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The allowed return on debt

Report for Aurizon Network | 21 July 2025

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1 Executive Summary

Guidance from the QCA Act

1. In relation to the requirements of the QCA Act (1997) insofar as it applies to the allowed return on debt:

    a. We conclude that setting the allowed return on debt to be at least in line with the costs that would be incurred by a benchmark firm utilising a prudent and efficient debt management strategy is, from an economic perspective, consistent with the legislative requirements of the QCA Act;

    b. We identify two scenarios in which the regulatory allowance is set in line with a prudent and efficient debt management strategy:

        i. Where the benchmark firm is assumed to issue fixed-rate debt on a staggered maturity basis and the regulator sets the allowed return to reflect the 'trailing average' cost of servicing debt under that approach; and

        ii. Where the benchmark firm is assumed to issue floating-rate debt on a staggered maturity basis and to use interest swaps to lock in the base rate at the beginning of each regulatory period and the regulator sets the allowed return to reflect the 'hybrid' cost of servicing debt under that approach.

Candidate approaches for the allowed return on debt

2. Over the last 20 years, Australian regulators have considered three debt management strategies that might be used to underpin the calculation of the allowed return on debt. We explain that:

    a. The rate-on-the-day approach cannot be considered to be prudent and efficient and is therefore not a candidate for use as the basis for setting the allowed return on debt; and

    b. The full trailing average and hybrid approaches are prudent and efficient and are therefore both candidates for use as the basis for setting the allowed return on debt.

3. We identify the considerations that may guide the regulator's selection among the two viable approaches to the allowed return on debt in the circumstances of a particular case.

Advantages of the hybrid approach in the case of Aurizon Network

4. We identify a number of features of a benchmark firm currently providing access to the Central Queensland Coal Network (**CQCN**), including that such a benchmark firm:

    a. Would be taken to be operating a hybrid debt management approach under the current regulatory regime; and

    b. Operates within the coal value chain, which may affect its ability to obtain debt finance in the amount, or with the term or credit rating, that is adopted under the current regulatory regime.

5. In this context, the hybrid approach to the allowed return on debt has a number of advantages over the full trailing average approach, including:

    a. No transition mechanism would be required under the hybrid approach.

    The adoption of a trailing average return on debt allowance would require a transition mechanism to allow the benchmark firm to transition from the efficient debt

management approach under the current regulatory regime to the (different) efficient approach under the new regime.

By contrast, the adoption of a hybrid return on debt allowance would require no transition – because the efficient debt management approach would be the same under the old and new regimes.

b. The hybrid approach is more robust to a change in the benchmark term of debt.

In its 2022 rate of return review, the AER identified that, under the trailing average approach, a change in the benchmark term of debt would require the implementation of a complex transition mechanism.

One material advantage of the hybrid approach is that the base rate for the entire debt portfolio re-sets at the beginning of each regulatory period. There is no need for any transition in relation to the base rate – it simply re-sets to the prevailing market rate in the ordinary course of rolling into the next regulatory period.

c. The hybrid approach is more robust to a change in the quantum of debt

In the event that a regulator reduced the benchmark gearing assumption (e.g., because it becomes more difficult for a benchmark coal-exposed business to source debt), it is likely that a complex set of mark-to-market calculations would be required under the trailing average approach – to reflect the impact of extinguishing debt across the various tranches.

By contrast, under the hybrid approach, no such mark-to-market calculation is required in relation to the base rate, which automatically re-sets to the prevailing rate at the beginning of each regulatory period.

6. In summary, of the two approaches to the allowed return on debt that are consistent with the prudent and efficient management of a debt portfolio, the hybrid approach has a number of advantages when applied to a benchmark firm currently providing access to the CQCN. In particular, because the hybrid approach automatically resets the base rate on the whole debt portfolio at the beginning of each regulatory period, it avoids a number of transition-type complexities that would be required under the full trailing average approach.

7. The benefit of simplicity under the hybrid approach is achieved with no increase in the average allowed return on debt.

No transition mechanism is required if the hybrid approach is adopted for the allowed return on debt

8. One of the key advantages of the hybrid approach to the allowed return on debt is that no transition mechanism would be necessary – the benchmark firm would be taken to simply continue its operation of the hybrid approach to managing its debt portfolio.

9. By contrast, if the QCA adopted a trailing average return on debt allowance in UT6, a transition mechanism would be required to accommodate the benchmark firm changing from one debt management approach (under the previous regulatory regime) to a different debt management approach (under the new regime).

10. In relation to the need for a transition mechanism from one regulatory regime to another, we demonstrate that:

a. A transition mechanism is required if:

i. The regulator changes its approach to the allowed return on debt; and

ii. The benchmark prudent and efficient debt management approach differs as between the two regulatory regimes;

b. The transition mechanism should be such that the regulatory allowance reflects the costs incurred by a benchmark firm operating prudently and efficiently at each point in time – starting with a benchmark debt portfolio that is efficient under the previous regime and transitioning over time to a benchmark debt portfolio that is efficient under the new regime;

c. If the QCA were to adopt a hybrid return on debt allowance for UT6, no transition would be required – because the hybrid debt management approach is prudent and efficient under the previous and new regulatory regimes;

d. If the QCA were to adopt a full trailing average return on debt allowance for UT6:

   i. A transition mechanism would be required as the benchmark firm transitions from the hybrid debt management approach (which is prudent and efficient under the previous regime) to the trailing average debt management approach (which is prudent and efficient under the new regime);

   ii. If the QCA adopted a trailing average allowance with no transition, the regulatory allowance would not reflect the benchmark efficient costs – because the benchmark firm begins UT6 with a debt portfolio that is exposed to the base spot rate, not the trailing average;

   iii. If the QCA adopted the AER's transition mechanism, the regulatory allowance would not reflect the benchmark efficient costs – because the benchmark firm begins UT6 with a debt portfolio that is exposed to a trailing average DRP, not the spot rate; and

   iv. The appropriate transition would:

      - Transition from spot exposure to a 10-year trailing average for the base rate; and
      - Roll forward with no transition for the trailing average DRP.

2 Principles and approaches to the allowed return on debt

2.1 Overview

11. In this section:

    a. We conclude that setting the allowed return on debt to be at least in line with the costs that would be incurred by a benchmark firm utilising a prudent and efficient debt management strategy is, from an economic perspective, consistent with the legislative requirements of the QCA Act;

    b. We identify two scenarios in which the regulatory allowance is set in line with a prudent and efficient debt management strategy:

        i. Where the benchmark firm is assumed to issue fixed-rate debt on a staggered maturity basis and the regulator sets the allowed return to reflect the 'trailing average' cost of servicing debt under that approach; and

        ii. Where the benchmark firm is assumed to issue floating-rate debt on a staggered maturity basis[1] and to use interest swaps to lock in the base rate at the beginning of each regulatory period and the regulator sets the allowed return to reflect the 'hybrid' cost of servicing debt under that approach.

2.2 Key provisions of the QCA Act (1997)

12. Part 5 of the Queensland Competition Authority Act (1997)[2] (**QCA Act**) addresses the issue of access to monopoly infrastructure assets. The object of that part of the act is set out in s 69E as follows:

> *The object of this part is to promote the economically efficient operation of, use of and investment in, significant infrastructure by which services are provided, with the effect of promoting effective competition in upstream and downstream markets.*[3]

13. The QCA Act also sets out a number of pricing principles in relation to regulated infrastructure as follows:

> *The pricing principles in relation to the price of access to a service are that the price should generate expected revenue for the service that is at least enough to meet the efficient costs of providing access to the service and include a return on investment commensurate with the regulatory and commercial risks involved.*[4]

14. The QCA Act also requires the QCA to have regard to a number of matters including:

    a. The access provider's legitimate business interests and investment in the facility;

[1] We note throughout this report that the issuance of floating rate debt is more commonly achieved by issuing fixed-rate debt and using interest rate swaps to convert the fixed rate to floating. For example, a firm could effectively raise 10-year floating rate debt by issuing 10-year fixed rate debt and using 10-year interest rate swaps to convert the fixed rate to floating.

[2] https://www.legislation.qld.gov.au/view/html/inforce/current/act-1997-025.

[3] Queensland Competition Authority Act (1997), s 69E.

[4] Queensland Competition Authority Act (1997), s 168A(a).

b. The public interest, including the benefit to the public in having competitive markets; and

c. The economically efficient operation of the facility.[5]

2.3 Implications for the allowed return on debt

Key requirements

15. In our view, there are two elements of the above legislative provisions that are relevant to an economic analysis of alternative approaches to the allowed return on debt:

    a. The objective of economic efficiency; and

    b. The requirement that the regulatory allowance must be at least enough to meet the efficient costs of providing access to the service.

16. We explain below why we consider an economically efficient outcome to be one where the allowed return on debt reflects at least the costs that would be incurred by a benchmark efficient entity operating a prudent and efficient debt management strategy.

Relevance and interpretation of the NPV=0 principle

17. In relation to the allowed return on debt, Lally (2014)[6] defines the NPV=0 principle in the following terms:

> *The NPV = 0 principle is that regulatory practices should give rise to price or revenue caps such that the present value of the future net cash flows of the regulated entity are equal to the initial investment…the NPV = 0 principle should be viewed not simply as a regulatory policy that gives rise to NPV = 0 but a compatible combination of regulatory policy and firm actions that satisfies the NPV = 0 principle.* [7]

18. The QCA has most recently set out its interpretation of the NPV=0 principle as follows:

> *We do not consider that the NPV=0 principle is determinative of allowable revenues. If it is relevant at all, its only utility is to determine whether revenues recover efficient costs. In relation to access matters under part 5 of the QCA Act, we are required by s. 168A(a) of the QCA Act to ensure expected revenues are at least enough to meet efficient costs but also to have regard to a range of other factors (for example, those set out in s. 120), the proper consideration of which may, in any particular case, lead to a situation of NPV>0.*[8]

19. In our view, the above positions are best reconciled by:

    a. Setting an allowed return on debt that reflects the costs that would be incurred by a benchmark firm employing a prudent and efficient approach to managing its debt portfolio; while also

    b. Having regard to the need to provide a regulatory allowance that is *at least* enough to meet the efficient costs and what has proper regard to the s 120 factors.

20. That is, the allowed return on debt should be based on the costs that would be incurred under a prudent and efficient financing practice – albeit such that the regulatory allowance reflects at least that cost.

[5] Queensland Competition Authority Act (1997), s 120.

[6] https://www.qca.org.au/wp-content/uploads/2019/05/12602_TRAIL-AVG-1.pdf.

[7] Lally, M., March 2014, *The trailing average cost of debt*, pp. 8-9.

[8] QCA, February 2024, *Rate of return review: Version 3*, p. 46.

A regulatory benchmark must be transparent, mechanical and replicable

21. Of course, any approach to determining the regulatory allowed return on debt will need to be mechanical, transparent and replicable. Thus, there is some value in the regulatory approach being straightforward to implement using publicly available data.

22. In our view, these considerations can be balanced by a regulator adopting an approach to the allowed return on debt that is:

    a. Broadly consistent with (at least) the costs that would be incurred by a benchmark efficient entity operating a prudent and efficient debt management strategy; but which

    b. Is straightforward to implement in a mechanical way.

23. That is, the allowed return on debt might abstract from some of the detailed elements of the management of a prudent and efficient debt portfolio in order that the regulatory benchmark is straightforward to implement.

24. In this regard, we explain below that Australian regulators have:

    a. Rejected the rate-on-the-day approach as the debt management approach that underpins that allowance is not prudent or efficient;[9]

    b. Accepted that the prudent and efficient approach involves the issuance of debt on an overlapping staggered maturity basis; and

    c. Adopted straightforward and easy to implement approaches by assuming that each tranche of debt is replaced by a tranche of the same size and that the refinancing occurs in equal sized portions over a defined period every year. This aspect of the regulatory approach is a simplification applied for the purposes of having a regulatory benchmark that is straightforward to implement in a mechanical way.

