Implementing a weighted trailing average cost of debt

A report for the ENA

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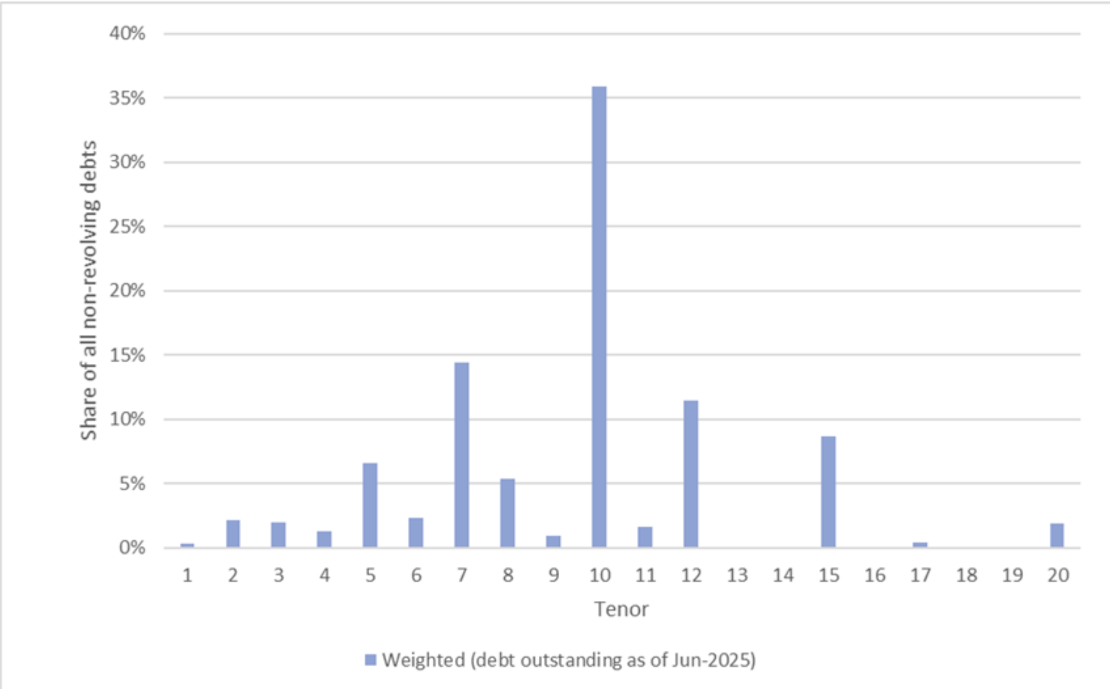
1 Executive Summary

1. The AER has put forward a potential model of the weighted trailing average that, if implemented, would assume that NSPs are funded 'as if' RAB growth, including that which is associated with large ISP projects, was financed using a sequence of short-dated debt instruments. Specifically, a portfolio of 1 to 10 year maturities. This would then transition to a 10 year simple trailing average (assuming no further RAB growth).

2. An understandable potential motivation for the AER's 1 to 10 year approach may be the desire to mathematically illustrate how funding of debt RAB growth can be folded back into a trailing average (with 10% of debt being refinanced each year). By issuing equal amounts of debt across 1 to 10 year maturities, one-tenth of the existing debt RAB portfolio refinances each year, which maps neatly into a simple trailing-average framework. When the RAB is growing, the new debt issued to fund that growth slots naturally into the "back end" of the trailing average, and even once growth ceases, the structure ensures that 10 per cent of the portfolio is refinanced in each subsequent year.

3. However, the mathematical neatness of the AER illustrative model fails to grapple with the observed practice of NSPs (and corporate bond issuers more generally) who issue the vast majority of all debts in a limited number of tenors (5, 7 10, 12 and 15 years) as can be seen in Figure 1-1 below which shows the share of all funding by privately owned NSPs by tenor as at June 2025. It is relevant to note that the weighted average term to maturity at issuance (WATMI) in the underlying debt data is 9.5 years for all privately owned NSPs including bank debt and excluding subordinated debt (9.9 years if relatively recently privatised NSW firms are excluded) and 10.4 years if subordinated debt is included (11.1 years excluding NSW firms).

Figure 1-1: Share of outstanding NSP debt at June 2025 by tenor at time of issuance



Percentages excludes revolving debt (i.e., lines of credit with banks the borrower can withdraw and repay at their discretion within an agreed loan limit).

4. The reason for issuing in these tenors is that it:

a. minimises net present value of debt raising costs (per dollar raised per year funded) and liquidity management costs; and

b. meets the demand from corporate bond investors who would require an interest rate premium to transact at non-standard tenors.

5. Importantly, these tenors are where the Australian and offshore corporate bond markets are liquid and competitively priced. Very short-dated corporate bonds (such as under 5-year tenors) are rarely issued because investor demand is limited, which in turn would push up issuance margins if such a strategy were pursued at scale.

6. A further key omission in the AER's illustrative model is the cost of debt issuance and refinancing itself. Issuing a single long-dated bond involves one set of transactions, legal, underwriting and internal management costs, with refinancing required only in the more distant future. By contrast, funding the same investment through a sequence of shorter-dated instruments requires multiple bond issuances initially (raising a smaller amount per issue) and again when refinanced at an earlier date (earlier incursion of the costs of re-issue). As a result, the present value of issuance and refinancing costs is materially higher under a short-term funding strategy, even before considering interest-rate risk.

7. Another way of capturing these effects is to note that the fixed costs of bond issues is a larger proportion of the amount raised when multiple smaller issues are used rather than one or two large issues. These issues will inevitably be smaller than the benchmark $250m issue size unless the annual RAB growth is $2.5bn or more (total RAB growth in a year of $4.2bn at 60% gearing. Such an <u>annual</u> RAB growth would be larger than many NSPs <u>existing</u> RAB. In addition, these fixed cost per issue only delivers financing for a shorter period if the issues are shorter tenor (with the costs of refinance incurred earlier than otherwise). This means that the cost per dollar per year raised is materially increased.

8. In addition, shorter-dated funding materially increases liquidity management requirements. When a bond is due to mature, the business must ensure that funds are available at the maturity date, which in practice requires raising replacement debt in advance and managing overlapping funding positions. If refinancing occurs more frequently and earlier on average, these liquidity buffers must be established earlier and more often, increasing the present value of liquidity management costs. These are real and unavoidable costs associated with prudent financial management, and they are not eliminated simply because the nominal interest rate on short-term debt is lower.

9. Moreover, liquidity funding costs will already be high during a large capex spend because rating agencies (and prudent management) require a liquidity buffer for all expenditures (not just refinance). Compounding high existing debt funding of a major project by using short term debt (that needs to be refinanced during the project) adds to liquidity management costs when they are already heightened.

