately halve over the last 12 months or so). It follows that any new equilibrium level of risk premium is likely to be materially higher than the risk premium observed in the past.

33. We note that there are a large number of commentators who believe that the recent repricing of risk in capital markets has been 'necessary' and will have permanent effects. For example, the European Central Bank stated in June 2008.[9]

> *"In this vein, the sub-prime-related turmoil has acted as a catalyst for a broader, and in many instances necessary, reappraisal and repricing of risk."*

34. Furthermore, in the current uncertain economic climate, it is appropriate to assume that the required return on equity will remain above any new equilibrium level while uncertainty about future economic conditions is itself heightened. That is, some of the repricing in risk is likely to be permanent and some of the repricing of risk is likely to be conditional on continuing uncertainty in economic conditions. While the latter *may* disappear over the next five years it is a very strong (even extreme) assumption that it *will* disappear. The best estimate must be that equity risk premium will remain heightened over historical levels for both reasons over the next five years.

35. For precisely the same reasons, the best estimate of the yield on CGS is that it will remain at historically low levels over the next five years. This view is confirmed by the shape of the current yield curve with 10 year CGS yielding around 0.4% more than 5 years CGS in December 2008. Based on this evidence the market is not expecting significant increases in CGS yields in the next five years.

36. If this is correct then, application of the *current* NER WACC parameters over the next five years is likely to result in substantial under-compensation of equity investors. This reflects both the fact that:

[9] European Central Bank, *Financial stability review*, June 2008, page 11

- the required return on equity is likely to be historically high;

- the yield on CGS is likely to be historically low (which lowers the regulatory cost of equity under the current formula).

37. This would appear to suggest that now is not the correct time to be further lowering the regulatory return on equity in the manner proposed in the draft decision.

38. This is, in our view, especially true given the significant concerns we have about the reasons relied upon for reducing equity beta and choosing 5 year CGS as the appropriate proxy for the risk free rate (which are the two areas we have been asked to examine). These concerns are summarised in the following sections but are fully described in our companion reports.[10]

Conclusion

A reduction in the NER cost of equity in current market conditions would widen the already significant gap between the market cost of equity (measured for the market as a whole and for utilities specifically) and the forward looking cost of equity. We estimate the existing gap at around 6%.

Any such reduction would need to be justified based on a confident forecast the market cost of equity will fall by more than 6% in the near term (or, failing that, that the yield on CGS will rise by more than 6% in the near term).

In the absence of a basis for such a forecast (and we are aware of none) reducing the NER cost of equity can be expected to contribute to an already

[10] CEG, *Estimating the NER equity beta based on market data – a response to the AER draft decision*, January 2009 CEG, *Choosing a proxy for the risk free rate – a response to the AER draft decision*, January 2009. CEG, *Forward looking estimates of the equity premium*, January 2009. CEG, *CGS as a proxy for the risk free rate*, January 2009

4. Concerns over the reduction in equity beta

39. Our report can only be understood in the context of the overall objective of the AER's WACC review of the cost of equity (this report does not concern itself with estimating the cost of debt).

40. We understand this objective is, at its economic core, the objective of accurately estimating the risk adjusted return on equity efficient regulated firms must offer equity investors. Unless this holistic objective is kept at the forefront there is a risk that the AER may define parameters in a particular way such that, even if they are then accurately estimated according to that definition, they nonetheless do not result in an accurate estimate of the cost of equity.

41. In our view, this is precisely what the AER draft decision does in relation to the NER equity beta. The draft decision makes a critical assumption about the definition of the equity beta. This assumption is that the NER equity beta can be accurately proxied by estimating the historical covariance between the return on a publicly listed equity with the historical average return on the listed equity market. For short hand, we refer to this as equity betas estimated from stock exchange data. The draft decision does not seek to test whether this assumption is reasonable and does not appear to give any weight to the evidence we provide that it is not.