25. The regulatory benchmark allowance would also have regard to any requirement that it must be at least enough to meet the efficient costs.

Determination of whether a benchmark debt management strategy is prudent and efficient

26. The first step in any analysis of the allowed return on debt is to identify the debt management strategies that might be considered to be prudent and efficient and those which are not. The former are candidates for the approach that underpins the allowed return on debt and the latter are not.

27. The regulatory literature has identified two key sources of risk when determining whether a particular debt management approach is prudent and efficient:

    a. Refinancing risk

       A debt management approach that involves the regulated firm having to refinance all of its debt portfolio at a single point in time (or over a very short period) would expose the firm to such refinancing risk that it could not be considered to be prudent or efficient.

       In this regard, Lally (2021) considers a strategy whereby a regulated firm raises all of its debt requirements at the beginning of a regulatory period and then refinances it all at the beginning of the next regulatory period. Dr Lally concludes, and we agree, that such an approach is neither prudent nor efficient:

[9] The appendix to this report summarises Australian regulators' rejection of the rate-on-the-day approach and notes that it was user groups that first proposed the move away from that approach.

> *Rollover of all of its debt at the same point in time would significantly expose it to opportunistic pricing by lenders and aberrations in the debt market at this time (debt markets freezing up or rates being freakishly high); all of this is called "refinancing risk".*[10]

b. Mis-match risk

If the regulated firm adopts a debt management approach under which its actual cost of debt can diverge materially from the regulatory allowance for the return on debt, the firm is exposed to mis-match risk. In particular, the firm is exposed to the risk that, the actual cost incurred may be significantly higher than the regulatory allowance, with an obvious effect on the financial viability of the regulated firm.

In this regard, CEG (2012) states, and we agree, that:

> *Regulatory mismatch risk will exist where the regulated business's debt management strategy gives rise to an actual cost of debt that is materially different to the cost of debt compensation set by the regulator.* [11]

And the QCA has observed, and we agree, that:

> *A firm subject to revenue or price determination has a strong incentive to 'match' that regulatory benchmark. This incentive arises because the regulator sets allowed revenues, and any difference between the allowed (i.e., benchmark) cost of debt and the firm's cost of debt will effectively flow to (or from) the firm's equity holders. If the benchmark firm is able to match the benchmark debt servicing costs relatively closely, it can substantially reduce this source of volatility to its equity holders.*[12]

28. Within this context, the role of the regulator is to set the allowed return on debt to reflect the costs that would be incurred under a debt financing approach that does not expose the firm to significant refinancing risk. That approach simultaneously mitigates both of the above risks. We consider this framework, and the conclusions drawn from it, to be widely accepted in Australian regulatory practice.

2.4 Candidate approaches for the allowed return on debt

Overview

29. Over the last 20 years, Australian regulators have considered three debt management strategies that might be used to underpin the calculation of the allowed return on debt. In this section, we explain that:

a. The rate-on-the-day approach cannot be considered to be prudent and efficient and is therefore not a candidate for use as the basis for setting the allowed return on debt; and

b. The full trailing average and hybrid approaches are prudent and efficient and are therefore both candidates for use as the basis for setting the allowed return on debt.

[10] Lally, M., p. 23; available at https://www.aer.gov.au/system/files/Dr%20Martin%20Lally%20%28Capital%20Financial%20Consultants%29%20-The%20appropriate%20term%20for%20the%20allowed%20cost%20of%20capital%20April%202021%2812344438.1%29%20%281%29.pdf.

[11] CEG, August 2021, *Efficient regulatory benchmarks and transitions for the cost of debt*, p. 8.

[12] QCA, April 2015, *Trailing average cost of debt*, p. 9.

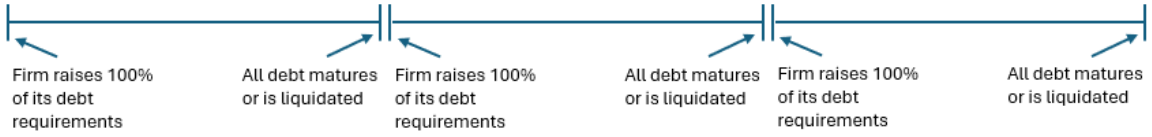
The single tranche / rate-on-the-day approach

30. Under the single tranche / rate-on-the-day approach, the benchmark efficient firm is assumed to raise all of its debt requirements over a very short period (usually 20-40 days) at the beginning of each regulatory period.

31. To reflect the costs incurred under this approach, the allowed return on debt would be re-set at the beginning of each regulatory period – equal to the average yield on debt (with the assumed term and credit rating) over the relevant 20-40 day period.

32. The single tranche / rate-on-the-day approach is illustrated in Figure 1 below.

Figure 1: Single tranche / on-the-day approach



Source: Frontier Economics.

33. Under a rate-on-the-day regulatory regime, a regulated firm could either:

    a. Match the regulatory allowance by issuing all of its debt in a single tranche at the beginning of each regulatory period; or

    b. Stagger its debt maturity over time.

34. The former would expose the firm to extreme refinancing risk and the latter would create a mis-match between the regulatory allowance and the costs incurred. It is for this reason that the rate-on-the-day approach has been routinely rejected by Australian regulators.[13]

The fixed-rate staggered maturity / trailing-average approach

35. Under the fixed-rate staggered maturity / trailing average approach, the benchmark efficient firm is assumed to issue fixed-rate debt on an overlapping, staggered maturity basis. For example, if the term of debt is set to 10 years, the firm will have 10 tranches of 10-year debt, each issued a year apart. Each year, one of those tranches will mature and will be refinanced with a new tranche of 10-year debt.

36. To operationalise this approach for regulatory purposes, it is usually assumed that the firm would raise a new tranche of debt each year over a specific period (usually 20-40 days) in that year. Thus, at any point in time the firm would have 10 tranches of debt, each with a different yield set at the time that tranche of debt was raised.

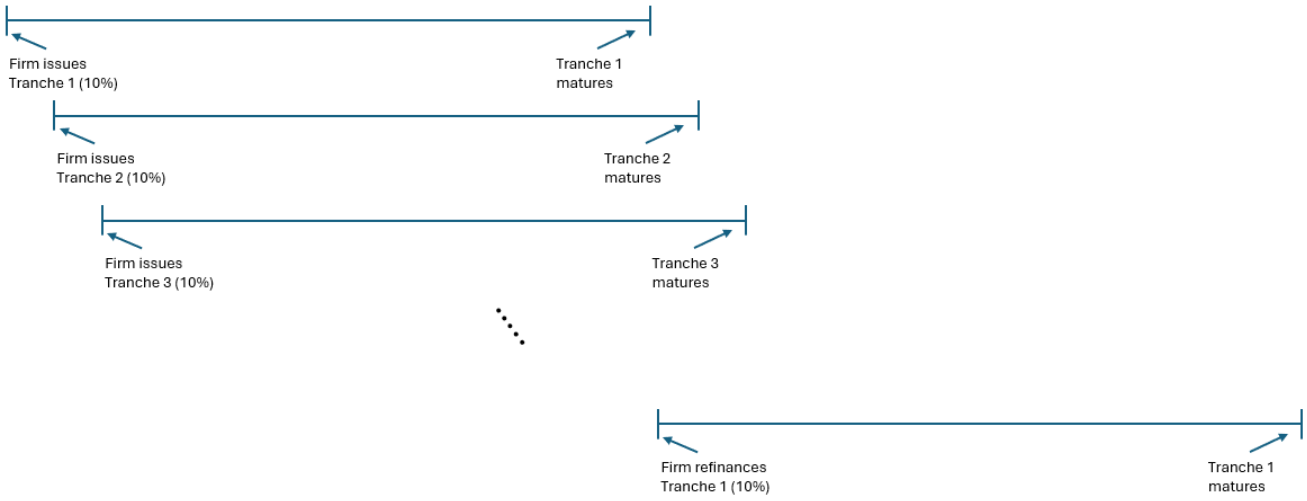
37. To reflect this approach, the allowed return on debt each year would be set equal to the average yield over the ten tranches of debt.

38. This approach involves significantly less refinancing risk relative to the on-the-day approach. This is because only 10% of the firm's debt would need to be refinanced each year.

39. The fixed-rate staggered-maturity / trailing average approach is illustrated in Figure 2 below.

[13] See the appendix to this report and Lally, M., April 2021, *The appropriate term for the allowed cost of capital*, pp. 23-24.

Figure 2: Fixed rate staggered maturity / trailing average approach



Source: Frontier Economics.

40. In circumstances where the regulator sets the allowed return on debt using the full trailing average approach, it is generally accepted that it is prudent and efficient for a regulated firm to match the regulatory allowance by issuing fixed-rate debt on a staggered maturity basis and refinancing each tranche as it matures.

41. In this regard, the AER has concluded, and we agree that:

> *We consider that holding a portfolio of debt with staggered maturity dates is likely an efficient debt financing practice of the benchmark efficient entity operating under the trailing average portfolio approach. We consider that the regulatory return on debt allowance under the trailing average portfolio approach is, therefore, commensurate with the efficient debt financing costs of the benchmark efficient entity.*[14]

42. Similarly, Lally (2021) states, and we agree, that:

> *A fourth possible means of matching the allowed and incurred interest rates on debt would be for the regulator to set the allowance for the entire cost of debt in accordance with an annually-adjusted trailing average cost over N years (TA approach), and for firms to align their borrowing with this by borrowing for N years and staggering the maturity dates. For example, if the TA allowance were equally weighted over the last ten years, the firm would borrow so that 10% of its debt matured each year. Since it is viable for firms to act in this way, and firms generally do so (AER, 2009, pp. 151-154), this would satisfy the NPV = 0 test. Of course, firms could choose not to do this but the NPV = 0 test would be satisfied because it would be entirely feasible for them to align their borrowing with the regulatory allowance.* [15]

43. We have explained above that, in this context, the reference to "the NPV=0 test" is simply a reference to the general principle of the allowed return on debt being set in the way that reflects the costs incurred under a viable financing strategy.

44. In our view, it is widely accepted that a prudent and efficient outcome arises where the regulator sets a full trailing average regulatory allowance and the benchmark firm aligns its debt management approach to match that regulatory allowance.

[14] AER, December 2013, *Rate of Return Guideline: Explanatory Statement*, p. 102.

[15] Lally, M., April 2021, *The appropriate term for the allowed cost of capital*, p. 25.

The interest rate swaps / hybrid approach

45. Under the interest rate swaps / hybrid approach, the benchmark efficient firm is assumed to issue floating-rate debt on an overlapping, staggered maturity basis. That is, the issuance mirrors the fixed-rate staggered maturity approach except that the firm issues floating-rate rather than fixed-rate debt.[16]

46. Floating rate debt involves the firm paying a fixed debt risk premium above the floating base rate, which varies from time to time. The risk premium is fixed at the time each tranche of debt is issued.

47. At the beginning of each regulatory period, the firm uses interest rate swaps to convert its floating (base) rate obligations into a fixed rate for the duration of the regulatory period.

48. The cost incurred under this approach is the sum of:

    a. The base rate that has been locked in at the start of the regulatory period – which applies to all tranches of debt; and

    b. The average debt risk premium over the 10 tranches of debt,[17] where those premiums were locked in at the time each tranche of debt was issued.

49. This approach also involves significantly less refinancing risk relative to the on-the-day approach. This is because only 10% of the firm's debt must be refinanced each year.[18] We note that some large regulated business have raised concerns about whether the interest rate swaps market is sufficiently deep and liquid for this to be a viable strategy for them, but the CQCN is not of a sufficient size for that to be a concern in the case at hand.