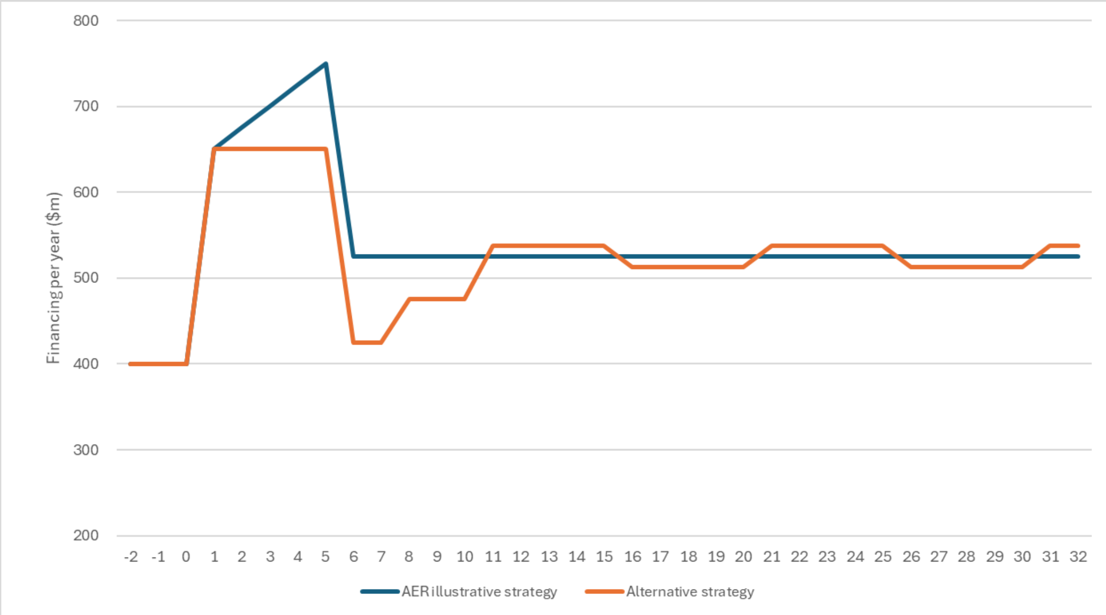
10. Taking these constraints into account, it is highly unlikely that NSPs would efficiently follow the AER short term issuance strategy. A more realistic approach would be for an NSP to fund debt RAB growth via issuing a mix of issuance into the liquid tenors (5, 7, 10, 12 and 15 year debt).

11. This alternative approach solves the mathematical problem associated with spreading out lumpy refinance. It also does so in a way that minimises lumpy <u>debt raising</u> not just refinance of <u>existing debt</u>. To see this, consider a $1.25bn ISP project associated with five consecutive years of $250m of debt RAB growth per year (on top of refinancing each year of 10% of a $4bn pre-existing debt RAB). The AER illustrative strategy implicitly has an NSP needing to refinance 40% of the growth debt raised in the first year of the project in years 2 to 5 of the project – adding to the unusually high

financing burden in those years. By contrast, a more realistic approach would be to raise a mix of 5, 7, 10, 12 and 15 year debt year debts that only need to be refinanced after the ISP project is completed.

12. This is illustrated in Figure 1-2 below where the financing burden of following the AER illustrative strategy is compared with an alternative strategy of funding RAB growth with a mix of issuance at liquid tenors (5 years (10%), 7 years (20%), 10 years (35%), 12 years (20%) and 15 years (15%)) with an average tenor of 9.6 years. All debts are modelled as being refinanced in the future with 10 year debts.

Figure 1-2: Comparison of financing per year required under AER (5.5 year average tenor) vs alternative strategy (9.6 year average tenor)



13. Critically, both approaches smooth out the long-term refinancing profile after the completion of the ISP project. The three key difference between the strategies are that the alternative strategy:

a. Avoids compounding refinance of short term debts from early in the ISP project with the actual funding of the ISP project in years 2 to 5 of the project. Under the AER strategy annual debt funding peaks at $750m in year 5 of the project while the alternative strategy only requires $650m of funding;

b. Allows the NSP to continue to issue into standard (liquid) tenors where there is established demand for debt from corporate debt investors and, thereby, avoiding paying a liquidity premium on debts issued at non-standard tenors; and

c. Maintains an average duration of debts issued of close to 10 years and, in doing so, reduces the present value of debt raising and liquidity management costs.

14. The AER's illustrative example also comes with complexity in relation to modelling, issues around reliable and robust independent benchmark yield estimates and will necessitate multiple average observation periods. This is further outlined in section 3.

15. Were anybody minded to attempt to implement a WTA that is a "more realistic" model for how debt RAB growth would efficiently be funded then we consider that this would look more like the

alternative strategy described above. We do not recommend the AER pursue such an approach because, ultimately, the efficient strategy will be context specific for every NSP. For example, the ideal mix of tenors will depend on the size and length of the ISP project and will depend on the structure of the NSPs existing portfolio of debt.

16. In this context, the regulator is best served by setting a stylised benchmark that broadly matches, and compensates for, the efficient funding strategy (but does not seek to exactly mimic it). The QTC WTA serves that purpose.

17. The QTC has proposed a model of the weighted trailing average (WTA) that retains a 10 year benchmark tenor and, therefore, can be used without changing the AER's current benchmark approach to debt raising and debt management costs. The QTC WTA is, like the AER WTA, a simplification of reality. However, it is a simplification that, consistent with its maintenance of a 10 year benchmark tenor, is aligned with actual efficient NSP funding strategy for large debt RAB growth.

18. In short, between the AER's illustrative example and the QTC approach, the QTC approach is simpler and practicable and more broadly reflects the way a prudent and efficient network service provider would fund large, long-lived capital investments in practice: through a diversified portfolio of medium- and long-dated debt that smooths refinancing over time, aligns with liquid market tenors, and preserves an average tenor and issue size consistent with the AER's benchmark assumptions.

2 Why adopt a weighted trailing average (WTA)

19. The Australian Energy Regulator (AER) currently assumes that a benchmark Network Service Provider (NSP) funds 60 per cent of its Regulatory Asset Base (RAB) with 10-year fixed-rate debt, and that this debt portfolio can be represented by a 10-year trailing average of market yields for 10 year bonds issued in AUD in Australia.

20. This assumption is intended to approximate the long-term cost of debt faced by a prudent, efficient NSP smoothing out its refinance profile. This is consistent with the observed fact that NSPs average debt maturity at issuance is around 10 years and that their profile of maturity is, in line with prudent debt management strategies, relatively evenly spread out. It does not involve detailed modelling of individual debt tranches, refinancing decisions, or funding of growth in the RAB itself.

2.1 Incentive problems with the simple trailing average

21. There is a strong case that, in the presence of strong RAB growth the current unweighted approach can be biased and, as a result, create investment incentive problems when the prevailing cost of debt is materially different to the trailing average.