42. There are well known theoretical reasons why this may not be a good proxy for the equity beta in the CAPM (be that the Sharpe CAPM or any other variant of the CAPM). In particular, the theoretically correct definition of the equity beta is the covariance between returns on one asset and the average returns on *all* assets in the economy (not just listed equity). Importantly, all assets include housing, other property, land (including agricultural land), human capital (eg, the return to education) and debt. This makes estimation of equity betas purely from stock market data an imperfect proxy for what, in theory, one is attempting to measure. This is precisely the advice that the AER received from Associate Professor Handley[11] when it sought advice on our first paper.[12]

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[11] Handley *Comments on the CEG reports*, 20 November 2008 ('Handley'). See second dot point on page 5. Handley summarises the finding of Roll (1977) that implementation of the CAPM is "*extremely sensitive to the choice of the proxy for the market portfolio*" Handley also quotes Roll saying that estimation of equity beta and MRP from stock market data alone is consistent with a "specification error in the measured 'market' portfolio".

[12] CEG, *Estimation of, and correction for, biases inherent in the Sharpe CAPM*, 15 September 2008 ('original report'). This paper noted other reasons why estimating beta using stock market data and inserting this estimate into the NER cost of equity formula may result in an inaccurate estimate of the cost of equity. In summary, the Fisher Black

43. These theoretical reasons why equity betas derived from stock market data *may* be imperfect indicators of investors' required returns do not, of themselves, establish that they *are* imperfect. It may be that, as imperfect as they are, they are the best available to us and that, on that basis, the AER should still rely on them.

44. Whether this is true can only be established by having regard to empirical testing. Fortunately, such empirical testing has been repeatedly performed by finance academics. This literature examines whether, going back over long periods of time, firms with low equity betas derived from stock market data tend to have proportionally lower returns (in excess of the government bond rate) than firms with high equity betas. The uncontested finding from that literature is that:

    - this is not the case; and

    - an estimate of 1.0 for the equity beta provides a better estimate of the cost of equity than an equity beta derived from stock market data.

45. We performed our own test using Australian stock market data, consistent with established methodology in the literature, and found the same result. CEG presented this empirical evidence (a survey of the literature and our own) to the AER in our previous report. We concluded that this provided an important reason for AER not to move away from the NER equity beta of 1.0 even if equity betas estimated from stock market suggested a lower figure.

46. Handley, advised the AER that the results were established in the literature (although Handley used the phrase 'not new excluding the results of [CEG's] own study')[13] and did not present any contrary evidence.

47. Nonetheless, the draft decision responded that under the NER it was not permissible to rely on this evidence and that, in any event, this was not problematic because the evidence was not persuasive:[14]

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version of the CAPM (based on Black (1973) predict that the sensitivity of required returns is less than envisioned by Sharpe (1964) once one relaxes the assumption that all investors can borrow unlimited amounts at the risk free rate (eg, at the same rate that Governments can borrow). Similarly, extensions by Merton also create the possibility that beta plays a less important role in determining expected returns

[13] Handley, p.5

[14] AER, *Review of the Weighted Average Cost of Capital (WACC) Parameters: Explanatory Statement*, December 2008 (hereafter 'Draft Decision'), p.242

"The AER agrees with the JIA that the NER mandates the use of the Sharpe CAPM in determining the cost of equity. Essentially this means that neither recommendation of CEG, both of which are a departure from the Sharpe CAPM, is permissible under the NER. This could present a dilemma if this requirement was in conflict with other requirements of the NER, however the AER does not consider the JIA or CEG have provided persuasive evidence that there is a conflict with the use of the Sharpe CAPM and the other requirements of the NER."

48. The draft decision also states:[15]

"Most significantly, even if the AER was able to depart from the Sharpe CAPM, given the lack of consensus on an alternative, switching between different asset pricing models at each review as various alternative models fall in and out of favour would be highly likely to increase regulatory uncertainty. Such an outcome would not be consistent with the National Electricity Objective. A departure from the Sharpe CAPM should only be to an alternative that is clearly superior to other models and well-accepted. Such an alternative does not exist."