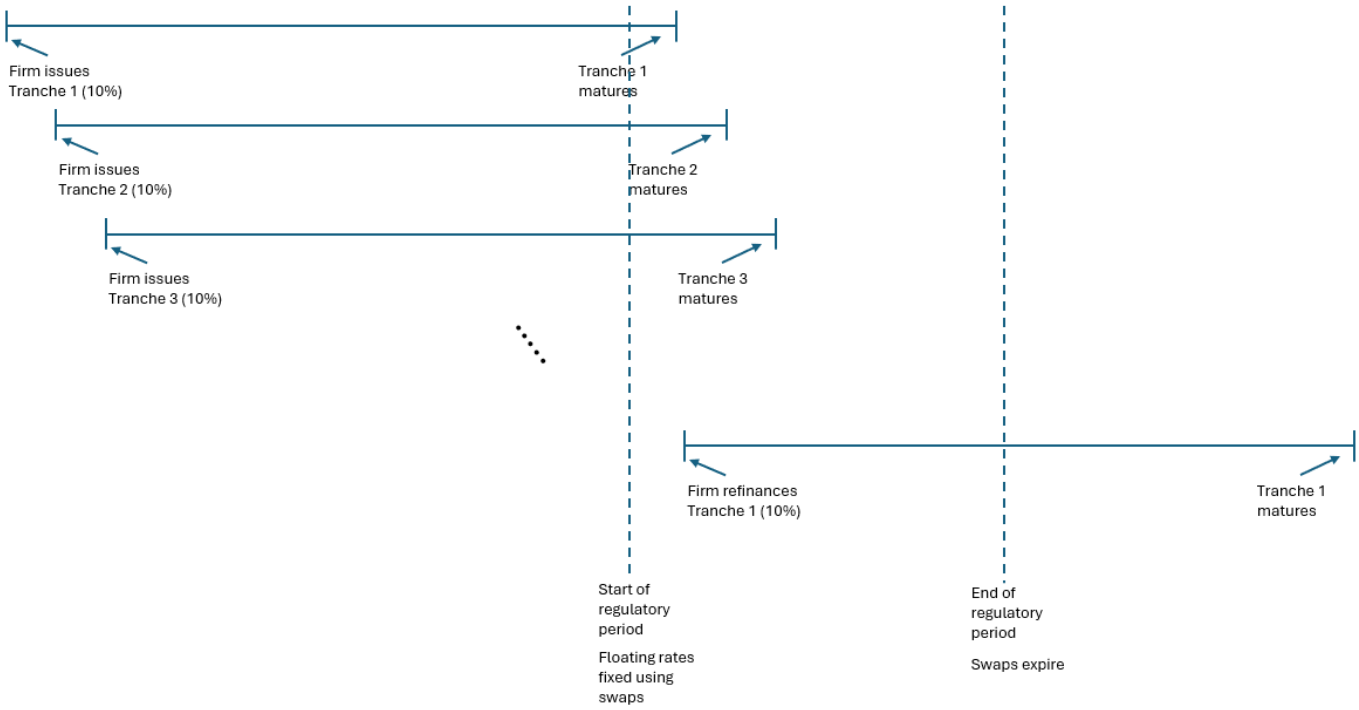
50. The interest rate swaps / hybrid approach is illustrated in Figure 3 below.

[16] Or, equivalently, the firm can issue fixed rate debt and immediately use interest rate swaps to convert that fixed rate into a floating rate.

[17] We continue to consider a firm that issues 10 overlapping tranches of 10-year debt for illustrative purposes.

[18] We note that some large regulated business have raised concerns about whether the interest rate swaps market is sufficiently deep and liquid for this to be a viable strategy for them. However that issue is beyond the scope of this report.

Figure 3: Interest rate swaps / hybrid approach



Source: Frontier Economics.

51. In circumstances where the regulator sets the allowed return on debt using the hybrid approach, it is generally accepted that it is prudent and efficient for a regulated firm to match the regulatory allowance by issuing floating rate debt on a staggered maturity basis and using interest rate swaps to lock in the base rate at the beginning of each regulatory period.

52. In this regard, Lally (2021) states, and we agree, that:

> *A fifth possible means of matching the allowed and incurred interest rates on debt would be for the regulator to set the base rate component of the cost of debt in accordance with the market rate at the commencement of each regulatory cycle, and to set the allowance for the DRP component of the cost of debt in accordance with a trailing average cost over N years, with annual updating of the latter. Firms would then align the terms of their borrowing with this, and also use interest rate swap contracts to align the base rate component of their cost of debt with the regulatory allowance. Since it is viable for firms to act in this way, this would satisfy the NPV = 0 test. Of course, firms could choose not to do this but the NPV = 0 test would be satisfied because it would be viable for them to align their borrowing arrangements with the regulatory allowance. Table 2 summarises these approaches, with the regulatory cycle assumed to be for five years, and with N being the borrowing term chosen by the regulator by reference to the behavior of what it judges to be the benchmark efficient firm.* [19]

53. In our view, it is widely accepted that a prudent and efficient outcome arises where the regulator sets a hybrid regulatory allowance and the benchmark firm aligns its debt management approach to match that regulatory allowance.

[19] Lally, M., April 2021, *The appropriate term for the allowed cost of capital*, p. 25. As above, in this context, the reference to "the NPV=0 test" is a reference to the general principle of the allowed return on debt being set in the way that reflects the costs incurred under a viable financing strategy.

2.5 Consistency with key provisions of the QCA Act

54. We have noted above that there are two scenarios that involve an appropriately low level of financing risk and a match between the regulatory allowance and the cost incurred by the benchmark efficient firm under the benchmark financing strategy, being:

    a. The case where the regulator adopts a full trailing average regulatory allowance and the benchmark firm adopts the corresponding debt management approach; and

    b. The case where the regulator adopts a hybrid regulatory allowance and the benchmark firm adopts the corresponding debt management approach.

55. In both of those cases, the allowed return on debt is set to reflect the cost that would be incurred by a debt management strategy that is prudent and efficient in that it:

    a. Can be implemented in real-world capital markets;

    b. Mitigates refinancing risk; and

    c. Eliminates regulatory mis-match risk.

56. That is, in these cases the regulatory allowance for each period is set to reflect the cost that would be incurred by a prudent and efficient service provider in that period.

57. In our view, this aligns with the legislative requirement that the regulatory allowance:

> *should generate expected revenue for the service that is at least enough to meet the efficient costs of providing access to the service and include a return on investment commensurate with the regulatory and commercial risks involved.*[20]

58. In our view, setting the regulatory allowance for each period to reflect the cost that would be incurred by a prudent and efficient service provider in that period also:

> *Promote[s] the economically efficient operation of, use of and investment in, significant infrastructure by which services are provided, with the effect of promoting effective competition in upstream and downstream markets,*[21]

59. This is because setting the regulatory allowance in line with the efficient costs always preserves the incentive for efficient investment and utilisation of infrastructure assets.[22]

60. In summary, our view is that there are two regulatory approaches for the allowed return on debt that reflect prudent and efficient costs and which are therefore economically consistent with the QCA's legislative requirements. An on-the-day return on debt allowance is *not* a regulatory approach that matches the regulatory allowance with the efficient costs.

61. Lally (2014) summarises the position as follows:

> *In summary, only two possible debt strategies for a business are viable.*[23]
>
> *The first involves borrowing long-term and staggering the borrowing to ensure that only a small proportion of the debt would mature in any one year; this reduces refinancing risk to a minimal level. The second additionally involves the use of interest rate swap contracts (relating to the risk-free rate component of the cost of debt). Each of them has a matching regulatory policy. For the first, the matching regulatory policy would be for the allowed cost of debt to be set in accordance with the trailing average*

[20] Queensland Competition Authority Act (1997), s 168A(a).

[21] Queensland Competition Authority Act (1997), s 69E.

[22] Bearing in mind any requirement to set the regulatory allowance to be at least sufficient to meet efficient costs.

[23] Where a 'viable' approach is one that is appropriate for a regulator to use to set the allowed return on debt, in that the regulatory allowance reflects the cost incurred under a prudent and efficient debt management strategy.

> *cost, and this combination of corporate debt policy and regulatory policy would therefore satisfy the NPV = 0 principle.*[24]
>
> *In respect of the second debt policy, additionally involving the use of interest-rate swap contracts, the matching regulatory policy would be for the allowed risk free rate within the cost of debt to be set in accordance with the rate prevailing at the beginning of the regulatory cycle whilst the DRP would be set in accordance with the trailing average. This combination of corporate debt policy and regulatory policy would therefore also satisfy the NPV = 0 principle.* [25]

62. The QCA has rejected the rate-on-the-day approach and adopted a full trailing average – being one of the two prudent and efficient approaches – as its default approach.[26] In the subsequent section of this report, we identify a number of reasons why the hybrid approach – which is also a prudent an efficient approach – would involve significantly less complexity when applied in the current circumstances of the CQCN.

[24] Again, in the sense that the allowed return on debt reflects the cost incurred under a prudent and efficient debt management strategy.

[25] Lally, M., March 2014, *The trailing average cost of debt*, pp. 14-15.

[26] QCA, February 2024, *Rate of return review: Version 3*, p. 37.

3 Reasons to prefer the hybrid approach in the case of Aurizon Network

3.1 Overview

63. The conclusion from the previous section of this report is that there are two regulatory approaches for the allowed return on debt that reflect prudent and efficient costs and which are therefore economically consistent with the QCA's legislative requirements – the full trailing average and hybrid approaches.

64. This section of the report:

    a. Explains the ERA's rationale for its adoption of the hybrid approach to setting the allowed return on debt – in preference to the full trailing average approach; and

    b. Sets out a number of reasons why the hybrid approach may be particularly appropriate in the present circumstances of Aurizon Network.

65. We demonstrate that, of the two approaches to the allowed return on debt that are consistent with the prudent and efficient management of a debt portfolio, the hybrid approach has a number of advantages when applied to a benchmark firm currently providing access to the CQCN. Because the hybrid approach automatically resets the base rate on the whole debt portfolio at the beginning of each regulatory period, it avoids a number of transition-type complexities that would be required under the full trailing average approach.

3.2 The ERA's adoption of the hybrid approach

66. The Economic Regulatory Authority of Western Australia (**ERA**) sets the allowed return on debt using the hybrid approach, confirming that approach in its *2022 Rate of Return Instrument*. [27]

67. In its 2022 review process, the Economic Regulation Authority of Western Australia (**ERA**) first eliminated the rate-on-the-day approach on the basis that:

> *It assumes that all the debt of a regulated entity can be financed at the prevailing rates in the short period just prior to the regulatory decision. This exposes a regulated business to large refinancing risks.* [28]

68. The ERA further observed that there can never be anything approximating a match between the regulatory allowance and the cost incurred under a benchmark efficient financing approach – because no prudent and efficient firm would ever issue all of its debt in a single tranche due to the large refinancing risk to which that would expose the firm.

69. Having rejected the rate-on-the-day approach, the ERA then concluded that the full trailing average and hybrid approaches are both consistent with prudent and efficient financing practice because the debt management approaches underpinning those approaches mitigate against refinancing risk and can both be feasibly implemented.

[27] https://www.erawa.com.au/gas/gas-access/guidelines/gas-rate-of-return-instrument/2022-gas-rate-of-return-instrument-review.

[28] ERA, December 2022, *Explanatory statement for the 2022 final gas rate of return instrument*, paragraph 320.

