Efficient debt financing costs

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Table of Contents

List of Figures

List of Tables

Executive summary

1.   The AER's previous 'on the day' approach to setting compensation for the cost of debt was deeply flawed, including, in my view, being inconsistent with the newly formulated allowed rate of return objective. It did not reflect the costs of a viable debt management strategy and, every time a regulatory decision was made, a business and its customers we subject to what was, in effect, a roll of the dice.

2.   All parties agree that a business' efficient debt costs were based, at least in part, on a trailing average of historical costs over a period of around 10 years. Yet, the regulatory allowance, which was set for 5 years at a time, was based on a measurement of debt costs over a period of days (up to 40 days). There was no reason for these to align in any given regulatory period and no reason for them to align over multiple regulatory periods.

3.   Over a period of hundreds of years, or many tens of regulatory periods, the law of large numbers might prevail such that the average compensation paid was a close match to the average costs incurred. However, this is a horizon that is simply beyond any reasonable horizon of concern to investors – who cannot even be confident that electricity distribution businesses will exist in 50 years given technological developments such as associated with solar energy and battery storage.

4.   The adoption of a simple trailing average benchmark as the most appropriate basis, under the NER and NEL, on which to compensate for the cost of debt was, in my view, correct. This would allow businesses to follow a debt management strategy that aligned their costs to the regulatory benchmark – removing an important source of potential error in regulatory decisions.

5.   Networks NSW (NNSW) businesses already fund themselves on a trailing average basis and ActewAGL has no debt (and therefore cannot be said to have a different debt management strategy). On any straightforward analysis, there is no benefit from imposing any transition on these businesses. Imposing a transition simply delays the point in time at which the benefits of adopting a trailing average benchmark accrue. Moreover, the transition imposed by the AER not only retains the worst aspects of the 'on the day' approach – it actually intensifies these problems. This is because the weight given to the initial averaging period in the AER transition is actually higher than the weight given to the same period under a continuation of the 'on the day approach'. The AER transition effectively rolls the 'on the day' dice once more – except with even higher stakes on this last roll.

6.   In the face of a straightforward analysis - which leads to a conclusion that no transition is required if a business already funds itself consistently with the benchmark efficient strategy - the AER relies on laboured and complicated analysis to justify its transition. Namely, the AER argues that:

a. Despite the simple trailing average being the most efficient strategy in the future (i.e., the one that it has chosen in its rate of return guideline as best), the AER argues that it was inefficient for a business to fund itself in this way in the past.

b. The AER instead argues that a "hybrid" debt management strategy was most efficient in the past. This strategy was essentially the trailing average debt management strategy with an interest rate swap overlay – the effect of which was that debt costs in the past were equal to the trailing average debt risk premium (DRP) plus the 5 year swap rate at the beginning of each regulatory period plus the transaction costs of swaps. The AER argues that this strategy was efficient because it provided the best hedge to the 'on the day' allowance.

c. Notwithstanding that the AER states that the hybrid was the most efficient debt management strategy in the past, the AER does not propose a transition from the hybrid to the simple trailing average debt management strategy. Rather, the AER proposes a transition that is explicitly intended to undercompensate all businesses – including both those that funded themselves with: i) a simple trailing average debt management strategy; and ii) the hybrid debt management strategy (that the AER argues was the uniquely efficient strategy in the past).

d. The AER's only real justification for this is that it believes that all businesses received 'windfall gains' from the 'on the day' approach in the last regulatory period and it believes it is appropriate to attempt to impose offsetting 'windfall losses' over prospective regulatory periods.

7. In my view, each of the propositions a) to d) are deeply flawed and are not consistent with the promotion of the allowed rate of return objective:

a. The properties of the simple trailing average strategy that make it an efficient debt management strategy in the future, namely the minimisation of transaction costs, also made it an efficient debt management strategy in the past.

b. The AER's argument that the hybrid debt management strategy was uniquely efficient is based on a belief that it provided the best hedge to the 'on the day' allowance. This is wrong:

i. The best evidence suggests that the opposite is true. A trailing average without a swap overlay was a superior hedge to the 'on the day' allowance over the last 10 years than a trailing average with a swap overlay. This is because the DRP and the base (risk free) rate of interest are strongly inversely related – such that when the latter changes, the former changes in the opposite direction (often by a greater magnitude). Consequently, using interest rate swaps to hedge the base rate of interest worsened the overall hedge to the total 'on the day' allowance inclusive of DRP over the last 10 years.

ii.   Interest rate swaps are costly to enter into - especially on large volumes and especially around the start of the 2009-14 regulatory period which was affected by the global financial crisis. Even if interest rate swaps did create a better hedge, any benefits cannot be presumed to justify the associated transaction costs. Advice from UBS [1] estimates the 'all in' costs of base interest rate hedging at 38bppa for the 2014-19 averaging period not including any premium associated with the very large size of the transactions necessary for the Networks NSW businesses. UBS also presents analysis to suggest that the costs would have been higher in 2008/09 due to the impact of the global financial crisis on markets. UBS concludes that it would not have been feasible to enter into the relevant swap volumes in the maximum 40 day period allowed by the AER for an averaging period.

iii. Even putting aside points i) and ii), it would have been impracticable for the NNSW and ActewAGL businesses to engage in the hybrid strategy given that they were in dispute with the AER about the appropriate 2009-14 averaging period (noting that the AER decision for NNSW businesses was ultimately overturned by the Australian Competition Tribunal and ActewAGL lost a judicial appeal on the same issue). Put simply, it would be a gamble (not a hedge) to enter into billions of dollars of interest rate swap contracts if you did not know with a reasonable degree of certainty what the averaging period used to set revenues under the 'on the day' approach would ultimately be.

iv.   The AER concedes that there was no viable debt management strategy that underpins the 'on the day' methodology. In this context, the best assumption is that the debt management strategy actually adopted by a business was the ex-ante most efficient for that business in its circumstances.

c.   Given the above, I do not accept that the AER has acted reasonably in concluding that a trailing average debt management strategy was inefficient and a hybrid strategy was uniquely efficient. However, given this is the AER's position, the only reasonable approach would be for the AER to propose a transition from the hybrid to the trailing average debt management strategy. This is not what the AER transition does.

d.   The AER's only substantive reason for not doing so is to impose a prospective loss on businesses in order to offset what it has retrospectively argued are 'windfall gains' from the 'on the day' approach. I do not consider that this is appropriate, because:

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[1]   UBS, UBS response to the Networks NSW request for financeability analysis following the AER Draft Decision of November 2014, January 2015.

i. I consider it is inconsistent with the ARORO, which is fundamentally forward looking. Attempting to reverse a perceived past error creates risk and uncertainty for investors and it does not promote investment incentives because investors can never be sure of whether the compensation they are paid today will be clawed back tomorrow.

ii. There are many unanswered questions about how this would actually be implemented if it was accepted as appropriate. How is the purported windfall gain measured? Over what period? Over how many dimensions should be measured? For example, if the AER decides that the equity beta is lower than previously compensated should this be clawed back? If 'windfall gains' are to be clawed back, why would it not be done on a bespoke basis for each business?

iii. In any event, the empirical basis on which the AER determines a windfall gain exists relative to its 'hybrid' debt management strategy is deeply flawed. A proper accounting suggests that a windfall loss exists for the last regulatory period –assuming that NSW and ACT businesses locked in five year base rates in their proposed averaging periods .

8. I also examine a range of other justifications the AER puts for its transition and find that these are without substance.

1   Introduction

9.   My name is Tom Hird. I have a Ph.D. in Economics and 20 years' experience as a professional economist. My curriculum vitae is provided separately. This report has been prepared for ActewAGL to assess the reasonableness of the AER's approach to transitioning the methodology for setting the cost of debt allowance to a trailing average.

10.   I acknowledge that I have read, understood and complied with the Federal Court of Australia's *Practice Note CM 7, Expert Witnesses in Proceedings in the Federal Court of Australia.*

11.   I have been assisted in the preparation of this report by Daniel Young and Johanna Hansson from CEG's Sydney office. However, the opinions set out in this report are my own.

Thomas Nicholas Hird

19 January 2015

1.1   Report structure

12.   This report has the following structure.

- Section 2 describes the mechanics of the trailing average debt management strategy and the hybrid debt management strategy (which the AER claims was previously the benchmark efficient debt management strategy);

- Section 3 provides an overview of the AER draft decision;

- Section 4 analyses the AER's claim that, under its previous 'on the day' approach to setting the cost of debt allowance, an efficient business would have locked themselves into an interest rate swap derivative portfolio (of the type outlined in the description of the hybrid methodology in section 2), and that this is a reason not to compensate based on a simple trailing average (without a swap overlay) now;

- Section 5 examines the AER's claim that its transition is appropriate because it believes it will probably reverse 'windfall gains' that probably accrued to businesses in past regulatory decisions under its 'on the day' approach. The AER argues that these windfall gains accrued because businesses funded

themselves (or should have funded themselves) using the hybrid methodology explained in section 2; and

- Section 6 addresses other AER rationales for its transition, including that the AER transition:

a. avoids the practical problems with the use of historical data;

b. is consistent with investor/consumer expectations while reducing future price volatility; and

c. is consistent with the AER's adoption of a single benchmark efficient entity definition.

- Section 7 provides an assessment of the credit rating implicit in the AER draft decision.

- Section 8 addresses specific issues associated with ActewAGL's actual debt funding strategy.

2   Trailing average vs hybrid strategy

13. In order to understand many of the AER's positions in its draft decision it is necessary to understand the difference between:

   ▪ a simple trailing average debt funding strategy; and

   ▪ a trailing average debt funding strategy with a swap overlay.

14. This section sets out the mechanics of these strategies separately from the arguments around the efficiency or otherwise of each strategy.

15. An understanding of the mechanics of each strategy is necessary to assess the AER's position that a swap overlay was efficient under its old practice of setting the cost of debt allowance based on the prevailing cost of debt during a relatively short averaging period.

16. As a matter of terminology I will refer to this past AER practice as the 'on the day' approach to setting compensation for the cost of debt. I will refer to the use of a trailing average plus swap portfolio overlay as the 'hybrid' debt management strategy. This is because, as will be seen below, the effect of the relevant swap overlay is that the businesses' actual cost of debt will be the sum of (i.e., a hybrid of) the trailing average debt risk premium plus the prevailing 5 year swap rate plus swap transaction costs.

2.1   Mechanics of the trailing average approach

17. Under the simple trailing average strategy the business maintains a largely evenly staggered portfolio of 10 year debt. Consequently, its debt cost in any year is simply the trailing average of the interest rates on 10 year maturity corporate debt over the last 10 years.

2.1.1   Mechanics of the AER transition to a trailing average approach

18. Instead of immediately adopting a trailing average approach, the AER proposes a transition from the previous "on the day" approach to a cost of debt based on a trailing average.

19. The proposed transition initially gives 100% weight to the interest rates observed in an initial averaging period for the first year of the regulatory period. This weight falls by 10% in each subsequent year until it is given 10% weight in the 10th year and a full trailing average is achieved. The AER describes the mechanics of its transition to a trailing average in the below quote[2]:

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[2]   AER, ActewAGL draft decision, Attachment 3: Rate of return, p.3-103.

We estimate the allowed return on debt of a benchmark efficient entity, rather than estimate the actual return on debt of any particular service provider. Our draft decision is to transition the benchmark efficient entity gradually into the new trailing average portfolio approach. We start by estimating the return on debt in a similar way to the previous regulatory approach, which was called the 'on the day' approach. This rate is applied to the first regulatory year, From there, we update 10 per cent of the return on debt each year based on the prevailing rate in that year over the service provider's averaging period. After the 10 year transition period is complete the allowed return on debt fully reflects a 10 year trailing average. The length of the transition period is determined by the benchmark term of debt, which is 10 years.

2.2 Mechanics of the hybrid approach

20. Under the hybrid approach the entity is assumed to adopt the trailing average approach in the sense that it also maintains an evenly staggered portfolio of 10 year bond issuance. However, it is assumed to overlay this with a set of swap contracts in order to:

    ▪ ensure that the base rate of interest is 100% floating (i.e., continually reset at very short term intervals based on prevailing rates) at the beginning of each regulatory period;

    ▪ convert floating to fixed base interest rates over the period of the regulatory period – noting that in order to do this its base interest rate exposure must be 100% floating at that time (i.e., the first dot point must be true); and

    ▪ ensure that base interest rate exposure reverts back to floating at the end of the regulatory period (in order to facilitate its ability to repeat the process in the first dot point for the next regulatory period).

21. This strategy, once entered into, cannot be instantaneously unwound. In order to use swap rates to fix interest rates for a regulatory period - as set out in the second dot point above - a business must have arranged its affairs over the previous 10 years so that 100% of the base rate of interest will be floating (and not fixed) at the beginning of the regulatory period.

22. The mechanics of this strategy is described in Figure 1 below.

Figure 1: Mechanics of swap strategy underpinning hybrid

Impact of swap strategy (may be positive or negative)
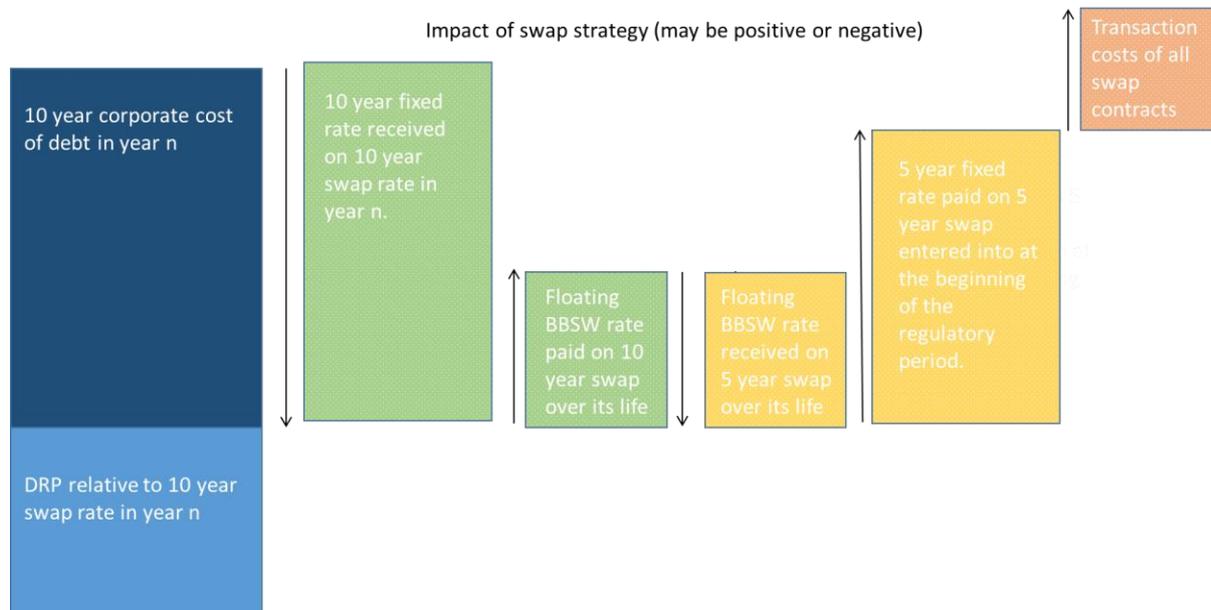
23. Moving from left to right Figure 1 describes the mechanics of the swap strategy underpinning the hybrid debt management strategy as it relates to the costs associated with a single bond issued in year "n":

▪ First, the firm issues a 10 year bond with a yield that is represented by the height of the first column (the sum of both the light and dark blue components of that column).

▪ Second, the firm immediately enters into a 10 year swap contract (the components of which are the green coloured columns in the above figure) under which it:

  □ is paid the 10 year fixed swap rate prevailing at that time (the business receives this same (fixed) rate over the 10 year life of the swap contract – which is also the life of the bond). The difference between the 10 year fixed swap rate and the yield on the corporate bond is, for future reference, how the light blue "DRP relative to 10 year swap rate in year n" is calculated; and

  □ must pay its counterparty the floating 3 month bank bill swap rate (BBSW) over the next 10 years. This is described as a 'floating rate' because the BBSW rate varies through time and the firm must make quarterly payments to the counterparty at a rate equal to whatever the prevailing 3 month BBSW rate is at that time.