49. It appears that the AER has not fully understood the key implication of our report for its decision making. The key implication is not that the AER must '*depart from the Sharpe CAPM*' or should '*switch between different asset pricing models at each review as various alternative models fall in and out of favour'.*

50. The key implication is that the AER should have regard to the uncontested empirical fact that equity beta's measured from stock market data do not provide a good indication of the actual returns required by equity investors. This maybe because the Sharpe CAPM formula is imperfect or it may be because equity beta's derived from stock market data are poor proxies for the true equity beta. Ultimately, it doesn't matter *why* estimating equity betas in this fashion 'does not work'. What matters is the fact that it does not work.

51. Finally, notwithstanding the inference to the contrary, the draft decision does not provide any basis for the conclusion that the empirical evidence presented by us is not persuasive.

52. In fact, the AER does not address the published literature at all except to quote Handley as if the quote supported the use of stock market equity betas:[16]

[15] Ibid, p.247

"Noting the studies cited by CEG that test the Sharpe CAPM, Handley (2008) further states '[t]here is no consensus as to how the empirical evidence should be interpreted.'" [Emphasis in original.]

"For example, Roll (1977) argues the choice between alternative forms of the CAPM is extremely sensitive to the choice of the proxy for the market portfolio and in particular, while the results of Black, Jensen and Scholes (1972) and Fama and MacBeth (1973) appear to support the Black CAPM over the Sharpe CAPM, "their results are fully compatible with the Sharpe-Lintner model and a specification error in the measured 'market' portfolio" (p.131)."

53. The draft decision does not appear to understand that this discussion from Handley is simply pointing out that one reason why stock market betas are unreliable predictors of investors required returns is that they are unreliable estimates of the true equity beta (measured relative to all assets including housing, land, human capital etc). That is, assuming beta can be measured relative to the return on the stock market only *involves specification error in the measured 'market' portfolio.*

54. With this apparent misunderstanding clarified, the draft decision does not appear to have regard to any evidence, persuasive or otherwise, to contest the established empirical findings we present. These empirical findings demonstrate that the AER cannot reasonably rely on stock market betas that are below 1.0 to set the NER equity beta below 1.0. Accordingly it is difficult to see how, on the available evidence, the AER were persuaded to propose a reduction of the NER equity beta from 1.0 to 0.8.

55. This conclusion is particularly strengthened when one notes that this decision, if implemented, would come at a time when the cost of equity in the Australian market is demonstrably above the level compensated for under the existing NER parameters.

[16] Ibid, p.244

5. Concerns over the AER's decision not to increase the MRP

56. There are two reasons why the AER's decision not to increase the NER MRP in the draft decision is problematic. The first has been detailed above and relates to an inadequate attention to forward looking estimates of MRP.

57. The second is that by proposing the change the term of the risk free rate the AER draft decision effectively also proposes to change the definition of the MRP - which is measured relative to the risk free rate. The effect of this change in definition means the MRP must be increased if the value of the MRP *for a constant definition* is to be maintained. Contrary to the draft decision, we find compelling grounds for doing this.

5.1. Inadequate attention to forward looking estimates of the MRP

58. The draft decision accepts that historical average excess returns are above 6.0%.

> *The AER notes that historical excess returns, 'grossed-up' for a utilisation rate of 0.65, and interpreted accordingly to the 20 basis points likely difference if they had been estimated relative to 5 year CGS, and over a range of estimation periods that the AER considers appropriate (1883-2008, 1937-2008, 1958-2008) fall within the 6 to 7 per cent range (specifically, 6.1 to 6.7 per cent), with some more recent estimates below this range. [Page 179.]*

59. However, the draft decision nonetheless decides to set a lower MRP at least partly on the basis that forward looking estimates of the MRP are at or below 6.0%. In support of this view the AER refers to three studies in support of the view that the forward looking MRP is at or below 6%. These are Davis (1998), Lally (2002) and AMP (2006). These studies estimate a forward looking MRP of, respectively, 4.5% to 7.0%, 4.5% to 5.7% and 4.8% to 5.3%. [17]

60. However, if these studies were repeated in late 2008 the forward looking MRP would be, as already discussed, more like 12%. This reflects the dramatic fall in equity prices over 2008 associated with a significant repricing of risk. Put simply, the best estimate of the current forward looking MRP in the market is

[17] Ibid, p.172

demonstrably and materially above 6.0%. Moreover, this conclusion is not sensitive to assumptions.[18]

61. Consequently, having regard to forward looking estimates of the MRP actually provide a basis for setting the MRP above the historical average – not below the historical average. In our view, this provides a powerful argument for increasing the MRP to at least the middle of the historical range (6.4% based on the AER's range).