70. The ERA then identified a number of differences between the full trailing average and hybrid approaches including:[29]

    a. The full trailing average approach involves larger year-to-year variation in the allowed return on debt within a regulatory period – as the full return on debt rather than just the debt risk premium rolls forward from year to year;

    b. The hybrid approach involves larger variation from one regulatory period to another as the base rate for all of the firms debt is re-set;

    c. The hybrid approach incorporates a forward-looking base rate into the return on debt allowance;

    d. The hybrid approach avoids the effect of recovering current low (or high) interest rates in the next regulatory period;

    e. The hybrid approach better minimises interest rate risk by linking revenues to a five-year risk-free rate, which is re-set at the end of each regulatory period;

    f. The hybrid approach is more complex as it requires separate calculations for the base rate and the debt risk premium, it requires information on swap rates, and it requires the calculation of an allowance for hedging costs; and

    g. The hybrid approach reduces the outperformance that a regulated firm could generate by issuing debt at a shorter term than what the regulator has assumed.

71. In addition, the ERA noted that it had previously adopted the hybrid approach and the majority of stakeholders submitted a preference for regulatory stability in this regard:

> *The ERA notes that most of the stakeholder submissions to the ERA's 2022 draft gas instrument supported maintaining the hybrid trailing average approach* [30]

and:

> *Departing from the current hybrid trailing average approach may be difficult as the benchmark service provider has:*
>
> - *Established a portfolio of 10-year fixed-rate debt.*
> - *Entered into derivative arrangements to convert part of these annual debt issuances to floating interest rate swap rates.*[31]

3.3 The current circumstances of Aurizon Network

Overview

72. In this subsection of the report, we identify a number of advantages of the hybrid approach, vis a vis the full trailing average approach as it applies to the current circumstances of Aurizon Network. These advantages include:

    a. No transition required

    The adoption of a trailing average return on debt allowance would require a transition mechanism to allow the benchmark firm to transition from the efficient debt

[29] ERA, December 2022, *Explanatory statement for the 2022 final gas rate of return instrument*, paragraph 327.

[30] ERA, December 2022, *Explanatory statement for the 2022 final gas rate of return instrument*, paragraph 338.

[31] ERA, December 2022, *Explanatory statement for the 2022 final gas rate of return instrument*, paragraph 347.

management approach under the current regulatory regime to the efficient approach under the new regime.

By contrast, the adoption of a hybrid return on debt allowance would require no transition – because the efficient debt management approach would be the same under the old and new regimes.

b. More robust to a change in the benchmark term of debt

In its 2022 rate of return review, the AER identified that, under the trailing average approach, a change in the benchmark term of debt would require a complex transition.

One material advantage of the hybrid approach is that the base rate for the entire debt portfolio re-sets at the beginning of each regulatory period. There is no need for any transition in relation to the base rate – it simply re-sets to the prevailing market rate in the ordinary course of rolling into the next regulatory period.

We demonstrate that, under the hybrid approach, a much simpler approach may be appropriate whereby the regulator:

(i) Resets the base rate in the usual way at the beginning of each regulatory period; and

(ii) Adopts a 10-year trailing average DRP for one regulatory period and the new trailing average DRP thereafter.

c. Equally robust to a change in benchmark credit rating

A change to the benchmark credit rating, and therefore to the DRP, is straightforward to accommodate whether a trailing average is applied to the entire return on debt or to the DRP only. In either case, as each tranche of debt is refinanced, the new rate is applied.

d. More robust to a change in the quantum of debt

Whereas approaches have been developed to accommodate increases in the quantum of debt via a weighted trailing average, those approaches do not accommodate a decrease in the quantum of debt.

In the event that a regulator reduced the benchmark gearing assumption (e.g., because it becomes more difficult for coal-exposed businesses to source debt), it is likely that a complex set of mark-to-market calculations would be required under the trailing average approach – to reflect the impact of extinguishing debt across the various tranches.

By contrast, under the hybrid approach, no such mark-to-market calculation is required in relation to the base rate, which automatically re-sets to the prevailing rate at the beginning of each regulatory period. Under the hybrid approach, the mark-to-market effect of extinguishing debt may be so small that it is not required.

No need for transition arrangements

73. We consider the need for transition arrangements from one regulatory benchmark to another in detail in the subsequent section of this report. Here, we note that:

a. The relevant regulatory principle is that a transition mechanism is required if:

i. The regulator changes its approach to the allowed return on debt; and

ii. The benchmark prudent and efficient debt management approach differs as between the two regulatory regimes;

b. The transition mechanism should be such that the regulatory allowance reflects the costs incurred by a benchmark firm operating prudently and efficiently at each point in time –

starting with a benchmark debt portfolio that is efficient under the previous regime and transitioning over time to a benchmark debt portfolio that is efficient under the new regime;

c. If the QCA were to adopt a hybrid return on debt allowance for UT6, no transition would be required – because the hybrid debt management approach is prudent and efficient under the previous and new regulatory regimes; and

d. If the QCA were to adopt a full trailing average return on debt allowance for UT6, a transition mechanism would be required as the benchmark firm transitions from the hybrid debt management approach (which is prudent and efficient under the previous regime) to the trailing average debt management approach (which is prudent and efficient under the new regime).

74. In summary, one advantage of the QCA adopting the hybrid approach for the UT6 return on debt allowance is that no transition would be required – because the benchmark firm would continue employing the existing debt management strategy.

75. By contrast, a transition mechanism would certainly be required if the QCA were to adopt the full trailing average approach.

More robust to change in term of debt

76. During its 2022 Rate of Return Instrument process, the AER considered the possibility of changing the benchmark term of debt from 10 years to 7 or 8 years.

77. At that point, all of the firms that the AER regulates were part way through the 10-year transition process that was required as a result of the AER's decision to change from a rate-on-the-day approach to the trailing average approach for the allowed return on debt. Under that transition process, the benchmark firm takes 10 years to 'build up' a staggered maturity debt portfolio by issuing a new tranche of 10-year bonds every year.

78. Had the AER changed its benchmark term of debt, a transition within the transition would have been required. Specifically, in each year for the next 8 years, the benchmark firm would replace each maturing tranche of 10-year debt with a new tranche of 8-year debt. For each of the two remaining tranches, a further 8-year transition would be required to 'spread' that tranche over the 8 remaining tranches.

79. In this regard, ENA submitted that:

> *Under the AER's trailing average framework, every change to the debt term would require a new transition mechanism to be put in place. An approach that re-sets the assumed term of debt at the time of each RoRI would create a system of nested transitions, such that each network would be part-way through a set of three different transition mechanisms at any point in time.*[32]

80. And the AER accepted that:

> *There are also significant practical limitations on adjusting the benchmark term.*[33]

81. The same complexity in relation to nested transitions would apply to Aurizon Network in the event that:

a. The QCA adopted a 10-year trailing average return on debt allowance for UT6; and

b. The QCA subsequently changed the benchmark term of debt.

[32] ENA, March 2022, *Rate of return instrument review: Response to AER's final omnibus and information papers*, p. 29.

[33] AER, February 2023, *Rate of return instrument: Explanatory paper*, p. 197.

82. One circumstance in which the term of debt would have to change is if 10-year debt became unavailable to coal-exposed entities such as Aurizon Network (or, more precisely, a benchmark firm providing access to the CQCN). That is, it would be untenable to maintain a benchmark of 10-year debt if that type of financing was unavailable to firms that perform the regulated service.[34]

83. The possibility of coal-exposed firms having reduced access to long-term debt has been identified in the research literature[35] and by such firms themselves.[36]

84. One material advantage of the hybrid approach is that the base rate for the entire debt portfolio re-sets at the beginning of each regulatory period. There is no need for any transition in relation to the base rate – it simply re-sets to the prevailing market rate in the ordinary course of rolling into the next regulatory period.

85. Moreover:

    a. A simple variance decomposition indicates that approximately two-thirds of the variance in the yield of 10-year BBB corporate bonds is due to variation in the base rate;[37] and

    b. On average, the base rate represents more than 60% of the total yield on BBB corporate debt.[38]

86. Whereas a transition might theoretically be required for the DRP component, a much simpler approach is likely to suffice. For example, suppose that:

    a. It became apparent during a regulatory review that the benchmark term of debt should be reduced from 10 years to 8 years; and

    b. The regulator adopted a 10-year trailing average DRP for the forthcoming 5-year regulatory period and an 8-year trailing average DRP thereafter.

87. That approach would tend to:

    a. Slightly over-compensate the benchmark firm during the first regulatory period as new tranches of 8-year debt would continue to receive a 10-year DRP; and

    b. Slightly under-compensate the benchmark firm during the second regulatory period as remaining tranches of 10-year debt would receive an 8-year DRP.

88. However, the amounts in question are very small. The average differential between the 10-year and 8-year DRP is in the order of 8 basis points.[39] Thus, in the first year of the regulatory period,

[34] Changes in market appetite for debt issued by coal-exposed firms is also likely to affect other parameters including gearing and credit rating. We address the effects on those other parameters below. In this section, we focus on a change to the benchmark term of debt in isolation.

[35] See, for example, https://www.hbs.edu/ris/Publication%20Files/draft_Coal_divestment_7a4fa45e-b0db-480c-a805-ccca05efc23b.pdf and https://www.elibrary.imf.org/downloadpdf/view/journals/001/2024/228/article-A000-en.pdf.

[36] See, for example, https://www.argusmedia.com/en/news-and-insights/latest-market-news/2701200-australia-s-bowen-coking-coal-faces-finance-challenges and https://www.listcorp.com/asx/crn/coronado-global-resources-inc./news/abl-binding-commitment-3197598.html.

[37] To compute this figure, we begin by computing the variance of the yields on 10-year BBB debt reported by the RBA – using all of the observations reported in the RBA data set. We then compute the variance of the yield on 10-year government bonds, also reported by the QCA. Finally, we compute the covariance between the two series. We then compute the sum of the last two figures as a proportion of the first – the standard variance decomposition for a two-component system.

[38] To compute this figure, we have taken the average of the ration of the yield on 10-year BBB debt and the yield on 10-year government bonds, as reported by the RBA.

[39] We have computed this approximate figure via a simple interpolation between the RBA's 7-year and 10-year estimates of the yield on BBB corporate debt, and between the RBA's 5-year and 10-year estimates of the yield on government bonds.

there would be a single tranche (10%) of the benchmark firm's debt that had been refinanced at an 8-year term, but which received a 10-year DRP. This amounts to 0.8 basis points relative to the firm's total debt portfolio. In the second year of the regulatory period, there would be two tranches (20%), and so on. A summary of the relevant calculations is set out in Table 1 below.

Table 1: Simple approach to transition from 10-year to 8-year term of debt

Regulatory year	Number of 10-year tranches remaining	Proportion of debt portfolio over-compensated	Proportion of debt portfolio under-compensated	Compensation differential (basis points)
1	9	10%		0.80
2	8	20%		1.60
3	7	30%		2.40
4	6	40%		3.20
5	5	50%		4.00
6	4		40%	-3.20
7	3		30%	-2.40
8	2		20%	-1.60
9	1		10%	-0.80
10	0		0%	0.00

Source: Frontier Economics.

89. Table 1 shows that the quantum of over- or under-compensation from applying a 10-year DRP to 8-year debt, or vice versa, amounts to a small handful of basis points each year. And that very slight over-compensation in one regulatory period is offset by very slight under-compensation in the next.[40]

90. In summary, if the benchmark term of debt is reduced:

    a. The AER review process has identified that a complex transition mechanism would be required under the full trailing average approach; however

    b. The analysis set out above shows that, under the hybrid approach, a much simpler approach of:

        (i) Resetting the base rate in the usual way at the beginning of each regulatory period; and

        (ii) Adopting a 10-year trailing average DRP for one regulatory period and the new trailing average DRP thereafter

    is likely to produce an acceptable regulatory benchmark allowance.

[40] It would be possible to further reduce the 'mis-match' by applying a blend of the 8-year and 10-year DRPs. However, the approach set out above already limits any mis-match to a handful of basis points and requires nothing beyond the standard application of a vanilla trailing average in each of the regulatory periods.