▪ Third, the firm enters into a 5 year swap contract (the two components of which are coloured yellow in the above figure) at the beginning of the regulatory period under which it:

- □ must pay the 5 year fixed swap rate prevailing at that time (the business pays this same (fixed) rate over the 5 year life of the swap contract – which is also the life of the regulatory period); and

- □ is paid by its counterparty the floating 3 month bank bill swap rate (BBSW) over the next 5 years.

- The final (orange) column on the chart shows the impact of the transaction costs associated with two sets of swap contracts.

24. It is useful to make the following observations about the above mechanics:

- The middle two green and yellow floating BBSW rate amounts 'cancel out', so these have no net effect on the costs of the strategy.

- The DRP on the bond at the time of issuance (measured relative to 10 year swap rates) is not altered and is payable every year over the life of the bond. It is, in some sense, the base fixed rate cost of the debt upon which the net effect of the swap contracts is added.

- The third step is undertaken to cancel out not just already existing bond/swap combinations created in steps 1 and 2, but also to cancel out bond/swap combinations expected to be created over the course of the regulatory period. Consider a 10 year bond issued at the end of the third year of a regulatory period - with the proceeds used to refinance a bond of equivalent value that is maturing at that time. At the beginning of the regulatory period the business will have entered into a 5 year (pay fixed/receive floating) swap that cancelled out:

  - □ the 3 years of floating rate exposure on the old (already existing) bond/swap combination maturing at the end of year 3; and

  - □ the 2 years of floating rate exposure on the new bond/swap combination that will be issued/entered into at the end of year 3.

- The impact of the all of these steps may be to raise or lower the total cost of debt. The net impact will depend on the shape of swap yield curves, the movements in swap rates between bond issue date and the beginning of the regulatory period and also the level of transaction costs associated with the swaps.

25. Figure 1 includes a number of elements that 'cancel out' across the entire strategy. In particular, the two floating rate payments underpinning each swap cancel out. In addition, the 10 year fixed swap rate received over the life of the bond effectively cancels out an equal amount of the 10 year yield on the bond. Figure 2 below shows a simplified version of Figure 1 with the elements that cancel out excluded.

Figure 2: Simplified mechanics of swap strategy underpinning hybrid
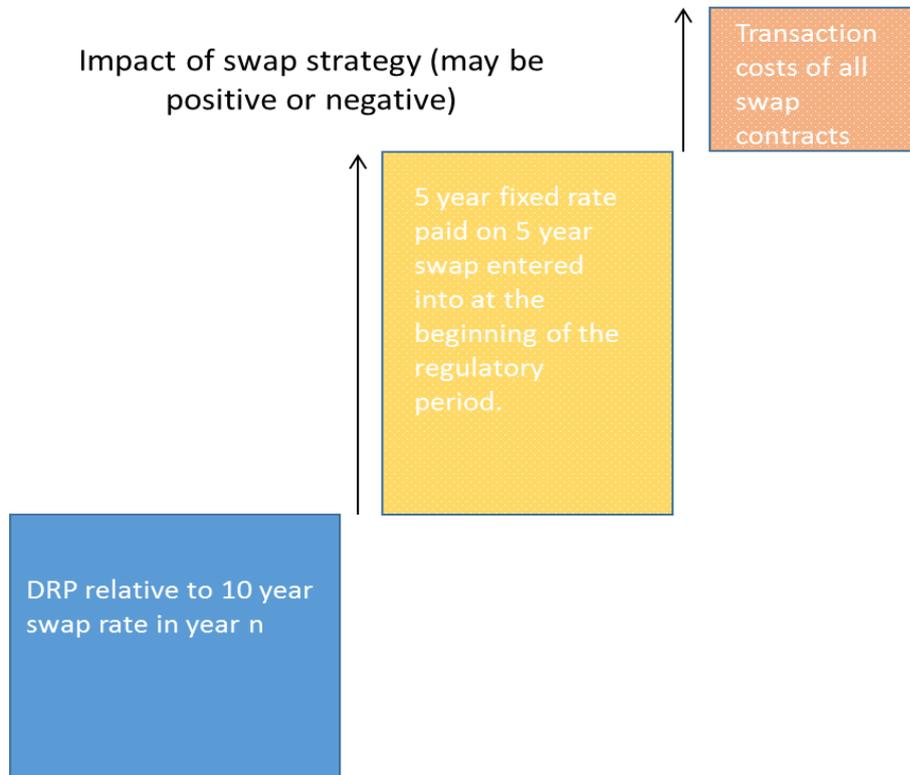
26. Figure 1 and Figure 2 depict the impact of the swap strategy on a single bond. However, the impact on the swap strategy applied to each bond in the staggered debt portfolio is simply the sum of these. This is illustrated in Figure 3 below. The difference between Figure 2 and Figure 3 is simply that a trailing average DRP replaces the DRP on the single bond in Figure 2.

Figure 3: Aggregate cost of debt under the hybrid approach

Aggregate impact of swap strategy on portfolio cost of debt (may be positive or negative)

Transaction costs of all swap contracts

5 year fixed rate paid on 5 year swap entered into at the beginning of the regulatory period.

Trailing average of DRP relative to 10 year swap rates
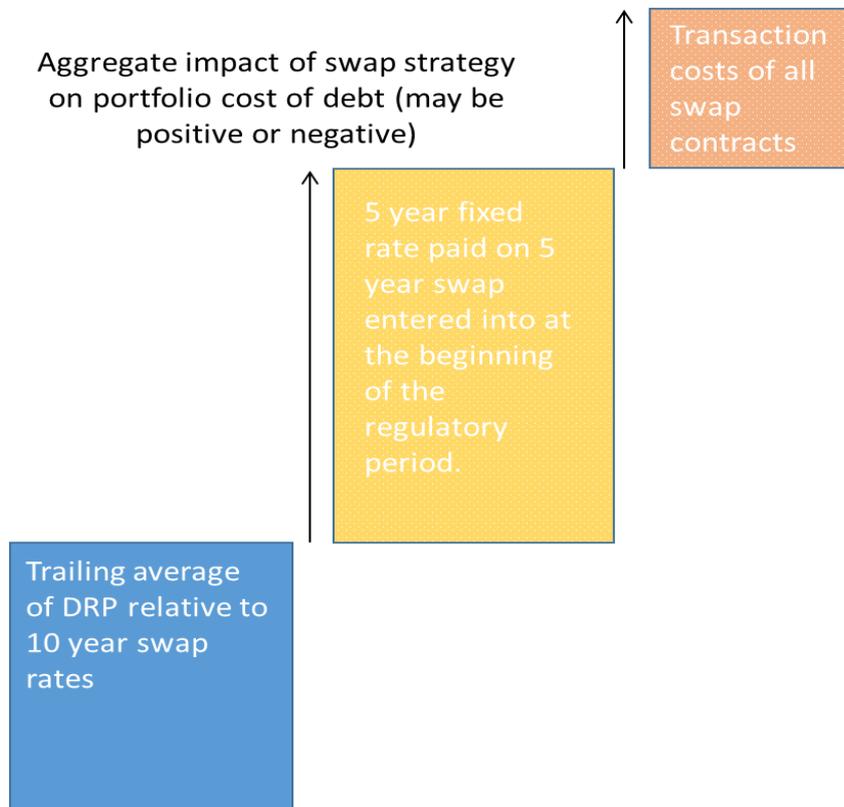
27. In order to be an effective way of aligning base interest costs to the base interest rate component of the AER's cost of debt allowance, the 5 year fixed swap contracts must be undertaken in the same period that the regulator uses to set the cost of debt allowance and must only last for as long as that cost of debt allowance will be paid (in the past AER practice this period has been the 5 year regulatory period). Only then will the businesses' interest rate exposure be purely floating at the beginning of the next regulatory period – enabling it to once more enter into 5 year fixed swaps to turn that floating rate exposure into a fixed rate exposure in the same market conditions that the regulator uses to determine the fixed cost of debt.

28. Of course, this strategy, even if implemented perfectly, does not align the businesses total cost of debt with the AER's total allowance for the cost of debt under the 'on the day' approach. The business will still be paying a trailing average DRP on its actual costs and the 'on the day' approach will compensate based on the prevailing DRP, rather than the trailing average DRP. In addition, the business will incur the transaction costs associated with the swap contracts.

29. For these reasons it cannot be assumed that using swap contracts in an attempt to align base rates of interest to the 'on the day' allowance will actually help align the total cost of debt to the on the day allowance. These issues are discussed further in section 4.5 below.

3 Overview of the AER decision

30. The AER has a number of different, sometimes mutually exclusive, rationales for why it is going to transition to, rather than immediately compensate, the NSW and ACT electricity distribution business for the costs associated with a trailing average cost of debt. In my view, these can be fairly summarised as follows:

    a. Under the previous 'on the day' approach, an efficient business would have adopted the hybrid debt management strategy (described in section 2 of this report). This is a reason for not compensating based on a simple trailing average (without a swap overlay) now.

    b. Notwithstanding the above, the AER does not propose to compensate for the costs associated with the hybrid debt management strategy (or a transition from the hybrid debt management strategy to a trailing average). This is because the AER believes that, under the 'on the day' approach, most (but not all) businesses earned windfall gains on the debt risk premium (DRP) during the global financial crisis and the AER believes its transition is likely (but not certain) to reverse these gains in the next regulatory period. The AER sees this as a desirable outcome.

    c. In addition the AER believes that its transition:

        i. will avoid practical problems with the use of historical data;

        ii. is consistent with investor/consumer expectations while reducing future price volatility;

        iii. is consistent with the AER's adoption of a single benchmark efficient entity definition; and

        iv. reduces the potential for opportunistic behaviour from stakeholders.

31. The AER provides a reasonably clear statement of the above positions in the below quote[3]:

    We adopt the same transitional arrangements for both the risk free rate and debt risk premium components of the return on debt. However, our reasons for adopting transitional arrangements differ for these two components.

    We have adopted a transition on the risk free rate component because a transition minimises the potential mismatch between the allowed return on debt and the actual return on debt of the benchmark efficient entity, as it transitions its financing practices. The benchmark term of debt is 10 years. It would therefore take 10 years before all of the existing debt of the

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3   AER, ActewAGL draft decision, Attachment 3: Rate of return, p. 3-114.

benchmark efficient entity matured, and its financing practices are fully transitioned. Accordingly, this reason for the transition on the risk free rate component also informs our draft decision on the length of the transition period, which is 10 years.

We have adopted a transition on the debt risk premium component of the return on debt because a transition:

- *Avoids potential windfall gains or losses to service providers or consumers from changing the regulatory regime*

- *Avoids practical problems with the use of historical data*

We have also adopted a transition on both the risk free rate and debt risk premium components because a transition:

- *Maintains the same average price level while decreasing price volatility over time*

- *Reduces the potential for opportunistic behaviour from stakeholders*

Further, adopting the same transitional arrangements for all service providers is consistent with our adoption of a single benchmark efficient entity definition. These reasons are discussed in the following sections.

4 Efficient practice under the 'on the day' regime

4.1 AER's view that the hybrid debt management was 'the' efficient strategy

32. The AER draft decision concedes that the 'on the day' approach to setting the cost of debt was not based on the costs that a benchmark efficient entity would incur if it was pursuing a viable debt management strategy:[4]

    The on-the-day approach was a regulatory approach we sort [sic] to implement in past regulatory decisions to set the allowed return on debt.[417] It was designed to match the allowed return on debt to prevailing market conditions in the market for funds at the start of each regulatory control period.

    However, it was not designed to match the costs of any particular viable financing practice for the benchmark efficient entity. There is agreement between the AER and service providers that seeking to refinance all debt during the averaging period used for the on-the-day approach would have resulted in the benchmark efficient entity facing a high level of refinancing risk.

    Moreover, the financing costs under such a financing strategy would not have matched the allowed return on debt, at any rate. This is because the on-the-day approach we applied was based on the prevailing 10 year return on debt, but this rate was reset every regulatory control period (typically, every five years), rather than reset every 10 years to match the benchmark debt term. CEG also made this point.

33. Notwithstanding that no viable debt management strategy exists that gives rise to actual debt costs allowed for under the on the day approach, the AER determines that that the benchmark efficient entity would have undertaken a single debt management strategy – namely the hybrid debt management strategy:[5]

    We consider an efficient financing practice of the benchmark efficient entity under the on-the-day approach would have been to borrow long term and stagger the borrowing so that only a small proportion of the debt matured each year. We consider the benchmark efficient entity would

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[4]   AER, ActewAGL draft decision, Attachment 3: Rate of return,, p. 3-115.

[5]   AER, ActewAGL draft decision, Attachment 3: Rate of return, p. 3-115-116.

have combined this practice with interest rate swap contracts to match the risk free rate component of its return on debt to the on-the-day rate.[420] Specifically, we consider an efficient financing practice would have been:

- *to borrow long term (10 year) debt and stagger the borrowing so that only a small proportion (around 10 per cent) of the debt matured each year*

- *to borrow using floating rate debt (or to borrow fixed rate debt and convert this to floating rate debt using fixed-to-floating interest rate swaps at the time of issuing the debt and which extended for the term of the debt, being 10 years), and*

- *to enter into floating-to-fixed interest rate swaps at, or around, the time of the service provider's averaging period and which extended for the term of the regulatory control period, being typically 5 years).*

We consider this would have been an efficient financing practice of the benchmark efficient entity under the on-the-day because:

- *Compared with the alternative possible debt financing strategies, this strategy would have more effectively managed refinancing risk and interest rate risk, and also resulted in a lower expected actual return on debt, 421 and*

- *It is the financing strategy that was generally adopted by most private service providers under the on-the-day approach. [422]*

This financing strategy would have resulted in the risk free rate component of the benchmark efficient entity's actual return on debt matching the on-the-day rate, while the debt risk premium component each year would reflect the historical average of the debt risk premiums over the previous 10 years.

The staggering of debt under this strategy would have lowered refinancing risk, compared to if the benchmark efficient entity attempted to issue all its debt during the averaging period.

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422   Lally, M., Transitional arrangement for the cost of debt. November 2014, pp 25-30

423   Deloitte, Refinancing, debt markets and liquidity, 12 November 2008, p.13; Jemena, Submission to the rate of return guideline consultation paper, June 2013, p.19; Lally, M., Transitional arrangement for the cost of debt. November 2014, pp 25-30.

34. The AER proceeds to compare the attributes of the hybrid debt management strategy to those of a simple trailing average (i.e., without any swap overlay):[6]

> *Adopting the strategy of a staggered debt portfolio with interest rate swaps, compared with a staggered debt portfolio without interest rate swaps, would have led to the same degree of refinancing risk. However, compared to the later strategy, adopting a staggered debt portfolio with interest rate swaps would have resulted in:*
>
> - *lower interest rate risk—as interest rate risk would only have been borne on the debt risk premium component of the return on debt, rather than bearing interest rate risk on the total return on debt, and*
>
> - *lower actual return on debt—as hedging using interest rate swaps has the impact of reducing the effective term of the debt. As longer term debt is typically more expensive than otherwise equivalent shorter term debt, due to the greater risks faced by the holders of long term debt, reducing the effective term would be expected to reduce the lower (sic) actual return on debt, on average.[423]*
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> 424   Lally, M., Transitional arrangement for the cost of debt. November 2014, pp 25-30

35. This quote is at the heart of the AER's views on why it believes that the hybrid debt management strategy was more efficient than a simple trailing average approach. The AER's view comes down to a belief that using swaps in an hybrid approach:

- results in the actual cost of debt being more closely matched to the 'on the day' regulatory allowance than a trailing average without swaps; and

- reduces the (expected) cost of debt because it shortens the base interest rate exposure from 10 to 5 years.