22. Specifically, when the prevailing cost of debt is materially above the simple trailing average then RAB growth will be unprofitable for an NSP because the actual debt funding costs will be less than the debt funding compensation. This will incentivise NSPs to avoid or delay investments where possible. Similarly, in the opposite scenario of lower prevailing debt costs, NSPs will be incentivised to bring forward discretionary investments.

2.2 Two alternative weighted trailing average

23. A solution to these problems is to modify the simple trailing average to include weights based on when the debt was issued. There are two versions of a weighted trailing average (WTA) under consideration:

    a. The AER's illustrative version which assumes RAB growth is funded with a mix of 1 to10 year debts (or, 1 to 10 year investments in BBB+ bonds in the case of declining RAB); and

    b. The QTC version that applies the same weighting to each year as the AER version but where all debts issued in a year are assumed to be issued at the single 10- year benchmark tenor.

24. The QTC version treats RAB growth the same way that the historic and current rate of return instrument (RoRI) transition methodology is applied to NSPs transitioning to a trailing average. The AER version adopts the same weights but introduces the complexity of overlaying that transitional weights with 1 to 10 year bond rates.

2.2.1 Both AER and QTC solve the incentive problems with the simple trailing average

25. Both of the AER and QTC WTA give the same weight to interest rates in each year and this weight reflects the actual weight of that year's debt funding in the total portfolio of debt in the year it occurs. In this sense, both the AER and QTC WTAs are similar and both solve the investment incentive problems associated with the simple trailing average giving too much weight to historical years in the presence of RAB growth.

2.2.2 The AER WTA assumes, and compensates for, debt RAB expansion using a 5.5 year average tenor (vs 10 years for the QTC WTA)

26. The key difference between the AER and QTC WTAs is the assumed average tenor at which debt RAB expansion is funded. The AER WTA assumes debt RAB growth is funded using an average mix of 1 to 10 year debts (5.5 years on average) which the QTC assumes that it is funded with 10 year debt on average.

27. Which is preferable as a regulatory benchmark depends on both:

    a. Which better reflects the cost of efficiently funding RAB growth; and

    b. Which is more complex to implement. Where less complex models are to be preferred both for the sake a simple, easily understood, regulatory regime but also to the extent that complexity comes with additional failure points for the regulatory regime.

3 AER WTA is more complex and less realistic

3.1 The AER WTA requires the regulatory model to keep track of 55 different interest rates.

28. The AER WTA is more complicated to implement because it requires, after 10 years of operation, keeping track of 55 different interest rates at any given time in the WTA. That is, after 10 years of operation the AER WTA would be comprised of:

    a. 10 ten year interest rates;

    b. 9 nine year interest rates;

    c. 8 eight year interest rates;

    d. …

    e. 1 one year interest rate.

29. The QTC model is simpler to implement because it retains the property only using 10 different interest rates (one ten year debt from each of the last 10 years).

30. This complexity has potential costs above and beyond the modelling complexity. In addition, there are design issues that relate to how Rate of Return Instrument (RoRI) will specify that each interest rate is estimated and, in particular, what the RoRI will require if one of the interest rates are not available. By using 10 times as many tenors in the WTA there are, in effect, 10 times as many points of failure for the RoRI to be unable to generate a value for that tenor in a given year.

31. In addition, it is currently standard practice of all three data sources historically used in the RoRI (Bloomberg, Reuters and RBA) to publish 10 year interest rates. But only Reuters currently typically publishes estimates for all tenors from 1 and 9 years. Bloomberg does not currently publish a 6 year tenor for A and BBB and the RBA only publishes estimates at 3, 5, 7 and 10 years effective tenors.

32. This means that the RoRI will need to specify an interpolation methodology to fill in currently bland estimates from the data providers. Moreover, there were historically periods where individual tenors are only intermittently published. The interpolation methodology for each tenor will, therefore, require cascading fallbacks if one element of the interpolation methodology is unavailable.

3.2 Third party data providers will not have robust yield estimates outside the liquid tenors

33. Arguably, third party estimates of the BBB and A rated cost of debt for tenors outside 5, 7 and 10 are unreliable because the vast majority of Australian corporate debt issuances occur at these maturities (and 12 and 15 years typically issued internationally). Public corporate debt issuances at other tenors are very rare and, therefore, the data available to data service providers at other maturities is much less reliable – which makes their estimates of corporate debt interest rates at these tenors less reliable.

34. The AER WTA will, therefore, be less reliable as an estimate of the cost of debt – even if it was assumed that NSPs would follow the underlying short tenor strategy.

3.3 Multiple averaging periods required

35. The AER WTA would appear to be proposed "as if" 10 different issuances are made in a single debt averaging period. This is likely to be impractical for an NSP even if they attempted to follow the

underlying strategy. For the AER WTA to be implemented an NSP might need to be able to nominate three or four different averaging periods and, presumably, exactly which notional instruments would be issued in those averaging periods.

3.4 AER WTA implies NSPs with declining RAB become bond investors (as opposed to borrowers)

36. The logic of the AER WTA is counter-intuitive when applied to reductions in RAB. In effect, the AER WTA assumes that an NSP with negative net capex (return on capital greater than capex) will take the surplus and invest in a 10 year BBB+ bond (i.e., lend rather than borrow). The AER WTA effectively uses this investment in a 10 year BBB+ bond as "negative debt" which is funded by positive debt with 1 to 10 year tenors.

37. For example, imagine an NSP with a $1bn debt RAB that then has a "one off" reduction in the debt RAB of $100m in a single "year t"(followed by a constant debt RAB of $900m). The NSP is then assumed to:

    a. Take the $100m in excess return of capital in "year t" and invest it entirely in a single 10 year BBB+ bond (i.e., $100m of "negative debt").

    b. Refinance the $100m (10% of $1bn) of pre-existing debt that matures in that and all nine subsequent years with:

        i. $90m of 10 year BBB+ debt; and

        ii. $10m of debt with a maturity date equal to "t+10". So, in "year t" this would be $10m of 10 year debt, in the next year it would be $10m of 9 year debt and so on.

38. This strategy gives the NSP "negative debt" of $100m to offset against their existing debt portfolio (of $1bn) so that their net debt automatically adjusts to $900m. However, the negative $100m of debt will mature in 10 years' time. Consequently, the NSP borrows in ten $10m tranches all aligned to mature at the same time as the negative debt. At that time, the $100m proceeds from the negative debt maturing can be used to pay the $100m owed on the ten $10m tranches maturing on the same date.