Equally robust to a change in credit rating

91. The allowed return on debt would also be affected by a change in the benchmark credit rating. One possible scenario in which this would arise is where it becomes impossible for a coal-exposed firm to maintain a credit rating above, say, BBB-.

92. Other things being equal, a change to the benchmark credit rating, and therefore to the DRP, is straightforward to accommodate whether a trailing average is applied to the entire return on debt or to the DRP only. In either case, as each tranche of debt is refinanced, the new rate is applied. It makes no difference whether that new rate differs from the old rate due to a change in market conditions or a change in the benchmark credit rating or both. In all of those cases, the old rate rolls out of the trailing average calculation and the new rate rolls in.

More robust to a material change in the quantum of debt

Increases in the quantum of debt can be accommodated via a weighted trailing average

93. Another potential change to the benchmark financing strategy is a change in the quantum of debt.

94. In this regard, the AER has identified the case where material new debt must be issued to finance major capital expenditure. In that case, one tranche of debt matures and is replaced by a materially larger tranche that refinances the existing tranche *and* raises additional debt to finance major capital expenditure.

95. It may be possible to accommodate such an increase in the size of each tranche via some form of weighted trailing average approach. Indeed, the AER has announced that the specification of such a weighted trailing average approach will be one of two focus issues for its 2026 rate of return review process.[41]

96. We also note there that QTC has proposed a transition-style mechanism for computing the weights in a setting where the quantum of debt *increases*. The QTC approach does not apply in years where the new tranche is *smaller* than the one it replaces.

Decreases in the quantum of debt are difficult to accommodate under a full trailing average approach

97. One scenario in which the quantum of debt would *decrease* is where benchmark gearing is reduced – in the case where the benchmark firm is unable to support the existing benchmark proportion of debt finance. Such a scenario could arise, for example, if there was a contraction in the availability of debt funding for coal-exposed firms.

98. Consider, by way of example, the case where the QCA determines that a coal-exposed asset such as the CQCN could only support, say, 45% debt finance. Assume, for the case of this example, that the term of debt and credit rating are unchanged – to isolate the effect of a change in gearing.

99. Under a full trailing average approach, the benchmark firm with, say, $550 million of debt finance, would enter a new regulatory period with 10 tranches of $55 million each. In this case, the regulator could:

    a. Roll forward the trailing average allowed return on debt in the usual manner; and

    b. Account for the mark-to-market payment or receipt that would be received when extinguishing $10 million of each tranche of debt.

[41] See https://www.aer.gov.au/system/files/2025-03/AER%20-%20Rate%20of%20Return%20Instrument%20-%202026%20Review%20Process%20Paper%20-%2028%20March%202025.pdf at p.10.

100. This would leave the firm with 10 staggered maturity tranches of $45 million each – and the trailing average allowance could proceed in the usual manner from there, requiring no further changes.

101. The mark-to-market payments or receipts would depend on whether the current yield was higher or lower than the yield at the time a particular tranche of debt was issued. Consider, for example, a tranche of fixed-rate debt issued at 7%, but where market yields have reduced to 5%. In that case, it would cost the benchmark firm $115.44 to extinguish every $100.00 of debt – as illustrated in Table 2 below.

Table 2: Illustrative mark-to-market calculation

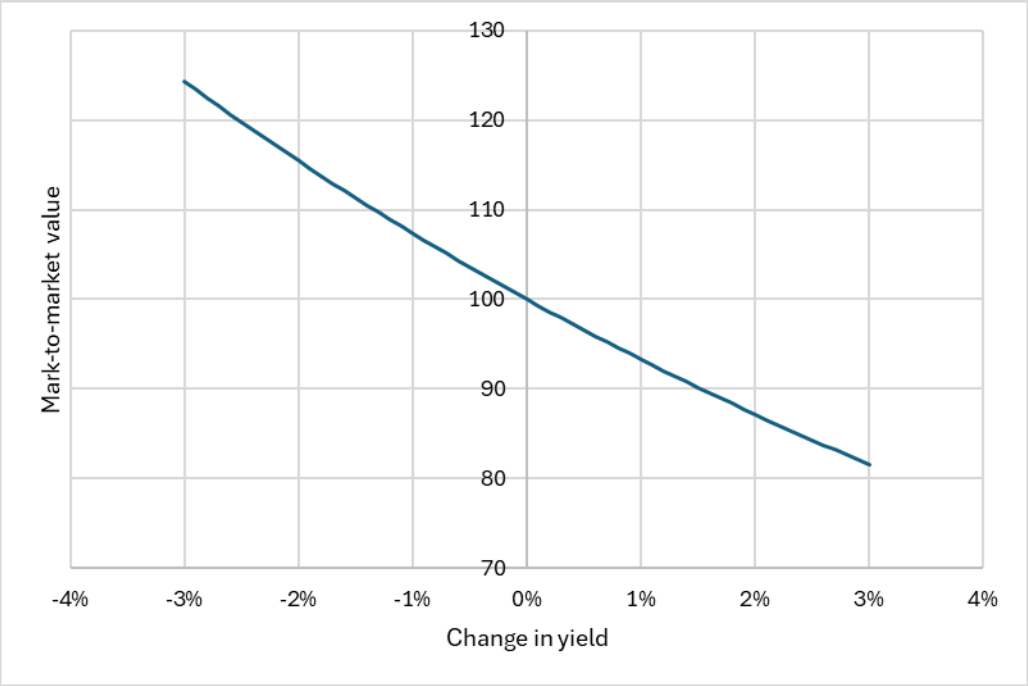
Year	Cash flow	Present value at 7%	Present value at 5%
1	7	6.54	6.67
2	7	6.11	6.35
3	7	5.71	6.05
4	7	5.34	5.76
5	7	4.99	5.48
6	7	4.66	5.22
7	7	4.36	4.97
8	7	4.07	4.74
9	7	3.81	4.51
10	107	54.39	65.69
Total		**100.00**	**115.44**

Source: Frontier Economics. Simplified illustration based on a single coupon each year.

102. In addition, a firm extinguishing debt early is likely to incur material penalty costs via make-whole provisions in loan agreements, which would not seem to be contemplated in a standard regulatory building block model.

103. Of course, the cost of extinguishing debt could be higher or lower than the face value of that debt – depending on whether rates have fallen or risen. Figure 4 below shows how the mark-to-market value of a 10-year fixed rate bond is sensitive to changes in rates.

Figure 4: Mark-to-market payment for 10-year $100 7% fixed-rate bond.



Source: Frontier Economics. Simplified illustration based on a single coupon each year.

104. In summary, under a full trailing average regulatory allowance:

    a. If there was a material reduction in the benchmark gearing parameter; and

    b. The regulator could roll forward the trailing average allowed return on debt in the usual manner; but only if

    c. The regulator computed the mark-to-market cost (or benefit) of extinguishing the required proportion of each tranche of debt such that the total of that cost (or benefit) was recovered over one or more future regulatory periods.

105. Finally, we note that the costs and complications involved in extinguishing debt could be avoided by assuming that the benchmark firm simply allowed existing tranches to mature without being refinanced. For example, in the illustration above, total debt financing could be reduced by the required $100 million by assuming that the next-to-mature tranche of $55 million will not be refinanced and that $45 million of the subsequent tranche will not be financed. But it is not at all clear how a regulator might set the allowed return on debt to match such a financing strategy.

Decreases in the quantum of debt are relatively easier to accommodate under a hybrid approach

106. In the context of a decrease in the quantum of debt finance – whether that is due to a decrease in the benchmark gearing assumption, accelerated depreciation in response to stranding risk, or any other reason – the hybrid approach has a significant advantage in that no mark-to-market calculations are required in relation to the base rate. The floating rate debt that underpins the hybrid approach pays the prevailing base rate plus the DRP that was locked in at the time of issuance. Thus, the present value of the debt is robust to changes in the base rate.

107. Consequently, any mark-to-market calculation would need to consider only changes in the DRP that might have occurred since each tranche of debt was issued. Thus, any required mark-to-market calculation will be materially smaller than that required under the full trailing average approach.

4 Is a transition required?

4.1 Overview

108. In this section, we establish that:

a. A transition mechanism is required if:

iii. The regulator changes its approach to the allowed return on debt; and

iv. The benchmark prudent and efficient debt management approach differs as between the two regulatory regimes;

b. The transition mechanism should be such that the regulatory allowance reflects the costs incurred by a benchmark firm operating prudently and efficiently at each point in time – starting with a benchmark debt portfolio that is efficient under the previous regime and transitioning over time to a benchmark debt portfolio that is efficient under the new regime;

c. If the QCA were to adopt a hybrid return on debt allowance for UT6, no transition would be required – because the hybrid debt management approach is prudent and efficient under the previous and new regulatory regimes;

d. If the QCA were to adopt a full trailing average return on debt allowance for UT6:

i. A transition mechanism would be required as the benchmark firm transitions from the hybrid debt management approach (which is prudent and efficient under the previous regime) to the trailing average debt management approach (which is prudent and efficient under the new regime);

ii. If the QCA adopted a trailing average allowance with no transition, the regulatory allowance would not reflect the benchmark efficient costs – because the benchmark firm begins UT6 with a debt portfolio that is exposed to the base spot rate, not the trailing average;

iii. If the QCA adopted the AER's transition mechanism, the regulatory allowance would not reflect the benchmark efficient costs – because the benchmark firm begins UT6 with a debt portfolio that is exposed to a trailing average DRP, not the spot rate;

iv. The appropriate transition would:

- Transition from spot exposure to a 10-year trailing average for the base rate; and
- Roll forward with no transition for the DRP.

4.2 In what circumstances is a transition mechanism appropriate?

Context and rationale

109. One issue that arises when a regulator changes its approach to the allowed return on debt is whether a transition mechanism is appropriate.

110. This issue arises in cases where:

a. Under the previous regime, a regulated firm had adopted a debt management strategy that was prudent and efficient in the context of that regime;

b. Under the new regime, that debt management strategy would no longer be prudent and efficient; and

c. It would take some time for a firm to 'unwind' its current debt portfolio (or to terminate its current debt instruments, settling any mark-to-market payments that might be required) and to 'build up' a portfolio that is consistent with the new regulatory approach to the allowed return on debt.

111. In such cases, the regulator might consider a transition mechanism, setting out how it considers a benchmark efficient firm would transition from its previous debt portfolio to the new debt portfolio – and set the regulatory allowance in accordance with the costs that would be incurred under that transition.

112. The rationale for such a transition is that a regulated firm should not be subject to a windfall gain or loss in circumstances where:

a. The regulator changes its mind about how it should set the allowed return on debt; and

b. This change would result in a change to the prudent and efficient financing strategy adopted by a regulated firm.

113. Of course, no transition would be required in circumstances where the same debt management strategy was prudent and efficient under both regulatory regimes. For example, as explained above, no transition would be required if the QCA were to adopt the hybrid approach to the return on debt for UT6 – because the same benchmark debt management approach (i.e., the hybrid approach) is prudent and efficient under both the previous and the new regulatory regimes.

The AER's rationale for adopting a transition

114. In its 2013 Rate of Return Guideline, the AER changed its approach to the allowed return on debt from a rate-on-the-day allowance to a full trailing average allowance.

115. The AER identified that a prudent and efficient benchmark firm would adopt a different debt management strategy under each of these regulatory regimes. The AER further identified that it would take some time for a firm to 'unwind' its current debt portfolio and 'build up' a portfolio that is consistent with the new regulatory approach.