4.2   AER transition is not based on the hybrid strategy

36. Despite defining the hybrid strategy as 'the' unique efficient debt management strategy in the past, the AER does not actually transition from this debt management strategy to the trailing average. I discussed this in my May 2014 report[7] (see section 4.4.2 AER does not transition from its temporary benchmark).

37. The AER has justified this departure on the basis that its transition is more desirable because it will under-compensate businesses prospectively and this will

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[6]   AER, ActewAGL draft decision, Attachment 3: Rate of return, p. 3-116-117.

[7]   CEG, *Debt transition consistent with the NER and N*EL, May 2014.

offset alleged over-compensation the AER considers to have arisen from the previous regulatory period. I deal with this in section 5 of this report.

4.3 Difficulty and complexity of hybrid debt management strategy when the averaging period is in dispute

38. In order to conceive of hedging for the 2009-14 regulatory period it is necessary to define the relevant averaging period that the businesses would need to hedge to. There are at least three different averaging periods that can be conceived of as the period over which base interest rates would be measured by the AER in order to set the level of regulatory compensation. These are:

   ▪ June 2008. This is the period originally proposed by NNSW and ActewAGL rejected by the AER as being too far removed from the regulatory period.

   ▪ A period beyond February 2009. This is the AER's proposed averaging period – which was subsequently appealed by Ausgrid to the Australian Competition Tribunal and by ActewAGL for judicial review.

   ▪ 20 business days from 11 August 2008 to 5 September 2008. This is the averaging proposed by ActewAGL in its revised proposal. An almost identical averaging period (15 days) was determined appropriate by the Australian Competition Tribunal and the period actually used by the AER to set revenues for the NNSW businesses. ActewAGL was unsuccessful in its judicial appeal due to other reasons and the AER used a period in February 2009.

39. Any hedging that was actually carried out in or around the first two averaging periods would have been an extremely poor hedge for NNSW to the actual revenue allowance which was based on the third period. Similarly, any hedging done by ActewAGL to the first or the third period would have been a poor hedge given second period was ultimately used.

40. However, by the time the actual averaging period was known with certainty (i.e., after the appeal to the Australian Competition Tribunal was heard and decided in November 2009 and after judicial review for ActewAGL) it was in the past and impossible to hedge to. Moreover, the period ultimately used as the NNSW businesses period was first proposed by the NNSW businesses and ActewAGL after the period had passed and was chosen as a form of compromise between its originally proposed averaging period and the AER's proposed averaging period.

41. In a situation where the businesses did not agree with the AER averaging period and were proposing (and ultimately were granted) an averaging period in the past it simply does not make sense to argue that they should (or even could) have hedged to interest rates during that averaging period. Hedging to a specific averaging period can only ever make any sense if there is reasonable certainty that the specific averaging period will be used by the regulator to set the cost of debt allowance for

the regulatory period. If this is not the case, as must be the case where there is disagreement between the regulator and the business about the averaging period, then the case for hedging to any averaging period is very weak – because the averaging period that will actually be used to set the cost of debt allowance is not known. There simply is no financial instrument that would allow business to hedge to an averaging period that is not known with certainty and is contingent on the ultimate decision of a regulator and/or appeal body.

42.   Once the actual circumstances of the businesses are considered, the idea that they can be assumed to have taken out swap contracts in their averaging periods to hedge to the regulatory allowance is patently unreasonable.

4.4   Conceptual basis for concluding interest rate risk should be hedged

43.   As stated above, the AER's view that interest rate swaps should be used as hedges comes down to a belief that using swaps in an hybrid approach:

- results in the actual cost of debt being more closely matched to the 'on the day' regulatory allowance than does a trailing average without swaps; and

- reduces the (expected) cost of debt because it shortens the base interest rate exposure from 10 to 5 years.

44.   Neither of these views are well grounded in theory (and as the next two sections will show they are not well grounded in facts). First, let me assume that both of the above statements are correct (I subsequently examine whether they are actually correct and find that they are not).

45.   The AER does not explain why aligning the actual cost of debt more closely with the 'on the day' allowance is efficient. The Modigliani Miller theorem states that, in financial markets with zero transaction costs, the value of a firm is independent of its funding strategy. That is, all funding strategies are equally efficient. An efficient, or a group of efficient, funding strategies only distinguish themselves from other less efficient funding strategies in financial markets with transaction costs. Only when transaction costs are modelled are some funding strategies more efficient than others – specifically the funding strategies that minimise transaction costs.

46.   I have discussed this issue previously in Appendix B of my May 2014 reports for ActewAGL Distribution and the NSW DNSPs[8]. In summary, my report notes that two of the main sources of transaction costs are the costs of taxes and the costs associated with financial distress (CFD for short). An aggressive (heavily geared) funding strategy can be efficient because it reduces taxation costs. However, it also

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[8]   CEG, *Debt transition consistent with the NER and NEL,* May 2014.

raises the probability of financial distress and, therefore, the expected costs of financial distress.

47. As noted in my May 2014 reports, Professor Grundy has surveyed the empirical literature of the CFD and estimates a range for the actuarially expected CFD of between 5% and 8.8% of firm value. The sources of these costs include the direct costs of bankruptcy such as legal fees and other costs incurred as different categories of investors fight over the residual value of the firm. However, it also includes the indirect costs associated with 'short term' decision making by management as it responds to elevated financial distress should they occur. At a WACC of 8%, compensating for this cost requires between 40bppa to 70bppa to be added to the regulatory WACC in perpetuity.

48. If it is the case, as the AER claims, that adopting the hybrid debt management strategy would result in the actual cost of debt being more closely matched to the 'on the day' regulatory allowance then this can be expected to reduce the probability of financial distress. Other things equal, this is a plausible reason to undertake such a strategy. Although the AER does not explain its view in this fashion, I will assume that this is why the AER believes it would be efficient for a business to align actual debt costs with the regulatory allowance.

49. However, other things are not equal. Swap transactions involve transaction costs – which can vary over time. Advice from UBS[9] estimates the 'all in' costs of base interest rate hedging at 38bppa for the 2014-19 averaging period (not including any premium associated with the very large size of the transactions necessary for the Networks NSW businesses). UBS also presents analysis to suggest that the costs would have been higher in 2008/09 due to the impact of the global financial crisis on markets. UBS concludes that it simply would not have been feasible to enter into the relevant volumes in the maximum 40 day period allowed by the AER for an averaging period. For subsequent periods and different transaction sizes, Evans and Peck have advised the QCA that the costs of implementing a swap strategy (but fixing over only 2 years) would be 13.5bppa[10], and Jemena, who was advocating the inclusion of swaps in the AER cost of debt methodology, put the cost of swaps at 9bppa.[11]

50. Wherever the transaction cost of swaps falls within this range the transaction costs of swaps account for a very significant proportion of expected CFD. Let us take the bottom end of the range of estimates and assume that the transaction costs of swaps are 10bppa and the expected CFD is 40bppa. Engaging swaps would need to reduce

[9]   UBS, UBS response to the Networks NSW request for financeability analysis following the AER Draft Decision of November 2014, January 2015.

[10]   Evans and Peck, SEQ Retail Water Price Review, 4 February 2013, P. 2

[11]   Lally, "Transitional arrangements…", p. 27, footnote 10

the expected CFD by ¼ in order to be efficient. It is far from obvious that this would be the case for a 60% geared benchmark company. (It is almost certainly not efficient when I consider the factors in sections 4.3, 4.5 and 4.6).

51. It may well be efficient for a business that is more heavily geared (e.g., has an aggressive tax minimisation policy) and is 'closer to' financial distress to engage swaps. For such a firm, it would make more sense to incur transaction costs in order to more closely align its costs to the AER's 'on the day' cost of debt allowance. This may be one reason that some more heavily geared private businesses do profess to use swaps in this way – a point I pick up on below. However, it is far from obvious that this is efficient as a general matter of course for a 60% geared efficient benchmark company.

52. I also note that the AER does not provide any allowances for either the CFD or the costs of swap contracts. If the AER believes that entering into swaps are justified by a reduction in the expected CFD then internal consistency requires that the AER:

   ▪ compensate for the costs of the relevant swap contracts; and

   ▪ compensate for the costs of residual level of CFD remaining after those swap contracts have been entered into.

53. The AER has not proposed to do either of these things.

54. Second, the AER argues that using the hybrid strategy delivers benefits in terms of lower base interest rate because the 5 year rate is generally lower than the 10 year rate. This is correct on average if a long enough time period is examined.

55. However, in the 18 August 2008 to 5 September 2008 averaging period proposed by Network NSW and ActewAGL (which is also the final averaging period for Network NSW businesses after successful appeal to the Australian Competition Tribunal) the 5 year swap rate was 12bppa above the 10 year swap rate (6.79% vs 6.67%). Over Network NSW's and ActewAGL's originally proposed averaging periods in June 2008 the 5 year swap rate was 32bp above the 10 year swap rate and had been negative since mid 2006. Given these facts, the Networks NSW businesses and ActewAGL would have acted reasonably in assuming that there would be no material interest rate benefits from a hedging strategy that converted base rate exposure from 10 to 5 year swap rate in their proposed averaging periods.

4.5 Empirical evidence for asserted properties of hybrid under the 'on the day' approach

56. Even if hedging was possible during a 40 day period it would still be an imperfect hedge, because it would still not align the regulatory allowance for the cost of debt with the businesses actual cost of debt.

57. For example, the AER's allowance for the cost of debt was based solely on the prevailing debt risk premium (DRP). However, it is accepted that the benchmark efficient entity will have to pay a trailing average DRP – even if they hedged base interest rates using swaps. The trailing average DRP will change only slowly over time. If the prevailing 5 year swap rate moves inversely to the prevailing 10 year cost of debt then hedging to the former could easily cause the cost of debt for a regulated business to move further away from the AER allowance rather than closer to it. That is, in this circumstance, differences between the prevailing DRP and the trailing average DRP provide a "natural hedge" to the difference between the prevailing base rate of interest and the trailing average base rate of interest. Hedging the latter eliminates the effectiveness of the natural hedge (and does so at the cost of incurring transaction costs).

58. As described in section 2, a business who used a swap strategy to try and lock in prevailing interest rates over the regulatory period would have debt costs equal to:

   ▪ the prevailing 5 year swap rate in the averaging period; plus

   ▪ the historical average spread to swap on its 10 year corporate debt issuance; plus

   ▪ transaction costs including transaction costs of swaps.

59. The AER's cost of debt allowance in the previous regulatory period did not reflect any of these components of the cost of debt. Rather, it was based on the 10 year yield on Commonwealth Government Securities (i.e., 10 year CGS rates - not 5 year swap rates) plus the 10 year spread to CGS on corporate debt in the averaging period (not the 10 year spread to swap averaged over the last 10 years) and it did not include any transaction costs for swaps.

60. These inconsistencies between how the AER proposed to compensate for the cost of debt, and the actual cost of debt that would be incurred under the hybrid, mean that it is quite possible that pursuing a swap hedging strategy could actually make the total cost of debt for a business less well hedged to the regulatory allowance than simply adopting a trailing average. For example, if the prevailing DRP (which the 'on the day' method uses to set compensation for the full five years) tends to move inversely with the 5 year swap rate then locking in a low/high 5 year swap rate could cause a business' actual cost of debt to move in the opposite direction to the overall regulatory allowance.

61. For a clear example consider January 2009 in Figure 4 below. Figure 4 is showing a comparison of the total cost of debt estimates over July 2004 to June 2014. This is the most recent two regulatory periods for the Networks NSW businesses and ActewAGL.

Figure 4: Trailing average vs. hybrid vs. 'on the day' cost of debt
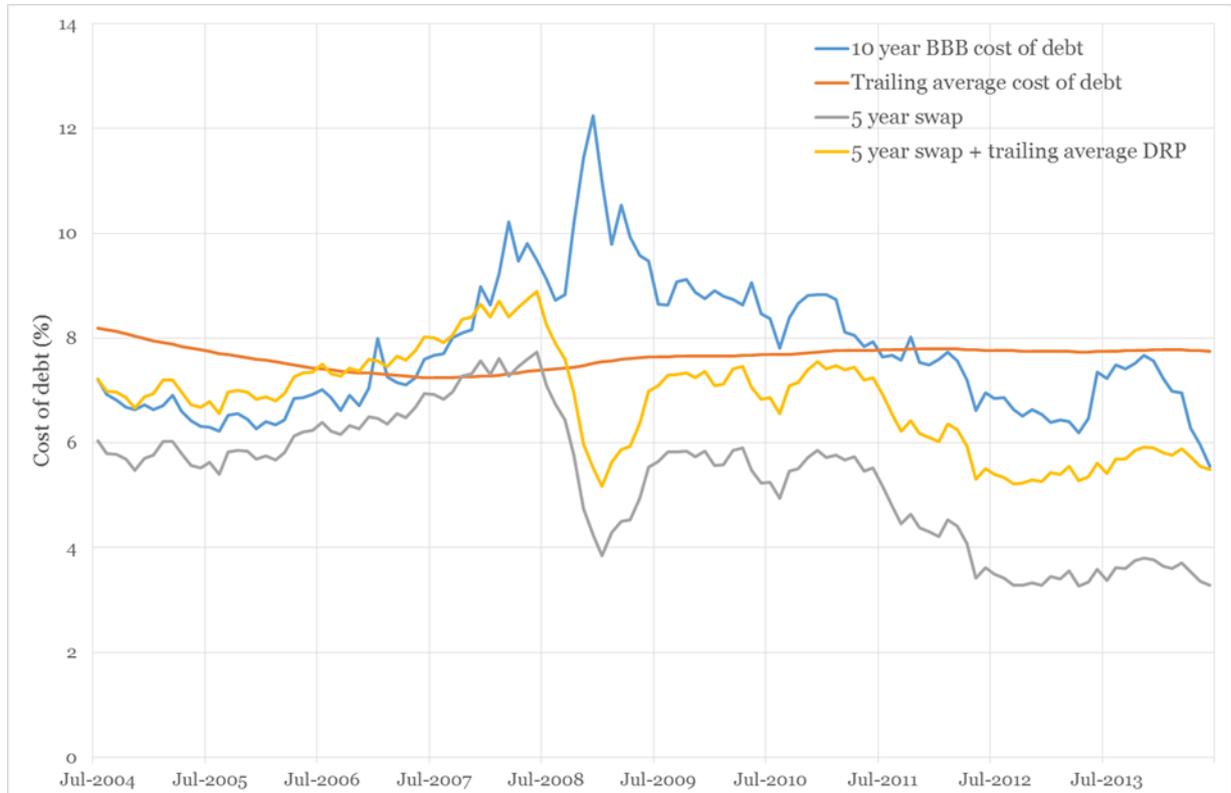
Source: Bloomberg, RBA and CBASpectrum month-end data, CEG analysis

62. The horizontal axis of Figure 4 should be interpreted as illustrating different potential averaging periods. That is, it shows what the actual cost of debt would have been under the hybrid and simple trailing average approach compared to the allowed cost of debt, if the averaging period were set at a particular date.

63. Committing to a swap hedging strategy (which means having the entire portfolio become floating rate at the beginning of any regulatory period) would have caused a business' actual cost of debt to fall dramatically at precisely the time when the regulatory allowance would have been at its height. By contrast, a trailing average cost of debt would have risen slightly. That is, a trailing average cost of debt would have provided a much better hedge (better alignment) to the 'on the day' approach for an averaging period in January 2009.[12]

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[12] Figure 4 uses an average of Bloomberg and RBA estimates of the 10 year cost of debt, extrapolated using the RBA methodology. In the period prior to 31 January 2005 in which the RBA information is not available and cannot inform extrapolation of the Bloomberg curve, I extrapolate the Bloomberg curve using RBA data from 31 January 2005. In the absence of RBA data in this period, I assume that the 10 year cost of debt and DRP from this source is equal to the extrapolated Bloomberg data. Prior to December 2001 in which Bloomberg data is not available, I proxy both the Bloomberg and the RBA series with CBASpectrum data 10 year BBB yield data.