39. The reason the AER's illustrative WTA gives rise to a lower cost of debt for a firm with a declining RAB (assuming a positively sloped yield curve and before considering debt management costs) is because, under the AER's illustrative WTA NSPs:

    a. Invest excess return of capital in 10 year BBB+ bonds (the yields from which the AER deducts from its WTA); and

    b. Offsets this with borrowing in the form of shorter duration BBB+ bonds (the yields from which the AER adds to its WTA);

40. This is all mathematically "neat" and internally consistent with the AER weighting scheme. But it cannot reasonably be described as an efficient or prudent debt management strategy. In order to match this profile of cash-flows an NSP treasury would need to find and invest its return of capital in a "benchmark 10 year BBB+ bond". The treasury would cease to be purely funding its network operations but would, instead, become a corporate bond investor. In turn, it could be argued, that elements of consumers' final energy bills would be partly viewed as implicitly funding network businesses to participate as lenders in already well-function competitive commercial debt markets, a counterintuitive proposition given the long-term capital-intensive nature of network infrastructure, and likely consumer expectations.

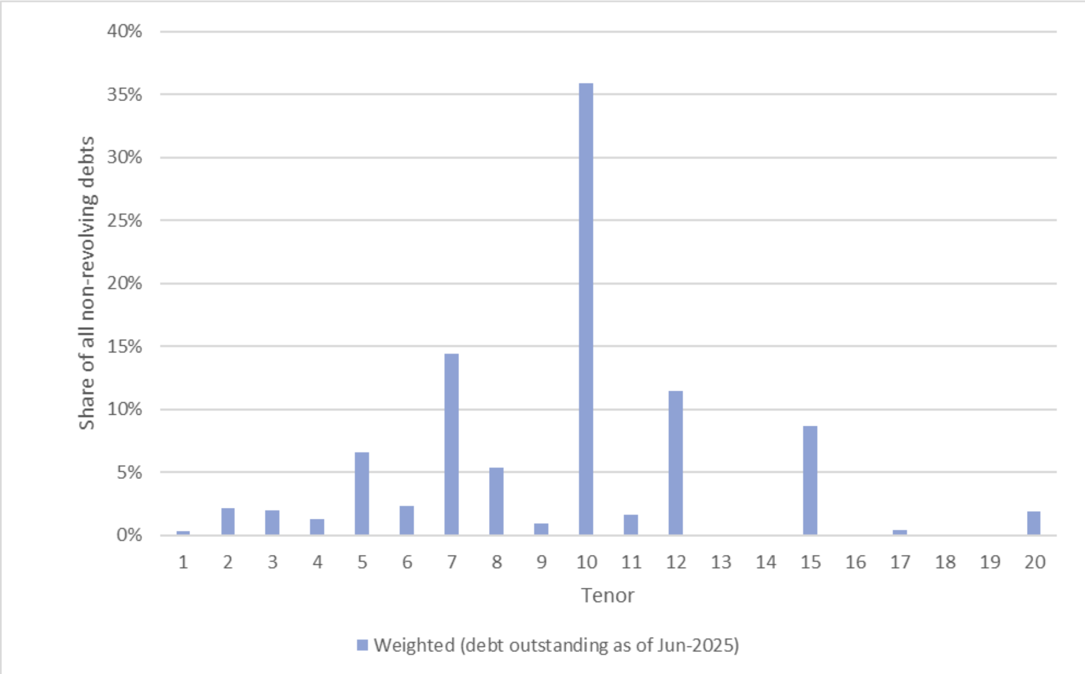
41. Rather than the AER actually suggesting NSPs should become lenders, it seems likely that this result was simply an outcome of the AER's illustrative model's attempt to mathematically solve the weighting scheme to both: a) have net debts match the debt RAB every year; and b) return to a simple trailing average after 10 years. However, this is a good illustration of why the design of a weighted trailing average should have regard to practical financing strategies rather than being driven by mathematical neatness.

3.5 NSPs do not issue material debts outside five liquid tenors

42. Corporate debt issuance is concentrated in a small number of tenors. This is true for all corporates and NSPs are no exception. This can be illustrated by allocating all outstanding NSP debt into the tenor at issuance and expressing each tenor as a percentage of all debt. This is shown in Figure 3-1 below where it can be seen that NSP issuance is dominated by issuance in the 10, 7, 12, 15 and 5 year tenors. With very little issuance outside those tenors.

43.

Figure 3-1: Share of outstanding NSP debt at June 2025 by tenor at issuance



Percentages excludes revolving debt (i.e., lines of credit with banks the borrower can withdraw and repay at their discretion within an agreed loan limit).

44. This pattern reflects demand and supply for corporate debt in the issuance market.

45. Both investors in corporate debt and issuers incur fixed costs in trading. These fixed costs are higher per dollar/year invested when the tenor of the investment is shorter. We explain how shorter tenors drive higher debt raising and management costs for issuers in section 4 below. A very similar logic applies for debt investors who have costs associated with investing in corporate debt and prefer to spread those costs over longer duration.

46. It follows that both investors and issuers prefer not to transact at very short tenors.

47. This explains why there is little or no issuance at tenors of less than 5 years. The concentration of issuance above 5 years in the 5/7/10/12/15 tenor buckets requires a different explanation. This

relates to the desire for liquidity by both investors and issuers. If issuers randomly chose tenors between 5 and 15 years then we would see something like 9% of issuance at each of those 11 tenors.

48. Instead, we see dramatic grouping of issuance into only 5 of those tenors. This is because the market naturally seeks to create liquidity to the benefit of both investors and issuers. The more corporate debt that is issued at a particular tenor the easier it is for investors to make comparisons across issuers. The more investors interested in a particular tenor the more issuers are willing to issue into that tenor. This creates a virtuous circle for liquidity at a small number of tenors.

49. This naturally results in both sides of the market concentrating demand and supply at particular tenors. This is not dissimilar to how retail competitors tend to cluster together geographically – such as homeware stores or furniture shops clustering together in suburb or shopping centre. Suppliers sell where the demand is and the demand is where the suppliers sell.