116. This led the AER to propose a transition mechanism whereby a benchmark regulated firm would restructure its debt portfolio over time – from what the AER previously considered to be the efficient approach to what the AER now considered to be the efficient approach:

> *In section 7.3.3 we considered what would constitute the efficient debt financing practices of the benchmark efficient entity under the current 'on the day' approach. We considered it likely that holding a debt portfolio with staggered maturity dates and using swaps to hedge interest rate exposure for the duration of a regulatory control period would constitute such an efficient debt financing practice. Further, we consider that holding a (fixed rate) debt portfolio with staggered maturity dates to align its return on debt with the regulatory return on debt allowance is likely to be an efficient debt financing practice of the benchmark efficient entity under the trailing average portfolio approach. That is, it is likely that the benchmark efficient entity would need to unwind its hedging contracts in moving from the current 'on the day' approach to the trailing average portfolio approach. Therefore, if transition is immediate (that is, if there is no transitional arrangement), the benchmark efficient entity is likely then to face costs or practical difficulties, as:*

- *It would have likely entered hedging contracts to manage its interest rate risk in the past.*
- *It would be impossible for it 'to go back and lock in rates that applied some time ago'.*
- *Without transition there would be, therefore, a mismatch between the expected return on debt of the benchmark efficient entity and the regulatory return on debt allowance set according to the trailing average portfolio approach. This mismatch could potentially be significant.* [42]

117. We consider below the specifics of the AER's proposed transition mechanism – and whether that mechanism really does transition between the two debt management approaches that the AER considered to be efficient under each of its approaches to the allowed return on debt.

118. At this stage, we focus on the rationale for a transition. The AER recognised that a transition would be appropriate in circumstances where:

a. Under the previous regime, a regulated firm had adopted a debt management strategy that was prudent and efficient in the context of that regime;

b. Under the new regime, that debt management strategy would no longer be prudent and efficient; and

c. It would take some time for a firm to 'unwind' its current debt portfolio (or to terminate its current debt instruments, settling any mark-to-market payments that might be required) and to 'build up' a portfolio that is consistent with the new regulatory approach to the allowed return on debt.

The QCA's views on transition mechanisms

119. The QCA has also changed its approach to the allowed return on debt – from a rate-on-the-day allowance to a default position of a full trailing-average allowance.

120. The QCA has observed that the AER applied a transition mechanism whereas ESCOSA and the ESC applied an immediate implementation of the trailing average allowance. [43]

121. The QCA has concluded that its default position is that the trailing average allowance can be applied immediately with no transition but that such arrangements will be considered on a case-by-case basis:

> *Having identified the trailing average approach as our preferred forward-looking benchmark debt management strategy, we do not consider transition arrangements are required under normal circumstances. We do not support implementing transition measures to address historical impacts under the on-the-day approach in previous years. We consider the regulatory approach should be forward-looking, with the allowed rate of return being commensurate with the efficient financing costs of a benchmark efficient firm that implemented a trailing average approach.*
>
> *However, we consider the adoption of transition arrangements may be considered on a case-by case basis in limited circumstances, for example where applying a trailing average debt management strategy without such arrangements creates material and adverse impacts on a firm that are not related to its own inefficiency. QTC broadly supported this view:*

[42] AER, December 2013, *Rate of Return Guideline: Explanatory Statement*, p. 121.

[43] QCA, February 2024, *Rate of Return Review: Version 3*, p. 56.

> *[N]o transition is a reasonable default position, although this should be considered on a case-by-case basis depending on how a business may have managed its debt under the previous on-the-day approach.* [44]

An appropriate regulatory framework

122. In our view, the appropriate regulatory consideration of transition mechanisms is straightforward. When a regulator changes its approach to the allowed return on debt and where a regulated firm proposes a transition from one debt management approach to another:

    a. The regulator should first determine whether the previous debt management approach was a prudent and efficient one, in the context of the previous regulatory regime. If it is:

    b. The regulator should then determine whether the new debt management approach is a prudent and efficient one, in the context of the new regulatory regime. If it is:

    c. The regulator should then determine how a prudent and efficient firm would convert its debt portfolio from the previous approach to the new approach; and

    d. The regulator should then set the allowed return on debt in line with the cost that would be incurred by a benchmark firm adopting the prudent and efficient transition.

123. In our view, a regulated entity proposing a transition from one prudent and efficient debt management to another, resulting from the regulator changing its approach to the return on debt allowance, could reasonably be described as seeking to avoid:

> *material and adverse impacts on a firm that are not related to its own inefficiency.* [45]

124. Within this framework, a regulator would reject a proposed transition mechanism only where:

    a. The regulator considered that the proposed previous debt management approach was not a prudent and efficient one in the context of the previous regulatory regime; or

    b. The regulator considered that the proposed new debt management approach was not a prudent and efficient one in the context of the new regulatory regime; or

    c. The proposed transition mechanism was not a prudent an efficient means of converting a debt portfolio from the old approach to the new approach.

4.3 An appropriate transition mechanism for Aurizon Network

Proposed transition between debt management approaches

125. Like other Australian regulators, the QCA has changed its approach to the allowed return on debt from the rate-on-the-day approach to a default of the full trailing-average approach.

126. Our understanding is that:

    a. Under the QCA's rate-on-the-day regime, Aurizon Network has adopted a debt management approach that involves the issuance of floating rate debt on a staggered maturity basis using interest rate swaps to lock in the base rate at the beginning of each regulatory period; and

    b. Under a full trailing-average regime, Aurizon Network would seek to issue fixed-rate debt on a staggered-maturity basis to match the regulatory allowance under that regime; and

[44] QCA, February 2024, *Rate of Return Review: Version 3*, p. 56.

[45] QCA, February 2024, *Rate of Return Review: Version 3*, p. 56.

c. Aurizon Network would propose a transition from the previous debt management approach to the new approach.

127. We begin, by noting that any consideration of transition mechanisms must be from the perspective of a benchmark efficient firm, not the actual practice or the actual debt portfolio of a particular regulated firm. Thus, the key questions relate to the debt management approach that would be adopted by a prudent and efficient benchmark firm under each regulatory regime and how such a firm would efficiently transition from one debt portfolio to the other.

Is the previous approach prudent and efficient?

128. Within this context, the first question for the regulator is whether the general approach of issuing floating rate debt on a staggered maturity basis using interest rate swaps to lock in the base rate at the beginning of each regulatory period could reasonably be described as being a prudent and efficient approach under the QCA's rate-on-the-day regime.

129. The AER has been explicit about its view that such an approach is the only prudent and efficient approach under a rate-on-the-day regulatory regime:

> *Given the observed practices of regulated network businesses and the definition of the benchmark efficient entity, we consider that the following practice is likely to constitute an efficient debt financing practice of the benchmark efficient entity under current 'on the day' approach – holding a debt portfolio with staggered maturity dates and using swap transactions to hedge interest rate exposure for the duration of a regulatory control period.* [46]

and further:

> *We considered what would constitute the efficient debt financing practices of the benchmark efficient entity under the current 'on the day' approach. We considered it likely that holding a debt portfolio with staggered maturity dates and using swaps to hedge interest rate exposure for the duration of a regulatory control period would constitute such an efficient debt financing practice.* [47]

130. We agree that such a 'hybrid' debt management approach is a prudent and efficient approach in the context of a rate-on-the-day regulatory allowance.

131. For completeness, we note that a strategy of issuing all of the firm's debt in a single tranche at the beginning of each regulatory period such that it is refinanced in a single tranche at the beginning of the next regulatory period would provide a closer match to the regulatory allowance. However, such an approach would expose the firm to such a high refinancing risk that it could not be considered to be prudent or efficient in any circumstances.

132. We also not that a number of very large networks have proposed that the interest rate swaps approach is not available to them because the swaps market is not sufficiently liquid or deep. Those networks have proposed that, in circumstances where swaps cannot be used, a fixed-rate staggered maturity portfolio is the most prudent and efficient approach. However, this constraint would not seem to apply to Aurizon Network and therefore has no relevance here.

Is the new approach prudent and efficient?

133. The next question for the regulator is whether the issuance of fixed-rate debt on a staggered-maturity basis should be considered to be prudent and efficient under a full trailing average

[46] AER, December 2013, *Rate of Return Guideline: Explanatory Statement*, p. 107.

[47] AER, December 2013, *Rate of Return Guideline: Explanatory Statement*, p. 121.

regulatory regime. In our view, it is clear that such and approach is prudent and efficient. For example, the AER has concluded, and we agree, that:

> *Thus, we consider that holding a (fixed rate) debt portfolio with staggered maturity dates to align its return on debt with the regulatory return on debt allowance is likely to be an efficient debt financing practice of the benchmark efficient entity under the trailing average portfolio approach.* [48]

134. Similarly, the QCA has concluded that, under a trailing-average return on debt allowance:

> *the benchmark efficient firm issues 10-year fixed-rate corporate bonds in parcels of equal size uniformly once a year.*[49]

The appropriate transition mechanism

135. We begin our consideration of the appropriate transition mechanism by precisely specifying the benchmark efficient debt management strategies under each of the regulatory regimes:

    a. Under the rate-on-the-day regulatory regime, we consider a benchmark efficient debt management strategy to be one where the benchmark firm issues 10% of its debt requirements each year in the form of 10-year floating rate debt (i.e., on a staggered maturity basis), locking in the base rate at the beginning of each regulatory period for the duration of that regulatory period; and

    b. Under the trailing-average regulatory regime, we consider a benchmark efficient debt management strategy to be one where the benchmark firm issues 10% of its debt requirements each year in the form of 10-year fixed rate debt (i.e., on a staggered maturity basis).

136. Thus, at the beginning of the first regulatory period under the new regime, the benchmark firm would have a debt portfolio whereby:

    a. The base rate is at the then prevailing spot rate; and

    b. The debt risk premium reflected a 10-year trailing average whereby the DRP on each of the 10 tranches of debt was fixed at the time when each tranche was issued.

137. In this case:

    a. A transition is required in relation to the base rate – from the prevailing spot rate to a 10-year trailing average; and

    b. No transition is required is required in relation to the DRP, which already reflects the 10-year trailing average that would be required under the new regime.

Immediate trailing average allowance does not reflect prudent and efficient costs

138. In this case, we note that an immediate adoption of the trailing average allowance would result in a regulatory allowance that does not reflect the costs incurred by a benchmark efficient entity in moving from one prudent and efficient debt portfolio to another.

139. This is because the benchmark efficient firm:

    a. Completes the last regulatory period under the previous regime with a base rate on its entire debt portfolio reflecting the then prevailing spot rate; but

    b. The regulatory allowance reflects the 10-year trailing average of the base rate.

[48] AER, December 2013, *Rate of Return Guidelines: Explanatory Statement*, p. 109.

[49] QCA, February 2024, *Rate of Return Review: Version 3*, p. 47.

140. In particular, the benchmark firm cannot go back in time and lock in base rates as they were over the previous 10 years.

141. Under this approach, the regulatory allowance will be above the prudent and efficient costs in some circumstances and below it in others – depending on the pattern of the evolution of base rates.

142. In Figure 5 below, the smooth line reflects the 10-year trailing average of the 10-year government bond yield and the other line reflects the spot rate. The figure shows that the trailing average is above the spot rate at some points in time and below it in others.

143. If, at the beginning of a regulatory period, a benchmark firm adopting a prudent and efficient approach is exposed to the spot rate but the regulatory allowance is set in line with the 10-year average, the result will be over-compensation in some market scenarios and under-compensation in others.

144. We note that any such mis-match can, and should, be avoided by setting the regulatory allowance to reflect the costs incurred by a benchmark firm operating prudently and efficiently at each point in time.

Figure 5: Spot and trailing average of 10-year government bond yield

Source: RBA; Frontier Economics calculations.