64. This is illustrated in Figure 4 by:

- the difference between the orange line (the cost of debt for a business that does not use swaps to hedge base interest rates) and the blue line (the prevailing or 'on the day' cost of debt); than

- the difference between the yellow line (the cost of debt for a business that uses swaps to hedge base interest costs) and the blue line (the prevailing or 'on the day' cost of debt).

65. The sum of squared differences between the 10 year BBB prevailing cost of debt and the trailing average cost of debt is 215.7, whereas the sum of squared differences between the 10 year BBB prevailing cost of debt and the hedged cost of debt is 317.8.

66. That is, a business undertaking an unhedged approach to managing its debt portfolio would have better replicated the 'on the day' cost of debt approach over the past two regulatory periods than a business using hedges of the base rate of interest. This is most obviously the case during the global financial crisis and afterwards, when the hedged cost of debt dips in a way that does not replicate the prevailing rate.

67. I also note that the correlation coefficient between the 10 year BBB prevailing cost of debt and the trailing average cost of debt is -0.18, whereas the correlation coefficient between the 10 year BBB prevailing cost of debt and the hedged cost of debt is -0.32. This implies that although both methods of managing debt portfolios produce a cost of debt estimate that moves in the opposite direction to the "on the day" estimate, this is more significant for the "hedged"[13] cost of debt. Again, the global financial crisis demonstrates a period in which the movement of the "hedged" cost of debt series was significantly at odds with the movement of the "on the day" estimate.

68. Of course, as already noted, even if hedging the base rate resulted in a better hedge than the natural hedge built into the trailing average it does not follow that it would be efficient given the transaction costs involved.

4.6 Basis and relevance of AER claims about private sector practice

69. The AER supports its view that the hybrid debt management strategy was the most efficient debt management strategy on the basis that:[14]

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[13] That is, hedged to the base rate of interest using swaps.

[14] AER, ActewAGL draft decision, p. 3-117.

A staggered debt portfolio with interest rate swaps is also the financing strategy generally adopted by most private service providers under the on-the-day approach. This is reflected in the statements of corporate treasurers to the AER during the 2009 WACC review, the data on debt financing strategies of the private service providers we collected during the 2009 WACC review, and in submissions from private service providers to the 2012 AEMC during the network regulation rule change process,[426] and in submissions to us during the 2013 Rate of Return Guideline development process.

70. When I examine all of the references provided by the AER to support the above statement I find that four privately owned regulated businesses state that they adopt this strategy: AusNet, Envestra, Jemena and the Cheung Kong Infrastructure companies'.[15] It might be the case that most privately owned Australian businesses do adopt this approach, but the evidence that the AER relies on is not conclusive of this fact unless the AER counts the Cheung Kong Infrastructure/Spark companies individually rather than as a group. The AER's list of comparables used to determine equity beta includes nine listed Australian businesses and, clearly, four is less than half of nine (noting also that the 9 comparables only cover publicly listed comparable companies).

71. I also note that the statements from these four businesses do not make clear whether the hybrid debt management strategy as set out in Section 2 is strictly adhered to, or whether it is just one strategy that informs an overall strategy. For example, Sim Buck Khim, Head of Jemena Treasury Department, stated[16]:

We also undertake hedging. Hedging is like an insurance policy against certain risks. For example we have currency hedges when we issue bonds in currencies other than Australian dollars. Similarly we also hedge against interest rates moving away from that forecast. In hedging interest rates one of the factors that we consider for that part of our asset base that is regulated is when the AER sets out revenue reset because our regulated revenues cashflows are derived from the interest rate used in the regulatory reset.

One point to note with interest rate hedging, …. Although we can hedge movements in the bank bill swap rate, we cannot effectively hedge changes in the premium payable above the bank bill rate…

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[15] Citipower, Powercor and SAPN which also comprise the listed Spark Infrastructure.

[16] Statement of Sim Buck Khim, Head of Jemena Treasury Department, Paragraph 5.25 to 5.24. The Joint Industry Associations (JIA), Submission on the explanatory statement: WACC review, February 2009, Appendices, E,

72. As foreshadowed earlier, I also note that out of the four companies identified above three are or were publicly listed (including Envestra, AusNet and the companies which form the assets of Spark Infrastructure), and are included by Olan Henry as comparable in his sample of beta estimates performed for the AER.

73. In the most recent five year period examined by Henry, the gearing for each of these companies is above 60% (Envestra has a gearing of 71%, Spark Infrastructure has a gearing of 67% and SPAusNet has a gearing of 63%).[17] By comparison, the other two businesses in the same sample have a gearing of 60% (APA Group) and 51% (HDF). Moreover, the other three businesses (who have been delisted and therefore only appear in more dated samples) have a gearing of 40% (Alinta), 30% (AGL) and 66% (GasNet).[18]

74. The fact that the AER's sample of firms that do use swaps are relatively heavily geared is consistent with my discussion in section 4.4: The more aggressive a firm's tax minimisation strategy is (through high gearing), the more likely it might be to adopt the hybrid strategy. Of course, that does not mean it is efficient for the benchmark efficient entity with gearing of 60% to do so.

75. High gearing will make it more attractive for businesses to take a more conservative approach to hedging to match the regulatory allowance, because the "roll the dice" strategy of the on-the-day approach has more significant implications for a business where a bad roll could tip them into financial distress.

76. Of course, this is only a rationale for hedging the base rate if a business did not believe that the trailing average already provided a good natural hedge. Such a view might have been reasonably held at some point. However, as discussed above, the actual market events over the last decade suggest that this view was wrong in that period.

77. I also note that Jemena, which is not publicly listed and for which gearing information is not available, is owned by a foreign business that has no access Australian corporate tax imputation credits. It may be that this creates an incentive for an aggressive gearing strategy that also drives a swap strategy.

78. Ultimately, the above discussion is speculation. It may be that different firms adopt different strategies due to the vagaries of their own decision making as much as due to specific economic drivers (such as foreign ownership).

79. Once more, I note that a further consideration is the transaction costs of hedging. Given that these may differ across businesses (e.g., small and large businesses) this provides another reason, separate from beliefs about market circumstances, that different business may rationally adopt different strategies.

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[17]   Henry, Estimating β: An update, April 2014 Table 2 on p. 17.

[18]   Henry, Estimating β: An update, April 2014 Table 4 on p. 21.

5 Windfall gains

5.1 AER's views

80. The AER's views on why it believes its transition is required to avoid windfall gains accruing to regulated businesses are set out on pages 3-117 to 3-121 of ActewAGL's draft decision. It is difficult to extract a short precise statement of the AER's reasoning. Consequently, I summarise my interpretation of the AER's reasoning below:

    a. The AER assumes that all businesses 'efficient' base rates of interest were accurately compensated under the 'on the day' approach. In doing so, the AER relies on the assumption that the benchmark efficient debt management strategy was the hybrid debt management strategy.[19]

    b. On this basis, the AER considers that any windfall gain or loss should be measured by reference to the difference between:

        i. the prevailing DRP in the averaging period at the start of the regulatory period and used to set compensation for the DRP during the regulatory period; and

        ii. the historical average DRP that a business would actually be paying on its historical debt portfolio[20] (noting that the DRP cannot be hedged).

    c. The prevailing DRP can rise above the historical average DRP (and did rise above the historical average DRP during the early part of the global financial crisis). This is because the trailing average DRP rises (and falls) more slowly than the prevailing DRP since the latter is only a small influence on the former. This means that, under the 'on the day' approach, any businesses which had their DRP set during such a period will have received a windfall gain (regulatory DRP equal to prevailing DRP which is greater than historical average DRP). However, as the prevailing DRP falls back to more 'normal' levels, the prevailing DRP can be expected to fall below the trailing average DRP – imposing a windfall loss on businesses whose averaging periods fall in such periods (regulatory DRP equal to prevailing DRP which is less than historical average DRP).[21]

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[19]   See fifth paragraph on page 3-119 of the ActewAGL draft decision beginning "*As discussed in the previous section, with respect to the risk free rate component, …*"

[20]   See first two paragraphs on page 3-299 of the Ausgrid draft decision beginning "The NSW service providers did not take hedging into account, …"

[21]   See the last paragraph on page 3-300 up to the end of section G.5 on page 3-302 of the Ausgrid draft decision.

d. These windfall gains and losses that accrue under the 'on the day' approach can be expected to be broadly offsetting in the long run.[22]

e. Adopting a trailing average DRP immediately would help ensure that there was no future windfall loss (or gain).[23] However, avoiding future windfall losses is undesirable because the AER will 'lock in' past windfall gains – which a future windfall loss would otherwise offset (and vice versa). Therefore, it is appropriate that the AER impose a transition that has the effect of retaining the properties of the 'on the day' approach for at least one more regulatory period.[24]

f. Empirical analysis performed by Lally, and reproduced by the AER in Table 3-26 suggests that, in the last set of regulatory decisions, across the last six years, the industry as a whole will be overcompensated by 1.3% of its debt costs but would be overcompensated by 3.4% without any transition.[25]

81. The AER's justification for a transition, as set out by me above, is fundamentally that it is appropriate and desirable to design a transition that:

▪ compensates businesses at less than their prospectively incurred efficient costs; because

▪ the regime that existed in the past led to them being overcompensated relative to their efficiently incurred costs in the past.

82. The clearest justification for this is, in my view, not found in the AER decision but in the report by Lally. Lally states:[26]

It might be argued that the transitional process would involve 'clawing back' past gains. I think that 'clawing back' relates to a situation in which gains have arisen from a past event, that past event will not give rise to future consequences that will naturally erode those gains, and the transitional process does erode the gains. However, in the present situation, the gains have arisen from a DRP spike and the natural reversion in the DRP back to its earlier level would erode these gains back

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22   See second and third full paragraphs on page 3-301 of the Ausgrid draft decision.

23   See last paragraph of section G.5 on page 3-302 of the draft decision (including the quote from Lally).

24   First full paragraph on page 3-301 of the Ausgrid draft decision, reproduced here.

A consistent application of the on-the-day approach over a long term would tend to balance out these positive and negative effects. However, if the regulatory approach changes and is implemented immediately (without transition), depending on the time in the above process where the switch occurs, it would create the potential for windfall gains and losses. This is because the accumulated effects would be locked-in once the switch of regime occurs. [Emphasis added.]

25   Page 3-120 of the ActewAGL draft decision.

26   Martin Lally, Transitional Arrangements for the Cost of Debt, 24 November 2014, pp. 21-22.

to zero. Switching to a trailing average in mid-stream without a transitional regime locks in the accumulated gains up to that point. So, the use of a transitional regime to prevent this does not constitute a claw back. It instead constitutes a process that mimics the erosion in the gains for the businesses that would have occurred naturally under the earlier regime.

83. In this passage Lally is putting forward a premise that the errors (i.e., differences between allowed cost of debt and actual cost of debt) associated with the 'on the day' approach tended to move in cycles – with under-compensation in one regulatory period followed by over-compensation in the next followed by under-compensation etc. A new approach (such as the trailing average approach) can remove this source of over or under-compensation and set compensation equal to efficient costs. However, in Lally's view, if this source of error is removed at a given point in time, it may be that:

   ▪ the accumulated level of past over-compensation is materially positive; and

   ▪ this would have been offset by prospective under-compensation without the change in regulatory approach.

84. Lally is arguing that the regulator should adopt a transition *"that mimics the erosion in the gains for the businesses that would have occurred naturally under the earlier regime".* [27]

85. In my view there are a number of errors in this analysis and conclusion that are both logical and empirical. I set these out below.

5.2 Justification under the rules

86. Lally does not ground his conclusions in the context of the National Electricity Rules (NER) or the National Electricity Law (NEL). The only discussion of the NER is the following sentence, which is repeated, with minor word changes, five times in his report:[28]

   Furthermore, the adoption of this transitional process is consistent with the requirement under clause 6.5.2 of the NER to have regard to the impact on a benchmark efficient entity of a change in methodology.

87. The AER, similarly, does not explain in any detail its justification for the transitional arrangements in the context of the Rules. It is not obvious to me that it is possible to read into the NER and the NEL that it is appropriate to set future compensation in a manner that attempts to reverse past over or under compensation, to the extent that the consequences of the -on-the-day approach that arise in respect of past

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[27]   Martin Lally, Transitional Arrangements for the Cost of Debt, 24 November 2014, p. 22.

[28]   Martin Lally, Transitional Arrangements for the Cost of Debt, 24 November 2014, pp. 4, 13, 22, 25, 38.

regulatory periods may be considered errors or consequences that can or should be adjusted for. In any event, neither the AER nor Lally has provided such a justification.

88. In its discussion of the windfall gain justification for the transition arrangements the AER only appears to rely on NER clause 6.5.2 (k)(4).[29] This clause states that the AER must have regard to:

> *any impacts (including in relation to the costs of servicing debt across regulatory control periods) on a benchmark efficient entity referred to in the allowed rate of return objective that could arise as a result of changing the methodology that is used to estimate the return on debt from one regulatory control period to the next.*

89. The AER (and Lally) appear to be interpreting this in a manner that:

- fixing an error in the cost of debt methodology would eliminate a prospective windfall loss to the benchmark efficient entity (i.e., it would eliminate future under-compensation). However, this would occur at a time when the business has earned a windfall gain in the past;

- this creates a positive "impact" on the benchmark efficient entity (by virtue of avoiding that prospective loss, in so doing, not eroding a past windfall gain); and

- having regard to this positive impact it is appropriate for the AER to put in place a transition that mitigates the positive impact (i.e., that reinstitutes the windfall loss that the AER considers would otherwise have accrued to the business).

90. Without commenting on the legal interpretation of clause 6.5.2(k)(4), my plain economic reading of this clause is that the AER must have regard to the extent to which a change in methodology will cause prospective compensation to be different from efficient prospective costs – given the financing strategy that the benchmark efficient entity (efficiently) adopted under the old regime. There is nothing in this rule that leads me to interpret it as suggesting that the AER could design a new cost of debt methodology (inclusive of transition or not) with the express purpose of imposing a prospective loss on the benchmark efficient entity in order to offset what it considers to be a past gain by that entity.

91. Clause 6.5.2 (k)(4) does, in my opinion, provide grounds for the AER not to simply swap between two mutually exclusive debt management strategies without transition. An example of such conduct would be for the AER to determine that a simple trailing average methodology (with no swap overlay) is efficient in one regulatory period and then to that a hybrid debt management methodology (trailing

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[29] Referred to on pp. 3-113 and 3-114 of the AER ActewAGL draft decision

average methodology with swap overlay) is efficient at the beginning of the next regulatory period. A benchmark efficient entity that had adopted a simple trailing average debt management strategy in the first regulatory period would not be in a position to align their costs with a hybrid debt management strategy for the second.[30]

92. In this context, a transition would be appropriate in order to set prospective compensation in a manner that was consistent with prospective costs of the benchmark efficient entity transitioning from one strategy to another. However, that logic applies only to prospective alignment of compensation and costs – it does not suggest any role for misaligning prospective compensation and costs in order to offset any perceived past misalignment of compensation and costs.

93. In my view the allowed rate or return objective (ARORO) is an important context here. The ARORO is defined as:

> *The allowed rate of return objective is that the rate of return for a Distribution Network Service Provider is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the Distribution Network Service Provider in respect of the provision of standard control services (the allowed rate of return objective).*

94. I read this as objective as being prospective in nature. If this is correct then my interpretation of clause 6.5.2 (k)(4) is consistent with this. However, if the AER's interpretation of clause 6.5.2 (k)(4) is correct then either clause 6.5.2 (k)(4) is in conflict with the ARORO or *"commensurate with the efficient financing costs of a benchmark efficient entity"* must be read such that these costs, and the allowed rate of return, must be measured over both future and past regulatory periods in order to test whether the ARORO is satisfied.

95. The AER draft decision states, in relation to the ARORO, that:[31]

> *Commencing the trailing average with a period of transition contributes towards the achievement of the rate of return objective because it minimises the potential mismatch between the allowed and actual return on debt of the benchmark efficient entity, while also avoiding windfall gains or losses to service providers or consumers from changing the regulatory approach to the return on debt. For these reasons, it also provides service providers with a reasonable opportunity to recover at least their efficient debt financing costs.*

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[30]   There allowance under the hybrid would be either higher/lower than their actual trailing average costs if base interest rates were higher/lower at the beginning of the second regulatory period than the trailing average of base interest costs.