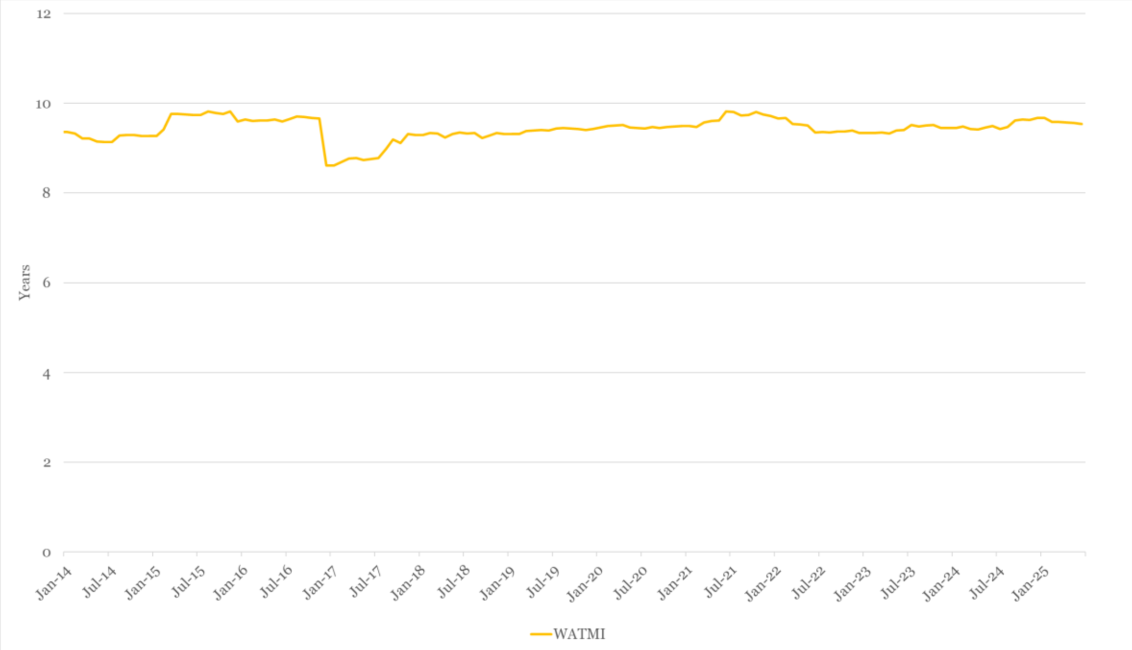
50. To some extent exactly what tenors end up being the convention is random. We see concentration at 5/7/10/12/15 year tenors but, to some extent, this is an accident of history and, at least in theory, this could have been at 6/8/11/13/16 year tenors etc. That said, there is also an economic logic to the liquid tenors that we see. Firstly, both investors and issuers want to be able to manage their portfolio duration in the primary issuance market. This means that there needs to be a spread in the liquid tenors (they should not be separated by single years).

51. Secondly, it is beneficial if the tenors do not divide into each other. For example, if the only liquid tenors were 5 and 10 years this would be problematic because it would be harder to spread out the profile of refinance for both investors and issuers. Ideally, both investors and issuers want to limit the proportion of their portfolio that is maturing each year. If there are unusual years (e.g., where investors have large inflows for investment or issuers have large need for new debt) then transacting in 5 and 10 year tenors would be problematic because refinance of the lumpy flows in a single year would inevitably coincide with each other. Arguably, this logic explains the relative popularity of 7 and 10 year tenors (tenors that only divide into each other once every seventy years).

52. It is also relevant to note that the weighted average term to maturity at issuance (WATMI) in the underlying debt data is 9.5 years for all privately owned NSPs including bank debt and excluding subordinated debt (9.9 years if relatively recently privatised NSW firms are excluded) and 10.4 years if subordinated debt is included (11.1 years excluding NSW firms).

53. This is summarised in Figure 3-2 and Table 3-1 below. The former shows the WATMI including bank debt (using actual drawdown percentages for revolving debt) but excluding subordinated debt. The later summarises the values in Figure 3-2 in tabular form and shows alternative constructions (including subordinated debt and excluding relatively recently privatised NSW NSPs).

Figure 3-2: WATMI analysis using drawdown information provided



54. Our produced WATMI that takes into account actual drawdown falls between AER's scenario 1 (0% drawdown) and scenario 2 (50% drawdown) in Figure 13 of the AER's 2025 Rate of Return Annual Update.

55. The table below breaks down the analysis to illustrate the impact of including and excluding hybrid debts (at the original tenor), as well as instruments from NSW firms (eliminating the effect of privatisation). The WATMI analysis indicates a decline in WATMI in FY22 followed by a subsequent increase in FY23. This trend is also consistent with a 10-year benchmark.

Table 3-1: WATMI for different sets of network data

	Jun-18	Jun-19	Jun-20	Jun-21	Jun-22	Jun-23	Jun-24	Jun-25
Excluding subordinated debt								
All firms	9.4	9.4	9.5	9.8	9.4	9.4	9.5	9.5
NSW firms excluded	10.0	10.0	10.0	10.5	9.8	9.8	9.9	9.9
Including subordinated debt (original tenor)								
All firms	9.8	9.9	9.9	11.0	10.1	10.1	10.2	10.4
NSW firms excluded	10.7	10.6	10.6	12.1	10.8	1087	10.8	11.1

Source: CEG analysis of NSP data.

3.6 Liquid tenors can be used to spread financing and refinancing burden evenly

56. The rationale for the AER's 1 to 10 year approach appears to be largely mechanical. By issuing equal amounts of debt across 1 to 10 year maturities, one-tenth of the existing debt RAB portfolio refinances each year, which maps neatly into a simple trailing-average framework. When the RAB is growing, the new debt issued to fund that growth slots naturally into the "back end" of the trailing average, and even once growth ceases, the structure ensures that 10 per cent of the portfolio is refinanced in each subsequent year.

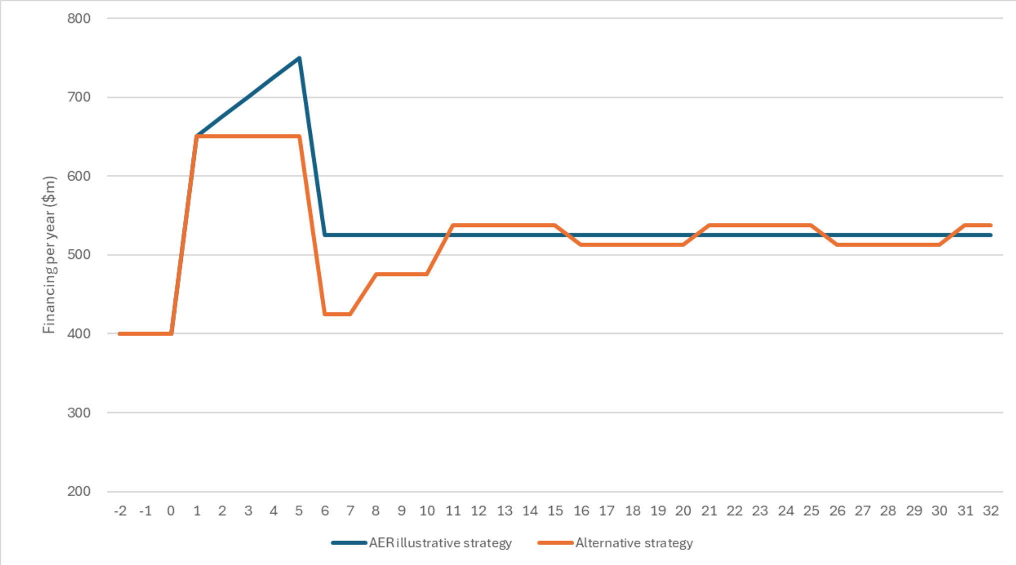
57. However, the mathematical neatness of the AER strategy fails to grapple with the observed practice of NSPs (and corporate bond issuers more generally) who issue the vast majority of all debts in a limited number of tenors (5, 7 10, 12 and 15 years) as can be seen in Figure 1-2 above. This reflects market constraints and higher costs (per dollar year of funding) of issuing at short tenors (discussed further in section 4)

58. Taking these constraints into account, it is highly unlikely that NSPs would efficiently follow the AER short term issuance strategy. A more realistic approach would be for an NSP to fund debt RAB growth via issuing a mix of issuance into the liquid tenors (5, 7, 10, 12 and 15 year debt).