AER 2013 transition mechanism does not reflect prudent and efficient costs

145. We also note that the transition mechanism adopted in the AER's 2013 Rate of Return Guideline does not reflect the costs incurred by a benchmark efficient entity in moving from one prudent and efficient debt portfolio to another. The AER adopted a transition mechanism whereby the 'starting portfolio' is assumed to be one where the required return on the entire debt portfolio is equal to the then prevailing spot rate on 10-year BBB+ debt (the AER's benchmark debt instrument).

146. That is, the AER adopted a transition from the spot rate (on the total cost of debt) to a trailing average (on the total cost of debt). The AER did not distinguish between the base rate and the DRP.

147. The AER transition mechanism does not reflect the costs incurred by a benchmark efficient entity in moving from one prudent and efficient debt portfolio to another because the benchmark efficient firm:

    a. Completes the last regulatory period under the previous regime with a DRP that reflects a 10-year trailing average (i.e., the DRP at the time each tranche of debt was issued); but

    b. The regulatory allowance reflects the prevailing DRP at the beginning of the first regulatory period.

148. In particular, the benchmark firm cannot somehow cancel its obligation to pay the DRP on embedded debt already in its portfolio.

149. Under this approach, the regulatory allowance will be above the prudent and efficient costs in some circumstances and below it in others – depending on the pattern of the evolution of base rates.

150. We note that any such mis-match can, and should, be avoided by setting the regulatory allowance to reflect the costs incurred by a benchmark firm operating prudently and efficiently at each point in time.

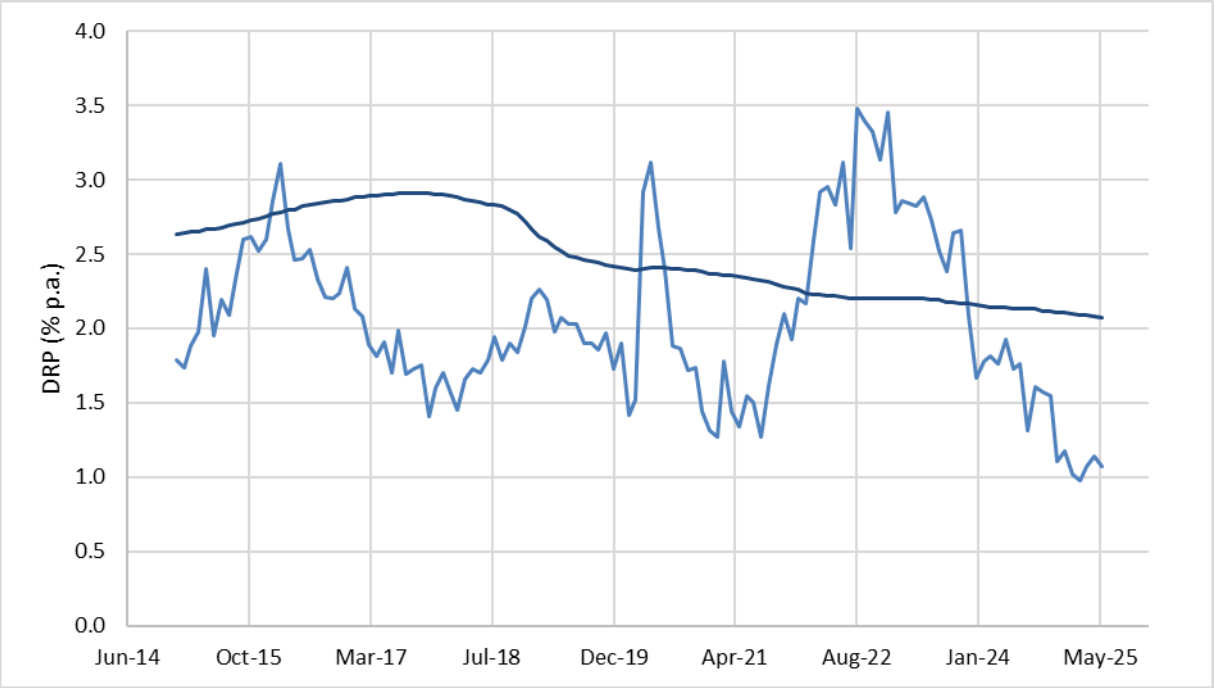
151. Figure 6 below, the smooth line reflects the 10-year trailing average of the 10-year BBB DRP and the other line reflects the spot DRP.[50] The figure shows that the trailing average is above the spot rate at some points in time and below it in others.

152. If, at the beginning of a regulatory period, a benchmark firm adopting a prudent and efficient approach is exposed to the trailing average DRP but the regulatory allowance is set in line with the spot rate, the result will be over-compensation in some market scenarios and under-compensation in others.

153. We note that any such mis-match can, and should, be avoided by setting the regulatory allowance to reflect the costs incurred by a benchmark firm operating prudently and efficiently at each point in time.

[50] In both cases, the DRP is computed relative to the 10-year government bond yield.

Figure 6: Spot and trailing average of 10-year BBB DRP



Source: RBA; Frontier Economics calculations.

Proposed transition mechanism

154. We note that the AER is the only regulator to have adopted a transition mechanism. The AER's mechanism transitions from a spot rate to a 10-year trailing average over a 10-year period. We note that this mechanism is well understood by regulatory stakeholders and straightforward to implement in regulatory models. However, as noted above, the AER's mechanism is problematic in that it applies to the entire cost of debt rather than the base rate only.

155. Consequently, our view is that there is some merit in a transition mechanism that adopts the AER approach, but which applies to the base rate only.

156. Under such an approach:

    a. At the commencement of the relevant regulatory period, the DRP would be set to the 10-year trailing average and would be rolled forward each year; and

    b. At the commencement of the relevant regulatory period, the base rate would be set to the then prevailing spot rate and transitioned over a 10-year period using the AER approach, but applied to the base rate only.

157. At the completion of the 10-year transition period, the standard full trailing average would apply, such that there would be no further need to distinguish between the base rate and the DRP.

158. This, of course, begs the question of why the AER did not apply this recommended transition approach – given that the AER was considering a transition between the same two debt management approaches as is contemplated here.

159. In this regard, we note that regulated firms that were operating the hybrid debt management approach under the rate-on-the-day regime did recommend the mechanism that is proposed above. In a report for a number of such networks, SFG (2015) proposed that:

    The AER has determined that:

a. *Under the previous Rules, the efficient benchmark entity would have adopted the hybrid debt management approach; and*

b. *Under the new Rules, the efficient benchmark entity would adopt the trailing average debt management approach.*

Given these AER determinations, if the goal is to set the regulatory allowance for the forthcoming regulatory period in order to match the efficient financing costs of the benchmark efficient entity:

a. *A transition period would be appropriate for the risk-free rate component as it would take 10 years for a service provider with floating rate debt to transition to the trailing average debt management approach that the AER considers to be the efficient benchmark under its new approach to determining the return on debt allowance; and*

b. *No transition period would be appropriate for the DRP component, as moving directly to a 10-year trailing average would result in an immediate match between the efficient DRP and the regulatory allowance for the DRP, both of which would be based on a 10-year trailing average.* [51]

160. SFG (2015) went on to explain that the AER's proposed transition of the total return on debt was not based on a matching of the regulatory allowance to the efficient cost of debt to a prudent and efficient service provider, but to 'claw back' some perceived over-recovery in prior regulatory periods:

The AER's position is that:

a. *The trailing average should not be immediately applied to the risk-free rate component of the cost of debt because the only efficient debt management practice under the previous Rules was the hybrid approach. If the AER moved directly to a trailing average on this component then, for the forthcoming regulatory period, there would be a mis-match between the regulatory allowance (average over the last ten years) and the actual cost of the efficient service provider (spot rate at the beginning of the regulatory period); and*

b. *Immediate application of a trailing average to the DRP component would result in a match between the regulatory allowance and the actual cost of the efficient service provider over the forthcoming regulatory period (both reflecting the 10-year average). However, the usual regulatory objective of matching the regulatory allowance to the efficient cost over the forthcoming regulatory period is over-ridden in this case. In particular, over the forthcoming regulatory period the regulatory allowance should be set so that the service provider under-recovers relative to the efficient cost – in order to balance out a perceived over-recovery in the prior regulatory period, termed a "windfall gain" by the AER.* [52]

161. In our view, the regulatory allowance should be based entirely on setting a regulatory allowance that reflects the efficient cost of debt to a prudent and efficient service provider – in which case the transition mechanism that we have proposed above is appropriate.

[51] SFG Consulting, February 2015, *Return on debt transition arrangements under the NGR and NER*, p. 3; available at: https://www.aer.gov.au/system/files/Jemena%20-%20Attachment%2009-14%20-%20SFG%20-%20Return%20on%20debt%20transition%20-%20April%202015.pdf.

[52] SFG Consulting, February 2015, *Return on debt transition arrangements under the NGR and NER*, p. 3.

A Appendix: The regulatory movement away from the single tranche / rate-on-the-day approach

A.1 Overview

162. Fifteen years ago, all Australian regulators set the allowed return on debt using the single tranche / rate-on-the-day approach. Today, all but one have moved away from that approach.[53]

163. In this appendix, we describe the rationale for this change and the process by which it has occurred. We also explain the reasons for our view that the single tranche / rate-on-the-day approach cannot reasonably be considered to correspond to a prudent and efficient approach to debt management and is therefore an inappropriate regulatory benchmark.

A.2 The Australian Energy Markets Commission (AEMC) 2012 Rule Change Process

Changes away from the rate-on-the-day approach were driven by users

164. Prior to 2012, all Australian economic regulators set the allowed return on debt using the rate-on-the-day approach.

165. In the energy sector, the Australian Energy Market Commission (**AEMC**) sets the National Electricity Rules and National Gas Rules (**the Rules**) which, among other things, govern the way regulation is performed in that sector. Stakeholders in that sector are able to propose rule changes to the AEMC, which then performs a Rule Change Process resulting in a Final Determination that may or may not make a change to the Rules.

166. In 2011, a group of large energy users (known as the Energy Users Rule Change Committee, **EURCC**) proposed a number of rule changes, including the departure from the use of the rate-on-the-day approach to setting the allowed return on debt.[54] In particular, the EURCC identified that the actual practice of regulated service providers was to issue debt on a staggered maturity basis and *not* as a single tranche at the beginning of each regulatory period. The EURCC highlighted the differential, at that time, between the rate-on-the-day regulatory allowance and the cost of "embedded debt" issued on a staggered maturity basis:

> *The Rules require the AER to observe the risk free rate and the debt risk premium over short intervals of time [rate-on-the-day approach]. But these rates vary considerably*

[53] The only regulator that still uses the rate-on-the-day approach is the Australian Competition and Consumer Commission (**ACCC**). However, this is because, unlike all other regulators in Australia, the ACCC has not conducted a serious review of its WACC method within the past 15 years. Every other Australian regulator has conducted such a review, and in every case has decided to abandon the rate-on-the-day approach because it is not consistent with a prudent and efficient debt management approach, particularly for infrastructure firms with relatively large debt portfolios.

[54] https://www.aemc.gov.au/sites/default/files/content/e1fcfa7b-23e8-43c7-92fb-eb825025620f/Energy-Users-Rule-Change-Committee-Proposal.pdf.

> *over short periods and hence the return on debt they deliver is very sensitive to the chosen time intervals.*
>
> *The Rules have no regard to the cost of embedded debt [issued on a staggered maturity basis] and hence the regulated return on debt can give rise to windfall gains or losses (so far it has given rise to windfall gains).*[55]

167. The EURCC submission identified that:

    a. When rates are generally increasing, the rate-on-the-day allowed return on debt will be higher than the cost of staggered-maturity embedded debt; and

    b. When rates are generally decreasing, the reverse will be true.

168. Noting these effects, the EURCC advocated an approach whereby the allowed return on debt should reflect the efficient cost of debt (which the EURCC considered to be the cost of staggered maturity debt) at the time of each regulatory determination so there is neither a windfall gain nor a windfall loss arising in any determination.