[31]   AER ActewAGL draft decision, p. 3-114

96.   The only way this statement can be internally consistent is if the AER is interpreting the ARORO as requiring "commensurate" to be interpreted over the sum of both future and past regulatory periods. On the AER's own terms, and on Lally's advice to the AER, the transition creates (prevents the elimination of) a prospective mismatch between the allowed and actual DRP of a benchmark efficient entity.

97.   I do not consider that this is an appropriate interpretation of the ARORO, and I consider that this interpretation would make the application of the NER unworkable and would be inconsistent with the NEO. Under this interpretation of the ARORO the regulator can identify retrospectively that a benchmark efficient entity has been overcompensated in the past and can use that as a basis to undercompensate it in the future. In my view, this would distort incentives because a business could never be certain that the allowed revenues that it has been promised will not be deemed overcompensation and removed at some later date.

98.   Putting aside this serious concern, even if I were to accept that the rules did allow this retrospective reversal of past decisions, the AER justification for its transition would still be deeply flawed in that it applies the same transition to all businesses – even if doing so imposes a loss greater than any estimated past over-compensation. On Lally's own estimates, reproduced by the AER in Table 3-26, this is true for businesses with regulatory cycles beginning in 2007, 2010 and 2011.

99.   If the ARORO and clause 6.5.2 (k)(4) could be interpreted in the manner that the AER and Lally have done, then I do not understand why each business should have a bespoke transition where the level of prospective windfall loss applied to each business would be commensurate with the level of windfall gain the AER determines that they earned retrospectively.

100. The draft decision is internally inconsistent when it argues that:[32]

      This approach means a single benchmark should apply for the purpose of estimating the return on debt and return on equity. For the return on debt estimation, it also means applying a single benchmark definition for the purpose of implementing transitional arrangements.

101. If the AER's rationale for its transition is accepted then it should be designed consistently with that. However, the magnitude of the alleged windfall gain differs depending on the timing of each regulatory cycle being applied to the benchmark efficient entity. Therefore, a different transition, which results in losses commensurate to past gains, would be required to be applied to each cycle that the benchmark efficient entity operates in. The AER transition has not been designed with this in mind.

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[32]   AER ActewAGL draft decision, p. 3-125

102. Moreover, the AER and Lally's analysis of alleged windfall gains (which they argue must be offset by prospective windfall losses) extends only back to the single immediate past regulatory decision. If past windfall gains are relevant then it is not obvious to me why one would limit oneself to examining only the immediate past.

103. Moreover, as discussed in sections 5.3 5.4 and 5.5 below, the AER cannot be confident that its transition will result in a prospective windfall loss that is commensurate with any given (alleged) past windfall gain.

5.3 Errors in alleged windfall gains to NNSW businesses and ActewAGL

104. Lally, and the AER in accepting and relying on Lally's advice, makes a serious error in his analysis of the windfall gains that have accrued to the NSW Networks businesses and ActewAGL. Lally argues that businesses on a regulatory cycle 2009 to 2014 would have a cumulative windfall gain of 9.53% of their debt portfolio without any transition.[33] This number can be calculated from the data available in Lally's Table 2.[34] However, the calculation underpinning this number assumes that the NNSW businesses and ActewAGL were compensated for a DRP of 4.1% during the 2008-09 to 2013-14 regulatory period, which is incorrect as discussed below.

5.3.1 Correcting the error in Lally's analysis

105. This is simply an error. The AER's allowed cost of debt for the NSW businesses in that period was, after successful appeal to the Australian Competition Tribunal, set at 8.82% based on the estimated cost of debt during the period 18 August 2008 to 5 September 2008. Over the prevailing annualised 5 year swap rate, which is the rate that both Lally and the AER assume could and would have been 'locked in' by a business using the hybrid debt management strategy, was 6.79%.[1] This leaves a DRP component of just 2.03%.

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[33] This figure is taken from the "2014" column and the 2009-14 row of Table 3 on p. 20 of Martin Lally, *Transitional Arrangements for the Cost of Debt*, 24 November 2014.

[34] Martin Lally, *Transitional Arrangements for the Cost of Debt*, 24 November 2014, p.19. 9.53% is equal to:

- Lally's estimate of over-compensation in the 2009-2014 regulatory period. This is calculated as the sum of five times 4.1% (the DRP Lally assumes would have applied in 2009-2014 – located in the "prevailing" column and the "2009" row) less the sum of all the figures in the "paid" column between rows "2009" and "2014"; plus

- Lally's estimate of under-compensation in 2008. This is calculated as 1.3% (the DRP that Lally assumes would have been allowed in the 2004-2009 period less 1.49% (the "paid" amount in row "2008").

106. This is half the level of compensation that Lally assumes and using this figure radically changes his results and conclusions. Holding the rest of Lally's analysis constant but using 2.03% instead of 4.1%, reverses Lally's findings. Rather than the NNSW businesses being overcompensated by 9.53% on DRP they are actually undercompensated by 0.82%. This would also have applied to a similar degree to ActewAGL had their judicial review been successful.

107. This is obviously critical for an assessment of the AER/Lally's case for a transition to be applied to the NNSW businesses specially but, more widely, for the AER's overall case that the transition is appropriate when looked at across all businesses. Lally's 9.53% figure is reduced to 6.6% in present value terms in his Table 4, which the AER reproduces as its Table 3-26.[35] However, when the 9.53% figure is corrected to negative 0.82% and the present value of these losses are calculated (using Lally's assumptions) the +6.6% figure falls to -0.5%.

108. In fact, with the 2008-09 to 2013-14 estimates corrected, then four out of the five different regulatory cycles are estimated to suffer an aggregate loss (across multiple regulatory periods) when the AER transition is imposed. The simple average across all regulatory cycles falls from 3.4% to 0.4%. It is not negative because Lally also estimates very large overcompensation (4.5%) for businesses in the 2008-2013 regulatory cycle. However, the value of assets under regulation subject to this cycle is relatively low because it does not capture Victorian, NSW and ACT nor Qld electricity distributors – who dominate assets under regulation. It would certainly be negative overall if a weighted average were applied. Moreover, Lally's analysis does not take into account the fact that the losses being imposed as a result of the AER transition are being imposed on a materially higher asset base than existed in prior regulatory regimes. Accounting for this fact would make the resulting average even more negative.

5.3.2 Replicating the entirety of Lally's analysis using publicly available data

109. In this section I do not rely on the analysis undertaken by Lally. I have instead attempted to calculate, from publicly available information, the DRP that would have actually been paid by an entity implementing the AER's benchmark efficient entity hybrid strategy (hedging using 5 year swaps in the regulatory averaging period) over the last two regulatory periods (2004-05 to 2008-09 and 2009-10 to 2013-14). I then compare this to the DRP that was actually compensated for in those past regulatory decisions (again measured relative to the 5 year swap rate that prevailed in the relevant averaging period).

110. Lally's estimate of 9.53% over-compensation covers the period 2007-08 to 2013-14. For the purpose of comparison I initially refine my analysis to this period. When I

[35] Using a discount rate of 8% and a base period of mid-2007.

perform my own calculations I find that, over the period 2007-08 to 2013-14, and before the transactions costs of swaps are accounted for, total cumulative overcompensation was 0.20% (or 0.03% pa). This is higher than the estimate of negative 0.82% derived simply by inserting the correct (2.03% not 4.1%) allowed DRP (relative to 5 year swaps) into Lally's analysis. However, 0.03% per annum of over-compensation is negligible, and the total amount of 0.20% is much lower than Lally's uncorrected 9.53% on which the AER's justification for the losses associated with its transition rests.

111. As already indicated, this calculation ignores the costs of swap transactions. UBS has estimated these costs would have been very material, if not prohibitive, in the period in question due to the events associated with the global financial crisis (in excess of 38bppa). As noted this is higher than estimates for subsequent periods and different transaction sizes such as those by Evans and Peck (13.5bppa) and Jemena (9bppa).[36]

112. For the purpose of this analysis I have used a figure within this range of 30bppa (or 1.8% over the whole 6 year period Lally based his estimate on). If I add 30bppa to my estimates, the total over-compensation is -1.67% over the six years or -0.28% pa.[37] This is 11.2% lower than estimated by Lally.

113. Moreover, I have extended my analysis to cover the entirety of the two most recent regulatory periods, from 1 July 2004 to 30 June 2014. My results are described in Figure 5 below.

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[36] Evans and Peck have advised the QCA (Evans and Peck, SEQ Retail Water Price Review, 4 February 2013, P. 2) that the costs of implementing a swap strategy (but fixing over only 2 years) would be 13.5bppa , and Jemena (referenced in Lally, "Transitional arrangements…", p. 27, footnote 10), who was advocating the inclusion of swaps in the AER cost of debt methodology, put the cost of swaps at 9bppa

[37] This estimate is 31 bppa lower than before.

Figure 5: Allowed DRP vs. benchmark efficient DRP plus 30 bp swap transaction costs
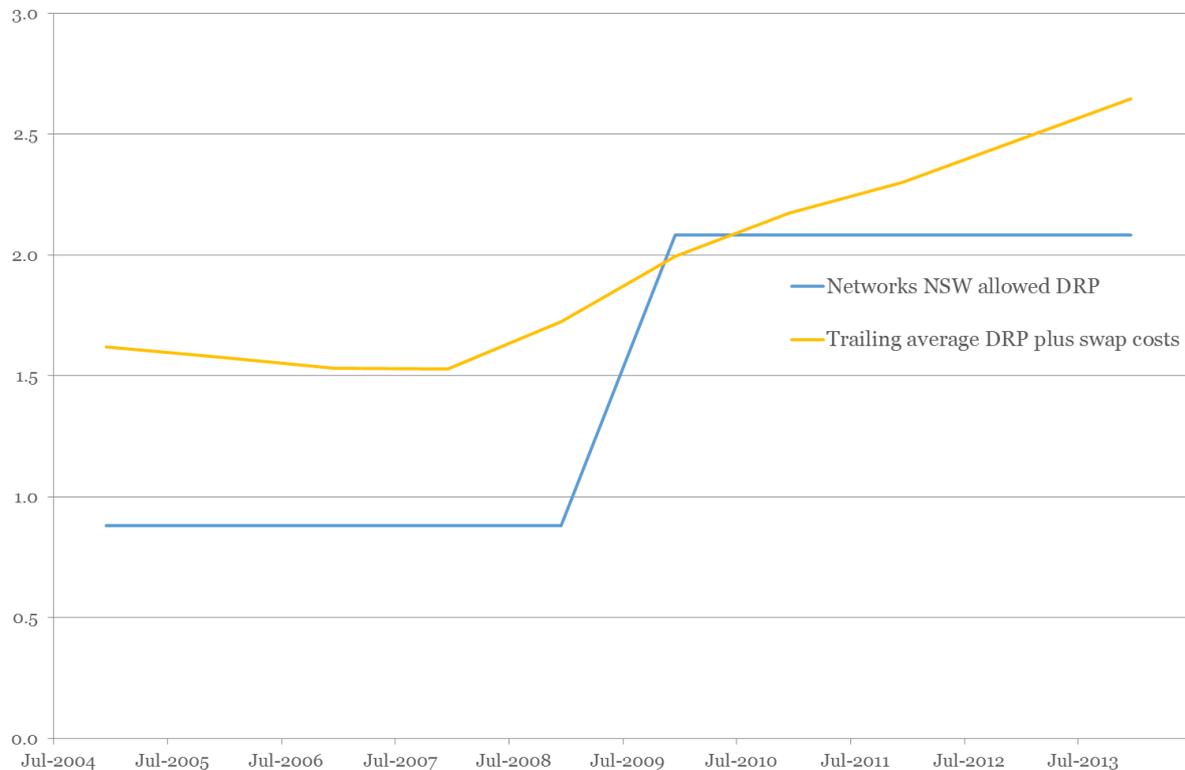
Source: RBA, Bloomberg, CBASpectrum, AER and IPART regulatory decisions, and CEG analysis

114. As can be seen in the above figure, total under-compensation was very significant in the 2004/05 to 2008/09 regulatory period, most of which Lally does not cover in his six year analysis that examines 2008/09 to 2013/14. Across the whole ten years total under-compensation was 4.2% (or 42 bppa). Even without considering the cost of swaps, under-compensation over the 10 year period is still 1.1% (or 11 bppa).

115. The assumptions and data sources underpinning my analysis are described below:

  ▪ the allowed cost of debt in the 2004-05 to 2008-09 averaging period is 7.0%. The averaging period for the risk free rate was the 20 days to 6 May 2004[38]. Over this period, the average 5 year swap semi-annual yield was 6.07%;

  ▪ the allowed cost of debt in the 2009-10 to 2013-14 averaging period is 8.82%. The averaging period for the risk free rate was the 20 days to 5 September 2008.[39] Over this period, the average 5 year swap semi-annual yield was 6.68%; and

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[38]   IPART, *NSW Electricity Distribution Pricing 2004/05 to 2008/09: Final Report*, June 2004, p. 61

[39]   AER, *AER statement on updates for the NSW DNSPs distribution determination*, December 2009, pp. 1-2

▪ estimates of DRP are sourced as the simple average of RBA and Bloomberg estimates, extrapolated to 10 years using the methodology proposed by the AER in its draft decision. In the period prior to 31 January 2005 in which the RBA information is not available and cannot inform extrapolation of the Bloomberg curve, I extrapolate the Bloomberg curve using RBA data from 31 January 2005. In the absence of RBA data in this period, I assume that the 10 year cost of debt and DRP from this source is equal to the extrapolated Bloomberg data.

5.3.3 The same error applies to ActewAGL

116. Lally makes an error in the same direction for ActewAGL. This error may be larger or smaller than for NNSW depending on the assumed averaging period used to measure ActewAGL's hypothetical locking in of 5 year swaps.

117. ActewAGL, like the NNSW businesses, proposed an averaging period of 20 days to 5 September 2008. However, I am instructed that ActewAGL did not join the NSW businesses in their appeal to the Australian Competition Tribunal on this matter but, instead, requested that the AER amend its final decision to incorporate changes arising from the NSW business's appeal. However, the AER rejected the request and did not alter ActewAGL's final decision to use the 20 days to 5 September 2008 as the averaging period. Instead, the AER continued to use the 20 business days commencing 2nd February 2014. ActewAGL appealed the averaging period decision by the AER under judicial review but was unsuccessful.

118. If I estimate the allowed DRP by subtracting the 5 year swap rate in ActewAGL's proposed averaging period (6.79%) from the AER's allowed cost of debt (7.78%) then the estimated DRP is 0.99%. However, if I estimate the allowed DRP by subtracting the 5 year swap rate in the actual averaging period used by the AER (4.34%) from the AER's allowed cost of debt (7.78%) then the estimated DRP is 3.44%. I note that these are very different figures but both are materially below Lally's estimate of 4.1%.

5.4 Forecast difference in trailing average DRP and actual DRP

119. Lally presents analysis that suggests that the AER's transition will deliver a DRP that is 'trivially different'[40] to the DRP for the Networks NSW businesses (which all agree is efficiently based on a trailing average because DRP cannot be hedged to the

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[40] Lally, "Transitional arrangements...", p. 36. Lally estimates that the trailing average DRP underpinning Ausgrid's cost of debt is 2.91%. He compares this with the prevailing DRP in the AER's initial averaging period in April 2014 (2.90%) and concludes that there is a 'trivial difference' of 0.01%. This is despite the fact that the AER's estimate of the cost of debt of 6.93% is significantly less than NNSW businesses could achieve under a trailing average – which he ignores because he assumes differences in base rates of interest should have been hedged using swaps.

regulatory period). Given Lally's premise that it is only the difference in DRP that is relevant[41] Lally concludes that there is only trivial prospective under-compensation associated with the AER's transition.