59. This alternative approach solves the mathematical problem associated with spreading out lumpy refinance. It also does so in a way that minimises lumpy <u>debt raising</u> not just refinance of <u>existing debt</u>. To see this, consider a $1.25bn ISP project requiring five years of $250m per annum of debt RAB growth (on top of refinancing each year of 10% of a $4bn pre-existing debt RAB). The AER's illustrative strategy implicitly has an NSP needing to refinance 40% of the growth debt raised in the first year of the project in years 2 to 5 of the project – adding to the unusually high financing burden in those years. By contrast, a more realistic approach would be to raise a mix of 5, 7, 10, 12 and 15 year debt year debts that only need to be refinanced after the ISP project is completed.

60. This is illustrated below where the financing burden of following the AER strategy is compared with an alternative strategy of funding RAB growth with a mix of issuance at liquid tenors (5 years (10%), 7 years (20%), 10 years (35%), 12 years (20%) and 15 years (15%)) with an average tenor of 9.6 years. All debts are modelled as being refinanced with 10 year debts.

Figure 3-3: Comparison of financing per year required under AER (5.5 year average tenor) vs alternative strategy (9.6 year average tenor)



61. Both the AER and the alternative approach smooth out the long-term refinancing profile after the completion of the ISP project.

62. The three key difference between the strategies are that the alternative strategy:

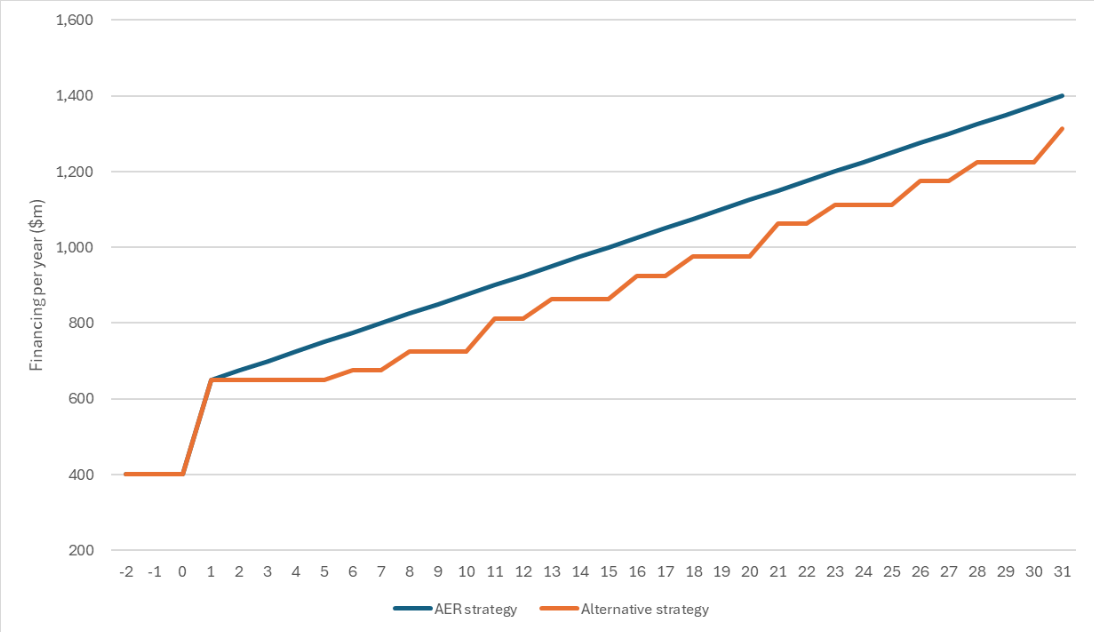
    a. avoids compounding refinance of short term debts from early in the ISP project with the actual funding of the ISP project in later years. Under the AER's illustrative strategy annual debt funding (growth and refinance) peaks at $750m in year 5 of the project while the alternative strategy only requires a maximum of $650m of funding which is constant throughout the project;

    b. allows the NSP to continue to issue into standard (liquid) tenors where there is established demand for debt from corporate debt investors and, thereby, avoiding paying a liquidity premium on debts issued at non-standard tenors; and

    c. Maintains an average duration of debts issued of close to 10 years and, in doing so, reduces the present value of debt raising and liquidity management costs.

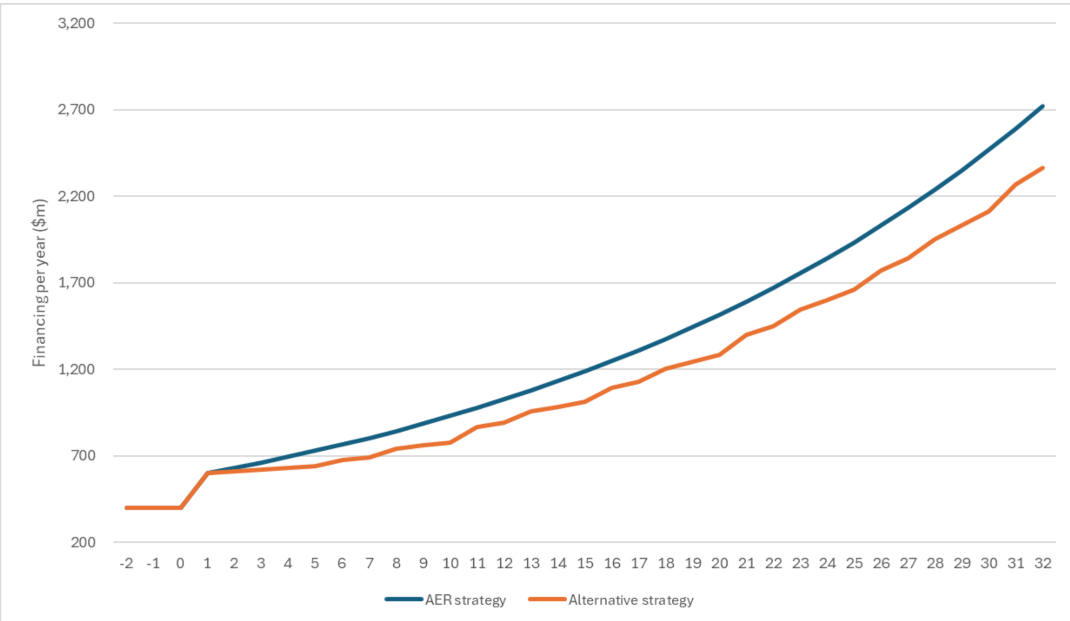
63. The same principle can be observed for constant RAB growth rather than short term, project specific, RAB growth. Figure 3-4 illustrates the funding per annum under the AER illustrative and the alternative strategy in the same scenario as modelled in Figure 3-3 except in Figure 3-4 the debt RAB grows perpetually by $250m.