169. The AEMC recognised that the proposed move away from the rate-on-the-day approach was initiated by users:

> *Both the AER and the EURCC have claimed that the current regulatory approach in the NER is not delivering a satisfactory estimate of the cost of debt for NSPs. In its rule change request the EURCC proposed changing the rules from estimating a forward-looking return on debt to using a trailing average of observed historical debt costs of benchmark NSPs.*
>
> *The Commission agrees with the AER and the EURCC that the existing approach in the NER is problematic for some NSPs, depending on their characteristics and debt management strategies. A number of other approaches to estimating the return on debt were suggested to the Commission by stakeholders.* [56]

AEMC decision and rationale

170. The AEMC's Final Determination in this process was guided by the principle that the allowed return on capital should best reflect the financing costs that would be incurred by an efficient benchmark firm providing the regulated services. In particular, the AEMC introduced an *Allowed Rate of Return Objective* (**ARORO**) into the Rules as follows:

> *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).* [57]

171. The AEMC highlighted the important regulatory principle of setting the allowed return in line with benchmark efficient financing costs:

> *The primary objective of the allowed rate of return is to provide service providers with a return on capital that reflects efficient financing costs. A rate of return that reflects efficient financing costs will allow a service provider to attract the necessary investment capital to maintain a reliable energy supply while minimising the cost to*

[55] Energy Users Rule Change Committee, October 2011, *Proposal to change the National Electricity Rules in respect of the calculation of the Return on Debt*, p. 42.

[56] AEMC, November 2012, *2012 Rule Determination*, p. 24.

[57] See https://www.aemc.gov.au/sites/default/files/content/e0e21624-d57e-4e44-9eae-07ebedbfd93d/National-Electricity-Amendment-%28Economic-Regulation-of-Network-Service-Providers%29-Rule-2012-No.9.PDF, at 6.5.2 (c).

> *consumers. The Commission also stated that it is important for recovery of financing costs to be based on benchmark efficient finance costs. This is to provide incentives for firms to adopt efficient financing arrangements and to protect consumers from the effects of inefficient ones.* [58]

172. The AEMC also identified that the prudent and efficient financing practice can be informed by the practice that would be expected in the absence of regulation:

> *The Commission considered that the long-term interests of consumers would be best served by ensuring that the methodology used to estimate the return on debt reflects, to the extent possible, the efficient financing and risk management practices that might be expected in the absence of regulation.* [59]

173. Having codified into the Rules the principle that the allowed return must reflect benchmark efficient financing costs, the AEMC determined that the regulator was best placed to determine the nature of those benchmark efficient financing costs from time to time.

174. In this regard, the AEMC changed the Rules to provide the regulator with the flexibility to specify the particular financing approach or approaches that it considered to be prudent and efficient in the circumstances – with the allowed return on debt to be set so as to reflect the cost incurred under that approach. To avoid any doubt, the AEMC specified that the regulator had the flexibility to set the allowed return on debt according to:

    a. The single tranche / rate-on-the-day approach;

    b. The fixed-rate staggered maturity / trailing average approach; or

    c. The interest rate swaps / hybrid approach.[60]

A.3 The Australian Energy Regulator's (AER's) rejection of the rate-on-the-day approach

175. The AER's first consideration of the allowed return on debt under the new Rules occurred in its *2013 Rate of Return Guidelines* process.

176. The AER began by noting that, under the previous Rules, it had set the allowed return on debt using the rate-on-the day approach. The AER identified two problems with that approach:

    a. The debt management approach that is consistent with the rate-on-the-day allowance is one whereby the regulated firm issues all of its debt in a single tranche. That is, all of the firm's debt is issued at one point in time and it all matures at one point in time. This creates very significant refinancing risk – interest rates may be very high, or debt markets may be in crisis when that single tranche of debt matures. Consequently, such an approach to debt management could not reasonably be considered to be prudent or efficient; and

    b. There was strong evidence that no regulated firms issued debt in line with the rate-on-the-day approach – because of the exposure to refinancing risk. Consequently, there was an inevitable mis-match between the regulatory allowance and the cost of debt incurred under the (efficient) debt management approaches actually adopted by regulated firms. This differential is inconsistent with the objective of matching, as closely

[58] AEMC, November 2012, *2012 Rule Determination*, p. 43.

[59] AEMC, November 2012, *2012 Rule Determination*, p. 76.

[60] See https://www.aemc.gov.au/sites/default/files/content/e0e21624-d57e-4e44-9eae-07ebedbfd93d/National-Electricity-Amendment-%28Economic-Regulation-of-Network-Service-Providers%29-Rule-2012-No.9.PDF at 6.5.2 (h)-(j).

as possible, the allowed return on debt with the cost incurred under a prudent and efficient debt management approach.[61]

177. The AER then concluded that:

a. An approach whereby the firm issues fixed-rate debt on a staggered maturity basis could be considered to be prudent and efficient. Such an approach mitigates refinancing risk in that only a portion of the firm's debt portfolio matures and requires refinancing in any given year; and

b. Setting the regulatory allowance using the trailing average approach provides a match between the allowed return on debt and the costs incurred under the fixed-rate staggered maturity debt management approach.

178. The AER concluded that:

> *Thus, we consider that holding a (fixed rate) debt portfolio with staggered maturity dates to align its return on debt with the regulatory return on debt allowance is likely to be an efficient debt financing practice of the benchmark efficient entity under the trailing average portfolio approach.* [62]

179. The AER further concluded that the trailing average approach is consistent with the regulatory principle of matching the allowed return on debt with the benchmark cost incurred under a prudent and efficient debt management approach:

> *Overall, we are satisfied that the chosen specification of the trailing average portfolio approach performs well in terms of minimising the potential difference between the return on debt allowance and the expected return on debt of the benchmark efficient entity…*
>
> *To summarise, we are satisfied that the trailing average portfolio approach is likely to contribute to the achievement of the allowed rate of return objective and recognises 'the desirability of minimising any difference between the return on debt and the return on debt of a benchmark efficient entity referred to in the allowed rate of return objective'…*
>
> *Finally, we consider the trailing average portfolio approach is capable of providing the benchmark efficient entity with a staggered debt portfolio with a reasonable opportunity to recover at least the efficient debt financing costs. This implies that a service provider with a similar degree of risk is also provided with the same opportunity.* [63]

180. The AER went on to identify some other advantages with the trailing average approach:

> *In addition to the considerations above, the trailing average portfolio approach provides the following benefits:*
>
> - *It smooths movements in the return on debt over a number of years. We consider this would result in lower price volatility (from one regulatory control period to the next) for energy consumers and more stable returns for investors than the "on the day" approach. Consideration of consumer price volatility is an important factor, since the price volatility affects intertemporal decisions of energy consumers and hence affects the overall efficiency of economic outcome.*

[61] AER, December 2013, *Rate of Return Guidelines: Explanatory Statement*, p. 108.

[62] AER, December 2013, *Rate of Return Guidelines: Explanatory Statement*, p. 109.

[63] AER, December 2013, *Rate of Return Guidelines: Explanatory Statement*, p. 109.

- *It minimises the consequences of a single measurement error.*
- *It may be more reflective of the actual debt management approaches of non-regulated businesses. It might, therefore, be more likely to represent efficient financing practice.* [64]

181. Finally, we note that, although the Rules left it open for the AER to adopt different efficient benchmarks for different regulated firms, the AER determined that it would adopt a single benchmark efficient financing approach for all firms:

> *We propose to use a single definition of a benchmark efficient entity for the purpose of estimation of the allowed rate of return on capital. In particular, we consider that factors such as difference in size or ownership structure of service providers do not justify the adoption of different benchmark definitions. Given the definition of the benchmark efficient entity, we must specify the methodology we propose to use for estimating the allowed return on debt.* [65]

182. And further:

> *We consider that the risk exposure of the businesses we regulate, after taking into account the risk and the mitigating impact of the regulatory regime, is sufficiently similar to warrant the use of only one benchmark.* [66]

183. Having determined that it would adopt a single benchmark approach for the allowed return on debt, the AER determined in favour of the trailing average:

> *We propose to apply a trailing average portfolio approach to estimate the return on debt. This approach means that the allowed return on debt more closely aligns with the efficient debt financing practices of regulated businesses and means that prices are likely to be less volatile over time. The trailing average would be calculated over a ten-year period. The annual updating of the trailing average should also reduce the potential for a mismatch between the allowed return on debt and the return on debt for a benchmark efficient entity. This should reduce cash flow volatility over the longer term.*[28]

A.4 The QCA's rejection of the rate-on-the-day approach

184. Since the AER adopted the trailing average approach to the allowed return on debt, nearly all other Australian regulators have moved to some form of trailing average allowance, with only the ACCC continuing to adopt a rate-on-the-day allowance. (The ACCC rarely determines an allowed rate of return for regulated businesses, and has not conducted a major review of its WACC method within the past 15 years.)

185. For example, in its 2021 WACC review, the Queensland Competition Authority (**QCA**) summarised the approaches of Australian regulators, reproduced in Figure 7 below.

[64] AER, December 2013, *Rate of Return Guidelines: Explanatory Statement*, pp. 109-110.

[65] AER, December 2013, *Rate of Return Guidelines: Explanatory Statement*, p. 100.

[66] AER, December 2013, *Rate of Return Guidelines: Explanatory Statement*, p. 100.

Figure 7: Australian regulatory approaches to the allowed return on debt

Regulator	*Application of the trailing average approach*
AER	Entire cost of debt
ESC	Entire cost of debt
IPART	Entire cost of debt
ESCOSA	Entire cost of debt
ERA (electricity)	DRP only
OTTER	Entire cost of debt
ICRC	Entire cost of debt

Source: QCA, June 2021, Rate of return review, Table 8, p. 35. DRP refers to the debt risk premium. Since publication of that table, the ERA has applied a trailing average to the DRP portion of the return on debt for electricity and gas networks.

186. The QCA has concluded that the regulatory framework first requires a decision about which debt management strategy should be adopted as the prudent and efficient benchmark:

> *Before estimating a regulatory cost of debt allowance, it is necessary to choose a benchmark debt management strategy as the basis for this estimation process.*
>
> *Once a benchmark debt management strategy has been chosen, the cost of debt (and hence a cost of debt allowance) can be estimated.*[67]

187. The QCA noted that a trailing average approach is considered to be the appropriate benchmark because it reduces refinancing risk, as explained above:

> *It may be efficient for capital-intensive infrastructure firms to stagger their debt financing to avoid needing to refinance their entire debt portfolio over a relatively short window of time to manage refinancing risk. This has in part led many Australian regulators over the last decade to move to estimating the cost of debt using a form of trailing average debt management strategy. For example, the AER, ESC, ESCOSA and ICRC [other Australian regulators] all have recently used a trailing average cost of debt approach.*[68]

188. The QCA concluded that a trailing average approach best reflects the cost of serving debt that would be incurred by an efficient firm operating in a competitive market:

> *Therefore, when reviewing the relevant debt management strategy, we need to consider the likely debt management behaviour of an unregulated 'efficient' firm operating in a competitive market for similar services. We consider it appropriate to use this reference point, as the debt management strategy benchmark we are developing is to serve as a proxy for this hypothetical unregulated competitor—and such a competitor would have no reason to utilise an on-the-day strategy.* [69]

[67] QCA, June 2021, *Rate of return review*, p. 24; QCA, February 2024, *Rate of Return Review: Version 3*, pp. 33-34.

[68] QCA, June 2021, *Rate of return review*, p. 26, *Rate of Return Review: Version 3*, pp. 35-36.

[69] QCA, June 2021, *Rate of return review*, p. 27, *Rate of Return Review: Version 3*, p. 37.

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