120. Lally focusses on the DRP because he assumes that the Networks NSW businesses should be assumed to have hedged the base rate. For the reasons already discussed I disagree with this contention. However, even if this premise is accepted, Lally's conclusion is deeply flawed because it does not compare the AER transition DRP with the trailing average DRP over the entire 10 years of the transition. Rather, it simply compares these values in the first year of the transition.

121. In that year it is quite correct that these values are similar. However, this is because the trailing average DRP proposed by Networks NSW in that period is based on the period January 2004 to December 2013. It can be seen from Figure 6 below that this includes four pre GFC years where the DRP was much lower than it has been since.

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[41]   Not the difference in base rates of interest because Lally assumes businesses should have used interest rate swaps to hedge base rates.

Figure 6: DRP time series - measured relative to 10 year swap rate
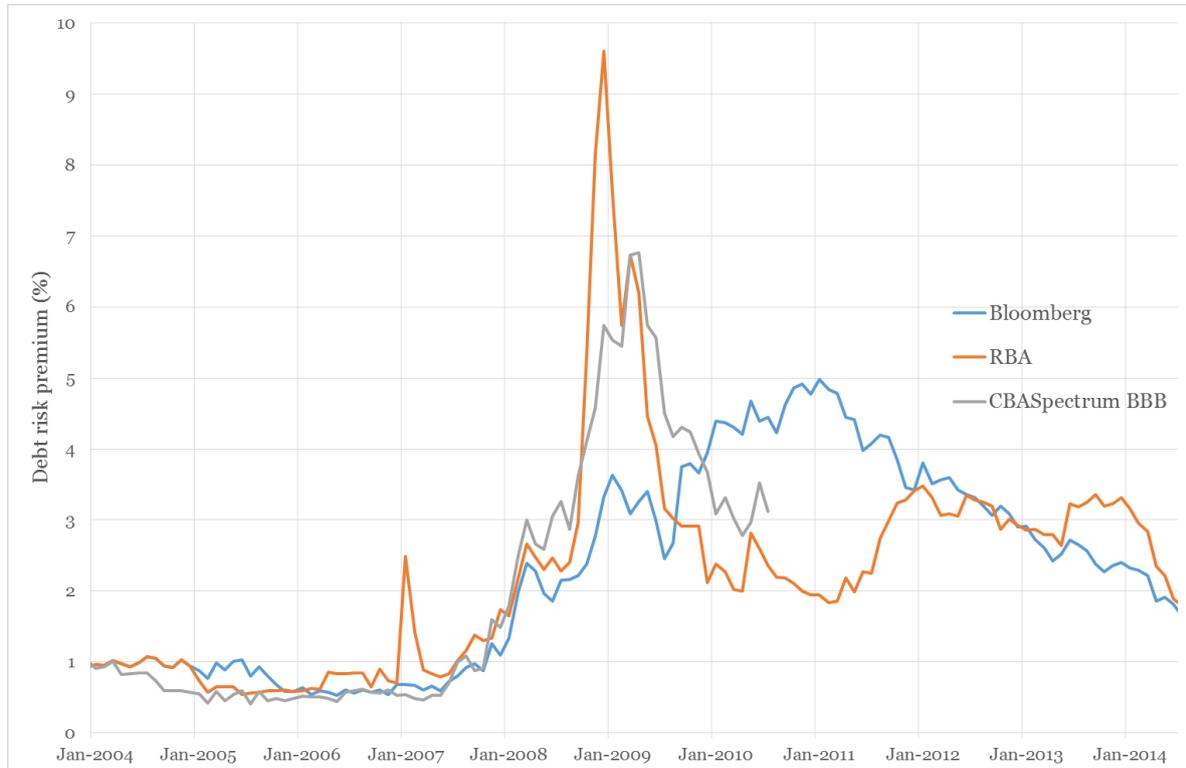
Source: RBA, Bloomberg and CBASpectrum. CEG analysis

122. It just happens that the average DRP over those 10 years is only slightly above the DRP in the AER's first averaging period for the transition. However, in subsequent years, the pre-crisis components of the trailing average will fall out - the effect of which will be to raise the trailing average DRP (which the benchmark business actually pays) relative to the AER transition DRP.

123. This must be the case – no matter what path the DRP in the future takes because the future DRP will enter both the AER transition and the trailing average DRP at the same time and with the same weight. That is, the future DRP values cancel out – with the only source of difference being the difference between the trailing average DRP *prior to* the AER averaging period and the DRP *in the* AER averaging period. Therefore, the level of under-compensation can be accurately modelled with the currently available information.

124. Figure 7 below illustrates the level of under-compensation graphically over the entire 10 years of the transition. For presentational purposes this figure assumes that the DRP (relative to 10 year swap rates) remains constant into the future at 1.5% (the value prevailing in December 2014). This allows me to plot a specific path for the trailing average and AER transition into the future. However, as noted above, the difference between these two series will be the same irrespective of the assumed future path of DRP.

Figure 7: AER NNSW DRP vs trailing average DRP (DRP's measured relative to 10 year swaps)
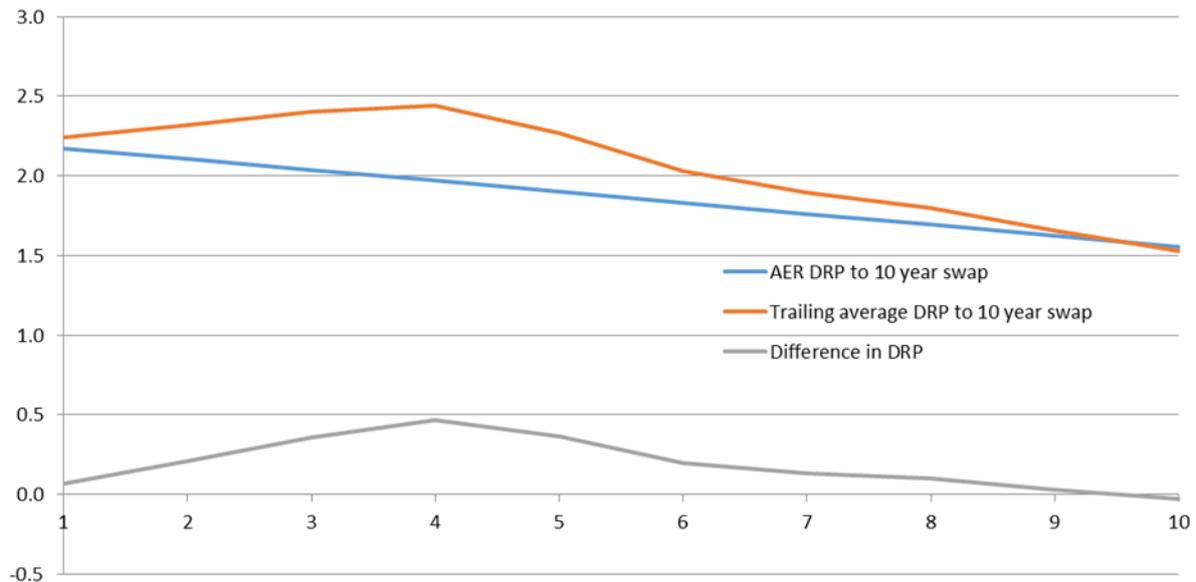
Source: Bloomberg and RBA data, CEG analysis

125. The horizontal axis in Figure 7 shows units of time as each successive year of the Networks NSW businesses' next two regulatory periods. That is, year 1 refers to 2014/15.

126. As discussed above, Figure 7 shows that the trailing average DRP does start in the first year at a similar level to the DRP allowed by the AER, as stated by Lally.[42] However, over time the trailing average DRP and the AER's transition DRP will deterministically diverge, with the AER's transition DRP staying lower than the trailing average DRP over the entire 10 year period until the measures eventually coincide. Over this period, the sum of the differences between the trailing average DRP and the allowed DRP will be 1.92%, or an average of 19.2 basis points per year.

127. This average is, of course, higher over the immediate regulatory period, at 29.5 basis points per year. This does not include the transaction costs of swaps that are implicit being used (i.e., Lally's basis for focusing on DRP only is an assumption that swaps have been used). Adding the transaction cost of swaps would increase the difference by even more.

128. The analysis above shows that Lally's comparison of DRPs at a point in time does not establish that the AER's proposed transitional regime will provide compensation commensurate with the costs incurred of a business even if we

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[42] Although Lally's comparison uses a different time period and uses spread to CGS rather than spread to swap, I find similar results in this analysis.

assume that the business perfectly hedged its base interest costs. A correct comparison that seeks to establish compensation over the entire regulatory period shows that the AER's approach will undercompensate a business using a trailing average approach by a material amount over the next two regulatory periods. Lally's claims to the contrary cannot be sustained having regard to appropriate analysis on the entirety of the data.

5.4.1 Data sources and assumptions

129. I note that, even accepting Lally's premise that base rates should be assumed to have been hedged, businesses cannot hedge for changes in CGS yield. The correct comparison would be between spreads to swap yields, rather than spreads to CGS yields, since swaps are instruments used by firms to hedge base interest rates in this way. In addition, I note that the use of swaps incurs transaction costs that Lally has not considered in his comparison.

130. I have sourced Bloomberg and RBA BBB cost of debt data up to and including the end of December 2014 and estimated the cost of debt based on the average using the AER's extrapolation methodology.[43] I have calculated spreads to swap on these series against "ADSWAP10 Curncy" sourced from Bloomberg.

131. Assuming that the spread to swap for Bloomberg and RBA remains constant in the future, Figure 7 above shows the path of the AER's allowed DRP (to 10 year swap) under its proposed transitional regime in blue against the path of the trailing average DRP to 10 year swap over time.

132. To establish a projection of the AER's allowed DRP, I have measured the DRP:

   ▪ for year 1 in the AER's proposed Networks NSW averaging period; and

   ▪ in subsequent years over the year prior to the start of each regulatory year assuming the DRP remains constant into the future at 1.5% (although, as noted above, this affects only the level of, but not the difference between, the AER transition and the trailing average).

133. I have estimated the trailing average cost of debt and DRP of the Networks NSW businesses as the trailing average to the middle of each year. For example, the trailing average DRP for year 1 is the 10 year trailing average to 31 December 2014.[44]

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[43] In the period prior to 31 January 2005 in which the RBA information is not available and cannot inform extrapolation of the Bloomberg curve, I extrapolate the Bloomberg curve using RBA data from 31 January 2005. In the absence of RBA data in this period, I assume that the 10 year cost of debt and DRP from this source is equal to the extrapolated Bloomberg data.

[44] For simplicity all these calculations rely on month end data instead of daily data. However, this does not affect the comparison that is being drawn.

5.4.2   Application of analysis to ActewAGL

134.   The same issues apply with even more force to ActewAGL. The benchmark trailing average DRP actually paid over each year of the regulatory period is the same for ActewAGL as it is for NNSW because they are on the same regulatory cycle. However, due to the vagaries of the differences in averaging periods used for the AER transition, ActewAGL has been allowed a materially lower DRP in the initial averaging period used in the AER's proposed transition. And, given the very high weight this initial DRP receives over the AER transition, this creates a significantly higher wedge in DRP for ActewAGL than for NNSW – starting at 36bppa and rising to a peak of 68bppa in the fourth year of the regulatory period before gradually reducing over the remainder of the transition.

135.   That is, ActewAGL suffers even more than NNSW during the transition. This is true even if you accept the AER/Lally's view that the benchmark firm should have used swaps (which is the assumption that underpins this analysis).

136.   Figure 8 below is the same as Figure 7 above, except the AER DRP transition line is based on ActewAGL's initial averaging period.

137.   Over this period, the sum of the differences between the trailing average DRP and the allowed DRP will be 3.57%, or an average of 36 basis points per year. This average is, of course, higher over the immediate regulatory period, at 68 basis points per year. This does not include the transaction costs of swaps that are implicit being used (i.e., Lally's basis for focusing on DRP only is an assumption that swaps have been used). Adding the transaction cost of swaps would increase the difference by even more.

Figure 8: AER ActewAGL DRP vs trailing average DRP (DRP's measured relative to swaps)
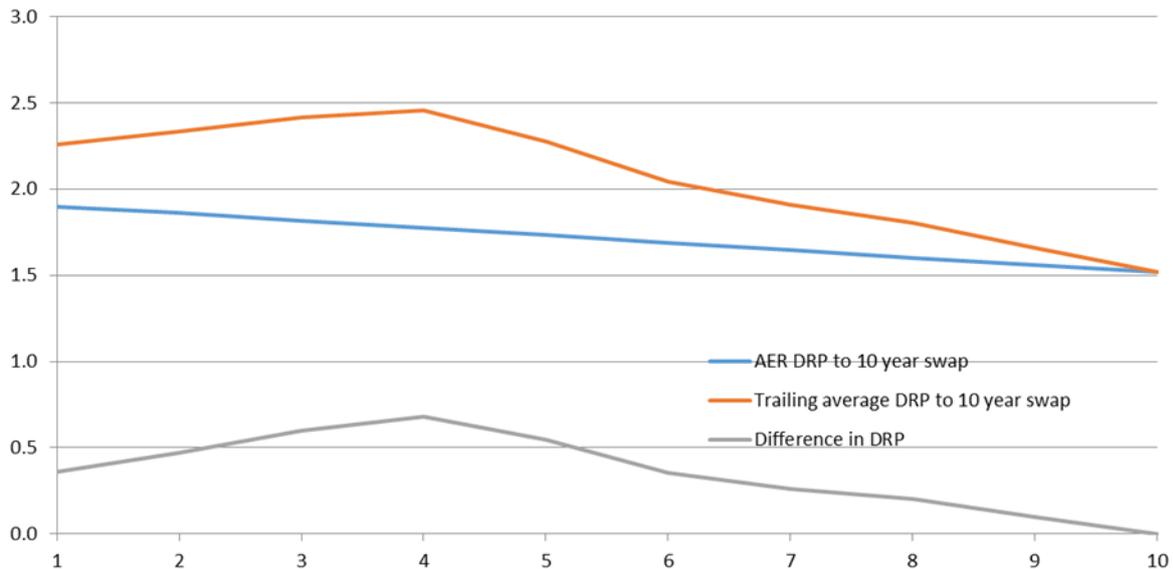

Source: Bloomberg and RBA data, CEG analysis

5.5 The AER transition could easily create more over compensation

138. The draft decision is written as though the only plausible result from its transition is that past over-compensation, based on the assumption that the benchmark efficient debt management strategy is the hybrid, will be partially or fully reversed during the transition. I have already demonstrated that this is not the case for the 2009-2014 regulatory cycle – where the transition will simply lump more under-compensation on past under-compensation, with the effect that there will be under-compensation in all four regulatory periods from 2004 to 2023.

139. However, it is also possible that it might do the reverse. This will happen if the DRP happens to spike in the first averaging period set by the AER – noting that this averaging period is given 100% weight by the AER in the first year of the transition (declining slowly to 0% after 10 years). Put simply, if the DRP spikes above the trailing average DRP during the first averaging period then the AER's transition will tend to overcompensate for the actual trailing average DRP. If the DRP falls below the trailing average DRP the opposite will be true. (Of course, for Networks NSW businesses we know this is not the case because the averaging period has already occurred).

140. In my view, the AER's transition is best viewed as one last 'throw of the dice' of the 'on the day' approach. There is no sound principled reason to believe that this will result in sensible outcomes.

141. For example, Lally estimates that businesses on the 2008-2013 regulatory cycle will have been over-compensated by a cumulative amount of 8.24% between 2008 and 2017.[45] However, Lally estimates that this would be partially reversed in the transition with a 3.54% cumulative under-compensation during the transition,[46] such that total over-compensation will be 4.7%.

142. However, this result is purely driven by Lally's assumption that the DRP will return to 1.3% by 2016 and will remain stable at that level forever (assumptions which are evident from the "prevailing" column of Lally's Table 2). However, instead of assuming such stability in the DRP, let the DRP spike in 2018 to 3.5%, reducing by 0.5% each year until it reaches 1.5% at which point stabilises. In this scenario, the AER transition will deliver a cumulative gain to the business of 6.36% over the transition (i.e., in addition to the 8.24% over-compensation Lally calculates will occur prior to transition). This is illustrated in Figure 9 below.