Figure 3-4: Comparison of financing per year required under AER (5.5 year average tenor) vs alternative strategy (9.6 year average tenor) when RAB is growing perpetually at $250m per year



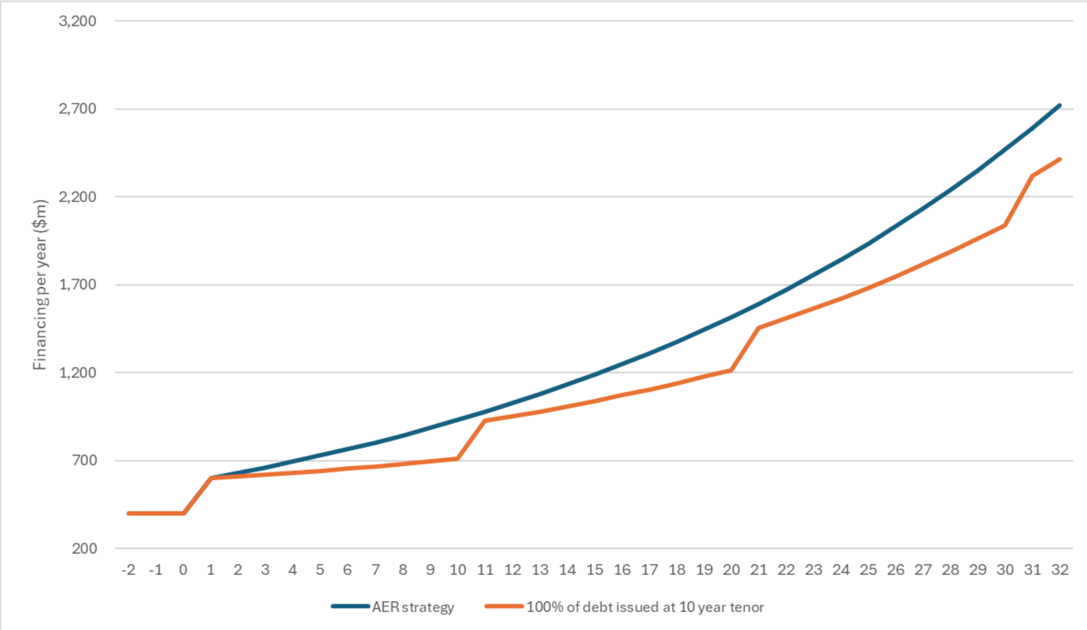
64. It can be seen that, due to the AER' illustrative strategy's use of short term tenors, the funding burden per year is perpetually above that of the alternative strategy – imposing perpetually higher debt raising and liquidity costs. The same is true if the rate of RAB growth is a constant percentage 5% (rather than a constant $250m) – as is illustrated in Figure 3-5 below

Figure 3-5: Comparison of financing per year required under AER (5.5 year average tenor) vs alternative strategy (9.6 year average tenor) when RAB is growing perpetually at 5% per year



65. In fact, with a constantly growing RAB, issuing 100% of all debt at 10 year maturity results in lower debt funding requirement per year than the AER strategy. This can be seen in Figure 3-6 below which compares the AER strategy to a strategy of simply issuing all debt at a 10 year tenor.

Figure 3-6: Comparison of financing per year required under AER (5.5 year average tenor) vs issuing all debt at a 10 year tenor when RAB is growing perpetually at 5% per year



66. Figure 3-6 provides an illustration of how, rather than solving a lumpy financing problem associated with issuing at a 10 year tenor, the strategy implicit in the AER's illustrative model creates a problem. That is, the AER strategy results in higher annual funding requirement in every future year than if the NSP just issued all debt at a 10 year tenor. This is true irrespective of the growth rate in the debt RAB. It is true even if the growth in the debt RAB is 1%.

67. Put simply, excessive short term debt creates excessive funding. In all of the scenarios modelled (and all scenarios not modelled) lower funding rates (total debt issuance per annum) are achieved using the alternative strategy. This includes in all the future years when debts have to be refinanced.

68. Obviously, the alternative strategy we have modelled is just one of many and does not make use of many of the tools available to treasury departments to smooth out maturity profiles including: tender offers or switch trades[1] and the issuance of callable bonds.

69. The key point is that RAB growth can be funded with, on average, 10 year debt while simultaneously eliminating future lumps in refinance. It follows that, if the AER's illustrative strategy was to be implemented it would be necessary for the AER to justify that it is efficient and prudent to fund debt RAB growth with short term debt. In the following section we explain why we do not consider that this is unlikely to be true.

[1] A "tender offer" would be an offer to buy back bonds with maturities that are bunching. A "switch trade" is where the NSP offers holders of bonds that are contributing to a problematic maturity profile the option to swap for another similarly valued bond with a different maturity (e.g., a bond with a shorter/longer maturity and a different coupon to compensate for any difference in value due to the maturity date change).

4 Additional cost of AER strategy relative to maintaining an average 10 year tenor issuance

4.1 Issuing at non-standard tenors would incur an illiquidity premium

70. Aside from the impracticality of the AER illustrative example and issues around robust and reliable independent third party yield curves, there will also be higher interest costs associated with issuing debts into illiquid tenors. As already noted, the corporate bond market is characterised by issuance into a small number of maturities. Specifically, 5, 7, 10, 12 and 15 years (for Australian firms 15 years is typically achieved by issuing into the US private placement market). There is little or no new issuance into other maturities and, certainly, very little issuance into maturities under 5 years. Issuances into non standard tenors or for small sub benchmark size issuances will likely attract an illiquidity premium.

71. Analysis of NSP debt data suggests that, on average over the last 5 years, issuance at less than 10 years outside the liquid tenor buckets has been done at a premium of 15 to 20 bppa above the Bloomberg and Reuters yield estimates matched for credit rating and tenor. Converted into an average bppa cost spread over 10 years this implies a 5.5 – 7.5 bppa illiquidity premium.