5.2. No basis to reduce the MRP below 6.0

62. Nonetheless, the draft decision has the effect of reducing the MRP from 6.0% to 5.8% *based on a constant definition of the MRP*. This is because the AER's proposal to change the term of the risk free rate from 10 to 5 years effectively changes the definition of the MRP.

63. Under this new definition (the excess market return relative to *5* year CGS yields rather than *10* year CGS yields) the MRP should increase by around 0.20% to reflect the fact that 5 year CGS yields are, according to the draft decision, on average 0.20% lower than 10 year CGS. Consequently, for a constant MRP measured relative to 10 year CGS (the old definition) the MRP measured relative to 5 year CGS must increase.

64. The AER accepts 0.20% as an accurate estimate of the difference between MRP measured relative to 5 and 10 year CGS respectively.[19] However, the AER argues that it does not need to make this adjustment to keep the MRP constant because there is no 'persuasive evidence' for altering the MRP.[20]

65. In effect, the AER is arguing against maintaining the *status quo* on the grounds that there is no persuasive evidence to do so. That is, the AER is arguing for a

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[18] See section 3.2 'Sensitivity analysis' of or report: CEG, *Forward looking estimates of the equity premium*, January 2009. For example, to be consistent with December 2008 dividend yields for the Australian stock market reported by the RBA, real dividends would have to:

- immediately more than halve (fall by 60%) from their 2008 level;
- stay at that new low level for four years;
- then rise at a 4.1% real (6.6% nominal) (which is consistent with the long term average for real GDP growth plus inflation of 2.5%).

Under this scenario, real dividends would not reach their 2008 levels again until 2037 (29 years later).

[19] Draft decision, p.155

[20] Ibid, p.180

reduction in the cost of equity on the grounds that there is no persuasive evidence not to reduce the cost of equity.

66. It is not clear to us that this is a natural way to interpret the need for persuasive evidence. In any event, there is persuasive evidence (as summarised above) that the NER MRP is too low and, therefore, that a *de facto* reduction in this parameter (by changing its definition without amending its value) should not be proceeded with.

6. Conclusions

67. The most important background to the current WACC review is that applying the existing NER WACC parameters will result in a significant underestimate of the cost of equity for regulated businesses in current market conditions. While it may be possible to argue about the size of this underestimate, our view is that the existence of an underestimate is hard to dispute.

68. This underestimate has resulted from two (linked) phenomenon. The first is a repricing of risk attached to corporate assets (debt and equity) consequent on recent problems in capital markets. This has led to an increase in the cost of equity across the board (including for regulated businesses). At the same time, the 'flight from risk to safety' has led to a reduction in the yields on CGS – which is automatically reflected in a lower NER cost of equity. Both of these effects together have contributed (in approximately equal parts) to the NER cost of equity under-compensating the actual prevailing cost of equity at the current time.

69. That is, the AER draft decision comes at a time when:

- the NER formula is already giving an historically low return to equity investors (due to the historically low CGS yield); and
- the actual cost of equity in the market for funds is at historically high levels.

70. The consequence of the AER's draft decision, if implemented, would be to materially widen this already significant gap (by a further 1.8% or so).

71. This is a standalone reason for not implementing the proposals in the AER draft decision. Proceeding with those proposals would require, at a minimum, that the current repricing of risk will be fully reversed in the short term (early in the next five years that the parameters are actually applied). We are unaware of any evidence that would support such an assumption. We note that it is possible that equity risk premiums will rise further for current levels.

72. In any event, we do not consider that the evidence supports the draft decision proposal to reduce the equity beta and (*de facto*) reduce the MRP – even absent consideration of current market conditions.