Figure 9: Lally Table 2, impact on 2008-13 regulatory cycle of spike in DRP in 2018
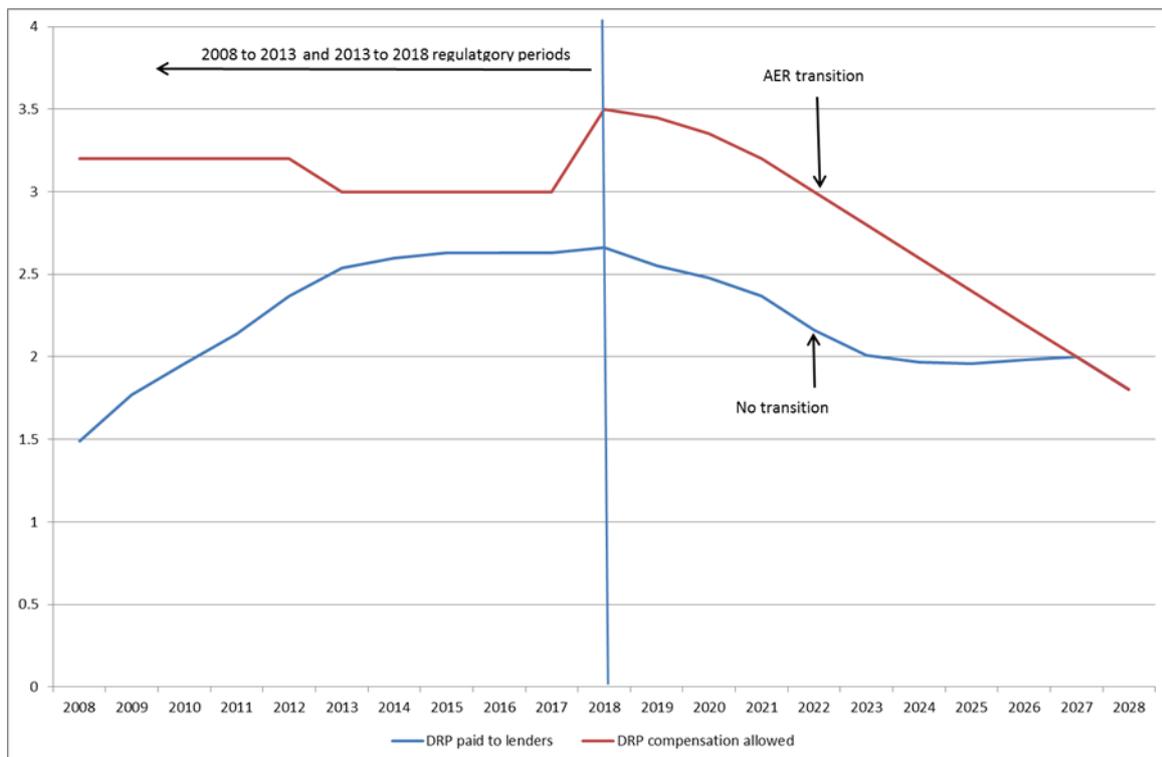
Source: Lally Table 2 for all figures prior to 2018. CEG figures post 2018

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[45]   See Lally, *"Transitional arrangements…",* Table 3, 2017 column and 2008-2013 row.

[46]   This number is calculated by me from the information provided in Lally's Table 2. It is consistent with Lally's 4.5% reported in Lally's Table 4: row "2008-13" and column "New: Trans".

143. It can be seen that rather than reversing the pre-existing overcompensation (claimed by Lally), the AER transition will significantly add to it if the prevailing DRP spikes during the AER's initial averaging period.

144. This demonstrates an important error in claims made persistently through the AER draft decision of the following kind:[47]

> *The on-the-day approach or the trailing average portfolio approach can be expected to result in a different allowed return on debt for any particular regulatory control period. This is because the former is based on the prevailing return on debt shortly before the start of the regulatory control period, whereas the latter is based on a historical average.* ***However, as discussed above, applied consistently over many regulatory control periods, each could be expected to result in a similar average return on debt, and therefore led to a similar average level of prices.*** *[Emphasis added]*

145. To the extent this statement is true at all, it is true looked at across a horizon of hundreds of years – a period when nobody knows if electricity distribution networks will even exist. It simply is not correct over any meaningful period of time and it is not true in a NPV sense. The 'on the day' approach is best characterised as a 'roll of the dice' to set revenues once every 5 years. Over any relevant time horizon the level of variability of this approach is extreme. Over any twenty year period it is perfectly possible that a business would receive four bad/good rolls of the dice in a row.

146. Indeed, it is likely that this will happen for at least some businesses on some regulatory cycles. For these businesses (and their customers), the on the day approach will not deliver a NPV=0 outcome. This is fundamentally why the trailing average is to be adopted in favour of the 'on the day' approach. The AER's view is, effectively, that one more roll of the dice is necessary to achieve some sort of 'averaging out' of past rolls of the dice. I do not believe that there is any sound basis for this view.

147. In summary, Lally and the AER are proceeding on the assumption that:

    a. there was a DRP "spike" in a previous period (which, as already discussed, the facts do not support for the Networks NSW businesses); and

    b. that the DRP in the next period is likely to be lower than the trailing average DRP, thus averaging out the spike;

    c. but they do not propose to carefully check that (a) is actually the case and (b) amounts to crystal ball gazing.

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[47]   AER, ActewAGL draft decision, p. 3-123.

5.6 NPV=0

148. The draft decision argues that its transition is justified by application of the "NPV principle". The following passage reflects the relevant views:[48]

> ***When the methodology for estimating the return on debt changes during the life of a regulated asset, the NPV principle is unlikely to be met automatically. Any pre-existing differences between the allowed return on debt and the actual return on debt of a benchmark efficient entity remain.*** *The service provider will receive a return on debt that is different from the benchmark efficient entity and consumers will pay prices that reflect this difference.*
>
> *In these circumstances, departures from the NPV principle are not the result of changes in efficiency. Rather, they are a consequence of changing the estimation methodology. Therefore, in our opinion, the resulting benefits or detriments are windfall gains or losses that the regulatory regime should avoid. In other words, regardless of who obtains the benefit or detriment, an immediate change from one methodology to another has the potential undesirable consequences. Also, this should be a concern for both the benchmark efficient entity and for consumers as, ex ante, they could not know for certain whether they would obtain a benefit or detriment. [Emphasis added.]*

149. In my view, the above views are disordered. In the passage that I have highlighted, the AER is positing the existence of a pre-existing accumulated difference between the allowed and efficient cost of debt under the old regime – where the old regime is the 'on the day' regime in the current context. This difference can only exist if the 'on the day' estimate of the cost of debt did not accurately estimate efficient costs.

150. This is a reason for wanting to change the regime to a regime that more accurately estimates efficient costs. However, if a new regime is introduced that does not have any errors (or has much smaller errors) then the errors from the pre-existing regime will not be added to or subtracted from by future errors. A natural interpretation of this result is that it would promote the NPV=0 principle in that future costs would be aligned with future compensation.

151. However, the AER seems to view the introduction of a more accurate regime as creating the errors that already existed. That is, the new 'low error' methodology causes the errors that existed under the old regime 'to remain' and, therefore, the AER says, immediate introduction of the new regime is inconsistent with the NPV=0 principle.

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48   AER, ActewAGL draft decision, p. 3-119.

152. In my view this is illogical. The errors that existed under the old regime cannot be attributed to the new 'low error' methodology. The NPV=0 principle cannot be served by maintaining a methodology, or aspects of a methodology, that is known to violate the NPV=0 principle (which is after all why it is possible for "pre-existing differences between the allowed return on debt and the actual return on debt of a benchmark efficient entity" to exist under that methodology).

153. Rather, it is my view that past errors are precisely that – past violations of the NPV=0 principle. Prospectively, the NPV=0 principle requires the AER to attempt to minimise errors – not make offsetting errors of similar magnitude to past errors. Moreover, as noted in the previous sections, the AER transition cannot be relied on to create such offsetting errors in any event.

5.7 Summary

154. In summary, I do not agree that it is appropriate, nor consistent with the NER and NEL, to design a transition with the aim of imposing a prospective loss on a business in order to offset a retrospectively perceived gain to that business. However, even if this was believed appropriate, the empirical analysis used by Lally, and relied on by the AER, to identify a retrospective gain is incorrect. Correcting these errors, no such historical gain exists that would justify the imposition of a prospective loss.

6 Other rationales for AER transition

6.1 Practical problems with the use of historical data

155. The AER has also argued that it would be difficult to estimate the cost of debt historically because:[49]

    > There is no third party data series that is available for the full 10 year historical period, meaning a mixture of data series for different time periods would be required.

    > There has been considerable variation in the results of the different data series, which complicates the choice and materiality of choosing between or combining different data series for different time periods.

    > It is not clear to us if each data series is of comparable or varied quality, and whether this changed over time. For example, during the first several years of the RBA data series the sample size was small, whereas it has increased in more recent years.

156. I do not consider that these are actual or material barriers to establishing a trailing average estimate.

157. First, the AER/ACCC and other regulators have been estimating the cost of debt over this entire period and all of the relevant data that was available then is available now. In fact, more data is available now in the form of a new RBA series that extends back to January 2005. There is no greater difficulty in estimating the cost of debt for, say, 2007 now than there was in 2007 when the AER did so.

158. Second, the available data series do have some material differences over some periods, in particular parts of the GFC. However, the same will almost certainly be true prospectively. Estimating the cost of debt historically does not create a problem in terms of weighting different data sources that will not exist prospectively. The AER has proposed a simple mechanism to deal with prospective differences and that is to give equal weight to the two currently available third party estimates (Bloomberg and RBA). The same method could easily be applied historically.

159. In my view, any problems associated with differences between data providers estimate is much more severe with the AER's transition. This is because the AER transition gives 100% weight to yields estimated during the initial, short, averaging period and this estimate dominates the AER cost of debt estimate over the transition (it still has 60% weight in the last year of the next regulatory period). The

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49   AER, ActewAGL draft decision, p. 3-122.

choice/weighting between data provider's estimates in this period is, therefore, critical to outcomes over the transition. If an estimate provided by a data provider is problematic over the month (or few months) of the AER's initial transitional averaging period then this will materially affect the AER's allowance over the entirety of the transition.

160. By contrast, instead of giving 100% weight to the month (or few months) of the first averaging period, estimating a trailing average cost of debt over the last 10 years results in less than 1% weight being given to each available month. Consequently, there is little or no prospect of an 'unusual' estimate from one data provider distorting regulatory outcomes.

161. Consistent with this I have previously noted that the historical average of the Bloomberg BFV curve and the RBA curve since January 2005 (the period they have both been published) differ by just 0.08%.[50] I have performed the same comparison using the AER's newly proposed extrapolation technique for both RBA and the Bloomberg BFV curve. Over the 10 years to 31 December 2013 the AER extrapolation methodology results in a 8.02% estimate or the RBA data and 7.96% using the Bloomberg BFV curve. I get the same 7.96% estimate if I use the Bloomberg BFV curve up until 28 May 2013[51]/28 February 2014[52] and the BVAL curve beyond that. That is, the difference is just 6bp.[53]

162. By contrast, at the time of writing the prevailing Bloomberg and RBA estimates are very different. Again, using the AER's extrapolation technique, the RBA BBB DRP (spread to 10 year swap) estimate at the end of December 2014 is 1.67% while the Bloomberg BVAL estimate is 1.29%. That is, the RBA estimate is almost one third higher than the Bloomberg estimate. Giving the current estimates 100% weight in the AER transition creates much more serious issues in choosing between data service providers than using a historical average.

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[50] CEG, WACC estimates a report for NSW DNSPs, May 2014, p.43, paragraph 149.

[51] This is approximately the date at which Bloomberg began introducing the BVAL methodology to Australian yield curves.

[52] This is approximately the date at which Bloomberg's BBB BVAL curve was published (although it had intermittent BBB fair value estimates available prior to this but not a full set of estimates)

[53] While Bloomberg only began implementing its BVAL curve in 2013 and publishing it as a curve in 2014, it has subsequently "back cast" the BVAL series to earlier periods. However, in that period the BVAL curve behaves irregularly with large 'jumps' and 'falls' apparently unrelated to market events (i.e., which do not show up in the RBA or the BFV curve) and there is intermittent data availability. This is apparent from Figure 9 on page 41 of my May 2014 report "WACC estimates a report for NSW DNSPs" the same observations are noted in paragraphs 144 and 145. Nonetheless, even if I replace BFV estimates with BVAL estimates form 17 March 2011, I estimate a Bloomberg 10 year trailing average of 7.81% - still only 21bp different to the RBA estimate. (17 March is the first date from which the " back cast" BVAL source reports fair value estimates of 7 years or greater on a regular daily basis (it does report fair value estimates earlier, including 3 year and 4 year estimates, however, longer dated estimates are only irregularly reported).

163. Finally, I note that much of the justification for the AER's transition is based on the use of historical data by Lally to provide evidence (which I have shown is flawed) of past over-compensation. In my view, it is inconsistent to use historical data in support of the adoption of its transition whilst also maintaining that use of historical data is also barrier to an immediate transition.

6.2   Maintains average price level while decreasing price volatility over time

164. The following statement comes under the heading "Maintains average price level while decreasing price volatility over time" in the draft decision:[54]

However, changing between regulatory approaches without transitional arrangements may lead to a different average return on debt, and therefore a different average price level, than would result from either approach being applied consistently over time. Specifically, moving from the on-the-day approach to the trailing average portfolio approach when:

- *prevailing interest rates are below the historical average—would result in a higher average return on debt, and therefore higher average price level, than if either approach was applied consistently over time, and*

- *prevailing interests are above the historical average—would result in a lower average return on debt, and therefore a lower average price level, than if either approach was applied consistently over time.*

165. In part, AER appears to be making a factual statement that, if the historical average cost of debt is different to the prevailing cost of debt, then immediate adoption of a trailing average will result in different levels of compensation than staying with the on the day approach. This is obviously correct.

166. The AER does not explain, in this paragraph or elsewhere in the same section, why this provides a justification for the transition. In effect, the AER is arguing that it is desirable to retain the same price outcome that would have resulted from one more roll of the 'on the day' methodology. The AER's transition certainly does this. However, other than the windfall gain argument which the AER treats as a separate justification, no other justification is provided for why this is a desirable property. That is, no justification is provided for why retaining the potential for a prospective error is desirable.

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[54]   AER, ActewAGL draft decision, Attachment 3: Rate of return, p. 3-123 to 3-124

167. In my view, the argument put forward here is, in reality, the same as the windfall gain/loss arguments that I deal with in section 5.

6.3 Reduces the potential for opportunistic behaviour from stakeholders

168. The AER also states that the application of transitional arrangements is likely to minimise the potential for opportunistic behaviour.[55] I have addressed these arguments before.[56] I concluded that they were without substance and nothing in the draft decision causes me to change that opinion.

6.4 Consistent with the AER's adoption of a single benchmark efficient entity definition

169. The AER argues[57] in favour of its transition on the basis that it is the same for all businesses and, therefore, consistent with the assumption of a single benchmark efficient firm and (implicitly) a single benchmark efficient debt management strategy.

170. I make two observations in response to this. First, even if one accepts the AER's proposition that there was a single efficient debt management strategy (the hybrid strategy) then this is an argument for a single approach to transition. It is not an argument for the AER's transition. I explained why this is the case in section 4.4.2 of my May 2014 report,[58] and I have elaborated on this issue in this report.

171. In summary, if the hybrid debt management strategy was uniquely efficient in the past then the transition should be derived based on transitioning from the hybrid debt management strategy. How this would work is set out in Appendix A. However, a critical feature of this is that the DRP would be based on the 10 year trailing average DRP – not the prevailing DRP.

172. Second, it is, in my view, simply unreasonable to assume that a unique debt management strategy was efficient under the old regime. As I stated in my May report[59]:

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[55]   AER, ActewAGL draft decision, Attachment 3: Rate of return, p. 3-124

[56]   CEG, *Debt transition consistent with the NER and NEL*, May 2014, pp. 26-28.

[57]   AER, ActewAGL draft decision, Attachment 3: Rate of return, p. 3-125

[58]   CEG, *Debt transition consistent with the NER and NEL*, May 2014, p. 18.

[59]   CEG, *Debt transition consistent with the NER and NEL*, May 2014, p. 15.

The previous regulatory benchmark was based on an inefficient (and ultimately un-implementable) debt management strategy. The introduction of the new Rules, most relevantly the ARORO, meant that this benchmark had to change. That is, the old practice was inconsistent with the ARORO and had to change. In my view, this means that it is not possible to define a unique benchmark efficient debt management strategy that existed under the previous regulatory practice of setting the cost of debt 'as if' all debt was raised 'on the day'.

173. This is consistent with the analysis that I have presented in section 4 of this report which demonstrates that the AER has no sound basis for concluding that the trailing average was not efficient in the past. I remain of the view expressed in May 2014 that[60]:

- *if a business is already managing its debt consistent with the agreed long-term benchmark efficient debt management strategy; then*

- *that business should not be required to undergo a transition period prior to being compensated based on the agreed long-term benchmark efficient debt management strategy (which is also their actual strategy).*

…

Ultimately, the effect of the transition is to delay the realisation of the benefits that accrue from the implementation of the newly defined (and implementable) regulatory benchmark. This is inconsistent with the ARORO and, for the reasons set out in section 3.2, inconsistent with the NEO and RPP.

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[60]   CEG, Debt transition consistent with the NER and NEL, May 2014, p. 17.

7 ActewAGL actual debt funding strategy

174. As I noted in my May 2014 report, ActewAGL Distribution has no debt. This raises conceptual issues when attempting to define what, if any, debt management strategy ActewAGL Distribution employed under the previous regulatory practice and Rules.

175. In adopting zero debt financing, ActewAGL Distribution has essentially left the issue of debt funding to its equity investors who are free to leverage their investment in ActewAGL Distribution in any way they see fit. Indeed, ActewAGL Distribution's owners do appear to have adopted different debt management strategies.

176. ActewAGL Distribution is a 50/50 joint venture between ACTEW Corporation and SGSP (Australia) Assets Pty Ltd (SGSPAA) (with the latter jointly owned by State Grid International Development Australia Investment Company Limited and Singapore Power International Pte Ltd). ACTEW has fixed rate debt (some of which is inflation indexed) with maturities stretching out to 2048 and no interest rate hedging.[61] SGSPAA clearly has used interest rate hedges in the manner the AER envisions for at least some of their regulated assets.[62]

177. In this sense, by leaving different equity investors to decide their own the leverage position (and the type of debt used to gain that leverage), ActewAGL Distribution can be thought of as having no, and all conceivable, debt management strategies simultaneously. This means that, there is no unique debt management strategy that ActewAGL Distribution can be defined as having undertaken under the previous Rules and regulatory practice. Consequently, I consider that it is reasonable to deem ActewAGL Distribution as already funding itself in a manner consistent with the long-run benchmark efficient debt management strategy. Or, perhaps less strongly, it is not reasonable to deem ActewAGL Distribution as having a debt management strategy that is different from the long-run benchmark efficient debt management strategy.

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[61] ACTEW 2013 annual report, note 24.

[62] See Note 31 to SGSPAA's financial statements 31 march 2013.

8 Credit metrics analysis

178. In this section I rely on a credit rating methodology developed by the ratings agency Moody's for regulated electric and gas networks to determine an implied credit rating for ActewAGL[63]. I focus primary on applying the financial ratios used by Moody's on the AER's draft decision PTRM for ActewAGL distribution, but also attempt to apply the more qualitative criteria to discern an overall implied credit rating.

8.1 Overview of Moody's methodology

179. Moody's rating methodology involves several different steps. The first step is to identify "grid factors". For regulated electric and gas networks, Moody's has identified five grid factors, or ratings factors. The first four factors, two of which are comprised of sub-factors, are summarised in Table 1. The fifth factor is used to make so called "notching adjustments" for structural enhancements. That is, it is used to adjust the preliminary rating determined using the first four factors to arrive at a final rating.

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[63] Moody's Investor Service, *Rating Methodology: Regulated Electric and Gas Networks*, 25 November 2014.

Table 1: Rating factor-sub-factor weighting

Broad rating factor	Weighting	Rating sub-factor	Weighing
Regulatory Environment and Asset Ownership Model	40%	Stability and Predictability of Regulatory Regime	15%
		Asset Ownership Model	5%
		Cost and Investment Recovery (Ability & Timeliness)	15%
		Revenue Risk	5%
Scale and Complexity of Capital Program	10%	Scale and Complexity of Capital Program	10%
Financial policy	10%	Financial policy	10%
Leverage and Coverage	40%	(FFO + Interest Expense – Non-Cash Accretion – Capital Charges) / (interest Expense – Non-Cash Accretion) OR (FFO + Interest Expense) / Interest Expense	10%
		Net Debt to Regulated Asset Base OR Debt/Fixed Assets	12.5%
		FFO/Net Debt	12.5%
		RCF/Net Debt	5%
Total	100%		100%

Source: Moody's rating methodology for Regulated Electric and Gas Networks, November 2014

180. Moody's scores each of the sub-factors in Table 1 and maps the outcomes to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B or Caa). To determine an overall preliminary credit rating, Moody's converts each of the sub-factor scores into a numerical value. The sub-factor weightings in Table 1 are modified by applying a further weighting by rating category as well, the purpose of which is to weight lower rating scores more heavily than higher scores in the grid. This is because a serious weakness in one area often cannot be completely offset by strength in another. The numerical score for each sub-factor multiplied by its respective adjusted weighting is then summed to produce a composite weighted-factor score, which in turn is mapped into an alphanumeric rating (e.g. Aaa, Aa1, Aa2, Aa3 etc.).

181. Finally Moody's applies its fifth factor to the preliminary rating score to arrive at a final rating. Moody notes that factor 5 can, for example "result in upward adjustment of the grid-indicated rating due to structural enhancements that are incorporated in the company's regulatory licence, its corporate structure, or through its financial arrangements".

182. Factor 4 in Table 1 is concerned with "leverage and coverage", and comprises four separate sub-factors: Adjusted Interest Coverage Ratio or FFO Interest Coverage, Net Debt / RAB or Net Debt / Fixed Assets, FFO / Net Debt and RCF / Net Debt. As noted in paragraph 159, Moody's maps the outcome for each of the sub-factors to a broad Moody's credit rating. The matrix utilised by Moody's for the factor 4 sub-

factors is reproduced in Table 2 (focusing on the ratios I use in my application to ActewAGL in section 8.2 when more than one is available).

Table 2: Leverage and coverage sub-factors

Rating category	FFO Interest Coverage	Net Debt / Regulated Asset Base	FFO/Net Debt	RCF/Net Debt
Aaa	≥7.5 x	<30%	>35%	>30%x
Aa	5.5 – 7.5 x	30 – 45%	26 - 35%	21 – 30%
A	4.50– 5.5x	45 – 60%	18- 26%	14 - 21%
Baa	2.8 – 4.0 x	60 - 75%	11 – 18%	7 – 14%
Ba	1.8 – 2.8 x	75 – 90%	5 – 11%	1 - 7%
B	1.1 – 1.8 x	90 – 100%	0 – 5%	(4) – 1%
Caa	< 1.1 x	>100%	<0%	<(4%)
Weighting	10%	12.5%	12.5%	5%

Source: Moody's rating methodology for Regulated Electric and Gas Networks, November 2014

8.1.1   Relationship between Moody's and S&P's credit ratings

183. Australian regulatory proceedings most commonly refer to S&P credit ratings as opposed to Moody's credit ratings. For this reason I have opted to report results in this section in terms of S&P credit ratings, notwithstanding that I have relied on a methodology published by Moody's. The following table illustrates the conversion between Moody's and S&P's credit ratings. A BBB+ rating from S&P corresponds to a Baa rating from Moody's.

Table 3: Moody's vs. Standard & Poor's Bond Ratings

Moody's	Standard & Poor's	Grade
Aaa	AAA	Investment, Highest quality
Aa	AA	Investment, very high quality
A	A	Investment, high quality
Baa	BBB	Minimum investment grade
Ba	BB	Junk, speculative
B	B	Junk, very speculative
Caa	CCC	Junk, default possible
Ca	CC	Junk, default probable
C	D	Junk, in actual or imminent default

8.2 Applying Moody's methodology to ActewAGL

8.2.1 Applying Moody's methodology to ActewAGL

184. I apply Moody's four 'Leverage and Coverage' sub-factors ("Moody's financial ratios") to ActewAGL's draft PTRM results in order to discern an implied credit rating for ActewAGL.

185. I conduct this analysis under four different scenarios:

- In the first scenario, I assume that the AER has accurately populated the PTRM model with all of the costs of a benchmark efficient entity. In this scenario the AER's PTRM revenues are combined with the AER's PTRM costs, and the financial ratios are calculated from this combination.

- The second scenario substitutes the AER's estimates of the cost of debt for my estimates of the cost of debt based on a trailing average, which I consider to be a more realistic estimate of benchmark efficient debt costs. In this scenario the credit metrics are estimated by combining the AER's PTRM revenues with all of the AER's PTRM costs except interest costs. I use estimates of the cost of debt assuming a simple trailing average strategy.

- The third scenario substitutes the AER's estimates of the operating costs for ActewAGL's estimates of operating costs. In this scenario the credit metrics are estimated by combining the AER's PTRM revenues with all of the AER's PTRM costs except operating costs.

- The fourth scenario substitutes both the AER's estimates of the cost of debt and operating costs for my estimates of interest costs and ActewAGL's estimates of operating costs. Interest costs are estimated assuming a trailing average debt management strategy.

186. The implied credit rating in each of the four scenarios are illustrated in Table 4. The highest credit rating across the four scenarios is BBB-. This credit rating is associated with the AER's estimates of costs (scenario 1). All other credit rating estimates are sub-investment grade.

Table 4: Implied credit ratings for ActewAGL

Scenario	Implied credit rating
1: All AER estimates	BBB-
2: Variation to cost of debt	BB+
3: Variation to operating costs	BB
4: Variation to both cost of debt and operating costs	BB-

Source: PTRM for ActewAGL distribution, CEG analysis based on Moody's ratings methodology

187. The implied credit rating is based on a weighted average of the four financial ratios. The individual metrics and their weights are summarised in Table 5.

Table 5: Implied credit ratings for ActewAGL based on financial ratios only

	AER	TA interest scenario	Opex scenario	TA interest and opex
Score				
FFO interest cover	2.86	2.24	2.06	1.58
Net debt/RAB*	60%	63%	72%	76%
FFO/Debt	11.30%	9.93%	6.42%	4.62%
RCF/Net debt	8.86%	8.45%	7.39%	6.85%
Rating				
FFO interest cover	BBB-	BB	BB-	B+
Net debt/RAB	A-	BBB+	BBB-	BB+
FFO/Debt	BBB-	BB+	BB-	B+
RCF/Net debt	BBB-	BBB-	BBB-	BB+
Adjusted relative weighting				
FFO interest cover	28.8%	28.8%	29.3%	29.3%
Net debt/RAB	20.7%	20.7%	24.4%	24.4%
FFO/Debt	36.0%	36.0%	36.6%	36.6%
RCF/Net debt	14.4%	14.4%	9.8%	9.8%
Weighted average credit rating	**BBB-**	**BB+**	**BB**	**BB-**

*Source: PTRM for ActewAGL distribution, CEG analysis. * Modelled value of the RAB falls with the present value of under-compensation for opex and interest costs. This is why gearing rises above 60% in scenarios where opex and/or interest costs are assumed to be higher than the AER allowance.*

8.2.2 Applying Moody's qualitative rating criteria to ActewAGL

188. I have also attempted to apply Moody's qualitative criteria, i.e. factors 1 – 3 in Table 1. The three factors are: Regulatory Environment and Asset Ownership Model, Scale and Complexity of Capital Program and Financial Policy. The first factor consists of four sub-factors: Stability and Predictability of Regulatory Regime, Asset Ownership Model, Cost and Investment Recovery (Ability and Timeliness) and Revenue Risk.

189. In Table 6 I have assigned ActewAGL a credit rating for each of the qualitative factors and sub-factors, based on the descriptions in the matrices developed by Moody's in its rating methodology documentation. The sub-investment credit rating assigned to the "Stability and Predictability of Regulatory Regime" and "Cost and Investment Recovery (Ability and Timeliness)" factors largely reflects the AER new and untested use of benchmarking in the draft decision to reduce ActewAGL's opex allowance by around 40% relative to proposed opex (based on actual

ActewAGL opex). For the same reason, "Cost and Investment Recovery (Ability and Timeliness)" has also been assigned a below investment grade credit rating.

Table 6: Implied credit ratings for ActewAGL for qualitative factors

Criteria	Assigned rating	Reason
Stability and Predictability of Regulatory Regime	BBB	Regulatory framework is relatively new and untested. (AER approach to benchmarking is both new and untested with very material revenue impacts that are also biased.)
Asset Ownership Model	AA	All key T&D assets held outright under licence which can be terminated for underperformance, failure to meet certain financial parameters or insolvency.
Cost and Investment Recovery (Ability and Timeliness)	BB	Revenues expected to cover most operating expenditure but investment is not clearly or fairly remunerated.
Revenue Risk	A	Limited exposure to volume risk. Collected revenues based on volume charges with some volatility in volumes expected. Revenue cap mechanism in place;
Scale and Complexity of Capital Program	A	Capex is 6-8% of RAB
Financial policy	BBB	An average level of debt for the industry and a balance between shareholders and creditors

Source: PTRM for ActewAGL distribution, CEG analysis based on Moody's ratings methodology

8.2.3 Applying all of Moody's rating criteria to ActewAGL

190. Table 7 summarises the implied credit rating for ActewAGL using all of Moody's rating criteria (quantitative and qualitative) under each of the four scenarios described in section 8.2.1. Table 7 shows that the highest implied credit rating based on all of Moody's criteria in any scenario is BBB.

Table 7: Implied credit ratings for ActewAGL

	Average credit rating
1: All AER estimates	BBB
2: Variation to cost of debt	BBB-
3: Variation of operating costs	BBB-
4: Variation to cost of debt and operating costs	BB+

Source: PTRM for ActewAGL distribution, CEG analysis

Appendix A   Transition from the hybrid to the simple trailing average

191. Even if a transition is appropriate to the trailing average, that transition would not be the AER transition.

192. For example, assume that the relevant transition would reflect how a benchmark efficient entity with base interest costs that are 100% floating rate at the beginning of the regulatory period would transition to a trailing average exposure. A simple way to do so would be to set an allowance based on an assumed strategy of, instead of fixing all of that floating rate exposure for 5 years as per a continuation of the hybrid strategy, entering into 10 different fixed rate swap contracts:

    ▪ 10% at one year maturity;

    ▪ 10% at two year maturity;

    ▪ …

    ▪ 10% at 10 year maturity (or, equivalently, just issue 10 year fixed rate debt (which has embedded in it the 10 year swap rate)).

193. Having done this the firm would have effectively created a synthetic trailing average cost of debt that is equal to the average of:

    ▪ The DRP on 10 year debt (measured relative to 10 year swap rates and) from 9 years ago plus the one year swap rate today.

    ▪ The DRP on 10 year debt from 8 years ago plus the 2 year swap rate today;

    ▪ …

    ▪ The DRP on 10 year debt from the most recent year (year "zero") plus the 10 year swap rate today (or, equivalently, the 10 year fixed rate today).

194. The transaction costs associated with swaps would need to be added to this.

195. This could then be rolled forward in precisely the same way that a trailing average would – dropping the 'oldest' year of the trailing average and replacing it with the most recent year.