4.2 Higher debt raising costs

72. If an NSP actually followed the strategy underpinning the AER's illustrative WTA then it would experience higher debt raising/management costs per dollar raised due to per issue costs being:

    a. Duplicated when issued across multiple tranches of debt

    b. Subject to minimum costs being triggered when spread over smaller than benchmark issue sizes (due to debt RAB growth being spread over 10 issues rather than one or two issues);

    c. spread over, on average, shorter than benchmark tenors and, therefore a higher cost per year or funding provided (or, equivalently, re-incurred more frequently).

73. The AER's illustrative example of issuing multiple tranches of debt will result in higher transaction costs versus the QTC approach due to duplication of costs incurred on a per issuance basis. This includes:

    a. Legal fees (for both the borrower and financier's legal costs which the borrower pays)

    b. Registrar annual fees

    c. Agent's out of pocket fees

74. Further spreading issuances across 10 tranches of 1 to 10 year tenor may result in very small issuances per tranche for some NSPs that would trigger minimum costs threshold. This includes credit rating up front bond issue fees, whereby this is based on basis points on notional charge but subject to a minimum costs per issuance. Other costs that may have similar implications if multiple sub benchmark size transactions are issued includes bank arranger fees to ensure banks can cover minimum return for effort.

75. The AER's illustrative example will be more complex and require additional staffing and administrative costs to implement, settle and manage.

4.3 Higher liquidity management costs

76. Issuing shorter than benchmark tenor debt also raises the present value of liquidity management costs for NSPs. NSPs are required by credit rating agencies to have enough liquid funds on hand to meet all expenditures that are not able to be covered by cash-inflows. For NSPs this includes growth in the RAB that needs to be funded and new debts maturing.

77. This means that corporations with investment grade credit ratings need to raise new debt prior to the maturity of existing debt. More generally, all expenditures that need to be debt funded require early financing that gives rise to sufficient balance sheet liquidity. For NSPs this includes both redemption payments for existing debts and growth in the debt RAB where capital expenditure exceeds return of capital.

78. Based on both credit rating guidelines and NSP debt data analysed by CEG (see Appendix A), we estimate that 6 months is a conservative estimate of the average time lag between when refinance debts are issued and the debts that they are redeeming are mature. This gives rise to a 6 month carry cost for NSPs where they pay the 10 year BBB+ interest on the refinance debt but only receive the return on liquid cash or equivalent assets.

79. It is worth noting that the AER has, in the past, argued that early refinancing costs are already approximately compensated for in the PTRM by virtue of the cash-flow timing assumptions in the PTRM. However, in consideration for the weighted trailing approach, the AER's illustrative example will incur additional early refinancing costs that the QTC WTA approach.

80. In the year that debt RAB growth occurs, there is no difference in liquidity costs for an NSP if that RAB growth is funded with short term debt (as assumed under the AER WTA) or long-term debt (as assumed under the QTC WTA). The same prefunding costs will exist no matter what the duration of the debt used to fund that RAB growth.

81. However, in each subsequent year the liquidity costs will be different precisely because:

    a. prefunding costs are only incurred in the year a debt matures; and

    b. the profile of refinance is earlier under the AER WTA:

        i. under the AER WTA 10% of debt RAB growth will be refinanced with 10 year BBB+ debt in each of the next 10 years; while

        ii. under the current benchmark (which the QTC WTA adopts) all refinancing occurs, on average, in 10 years' time.

5 Conclusion

82. Both the AER and the QTC WTA are consistent with approaches that smooth out the long-term refinancing profile after the completion of an ISP project. However, the AER approach is more complex, raises other issues around reliable data source and does not reflect real world efficient debt raising practices of NSPs.

83. The three key difference between the strategies are that the QTC WTA, based on an alternative strategy of issuing debt with a tenor of approximately 10 years:

   a. Avoids compounding refinance of short term debts from early in the ISP project with the actual funding of the ISP project in later years.

   b. Allows the NSP to continue to issue into standard (liquid) tenors where there is established demand for debt from corporate debt investors and, thereby, avoiding paying a liquidity premium on debts issued at non-standard tenors; and

   c. Maintains an average duration of debts issued of close to 10 years and, in doing so, reduces the present value of debt raising and liquidity management costs.

84. The QTC WTA is less complex to implement within the regulatory regime because it only ever requires 10 different interest rates. By contrast, the AER WTA requires keeping track of 55 interest rates at any given time. In addition to modelling complexity, this also builds in more than 15 times as many failure points for the RoRI (assuming that the RoRI will attempt to use interpolated interest rates for every tenor from each of three different data providers)

85. The QTC WTA retains a 10 year benchmark tenor and, therefore, can be used without changing the AER's current benchmark approach to debt raising and debt management costs. The QTC WTA is, like the AER WTA, a simplification of reality. However, it is a simplification that, consistent with its maintenance of a 10 year benchmark tenor, is more aligned with actual efficient NSP funding strategy for large debt RAB growth.

86. Were the AER minded to implement a WTA that is a "more realistic" model for how debt RAB growth would efficiently be funded then this would look more like the alternative strategy described in section 3.6 above. We do not recommend the AER pursue such an approach because, ultimately, the efficient strategy will be context specific for every NSP. For example, the ideal mix of tenors will depend on the size and length of the ISP project and will depend on the structure of the NSPs existing portfolio of debt.

87. In this context, the regulator is best served by setting a stylised benchmark that broadly matches, and compensates for, the efficient funding strategy (but does not seek to exactly mimic it). An efficient benchmark should reflect the way a prudent network service provider would fund large, long-lived capital investments in practice: through a diversified portfolio of medium- and long-dated debt that smooths refinancing over time, aligns with liquid market tenors, and preserves an average tenor consistent with the AER's own benchmark assumptions. This is consistent with what we observe NSPs actually doing. The QTA WTA serves this stylised benchmark purpose.

Appendix A Average prefunding

Appendix A.1 Data cleaning

88. The combined data contains a sample of 1019 debt instruments. We filter out bank debt from this list of instruments (identified with a "Type" that contains the text "synd", "bank" or "facility"). After removing based on "type", the sample falls to 483 debt instruments.

89. The combined data contains 150 instruments with a "Date of early repayment (if applicable)". Only 17 remained after the above "bank debt" filter. These additional 17 instruments have been filtered out. Additionally, 14 instruments commence on the same day as that issuer has another instrument with a "Date of early repayment (if applicable)". These additional 14 instruments have been filtered out on the basis that they have been used to fund the early repayment.

90. After applying the above filters, the combined data contains a sample of 452 debt instruments.

Appendix A.2 Sample of debt instruments

91. We screened the combined data of 452 debt instruments to find a sample of instruments which are representative of the AER's sample. We apply a filter to only consider bonds with a maturity date between 1 January 2020 and 30 June 2025 and a face value between 200 and 500 million. These filters return a sample of 19 instruments across 10 issuers.

92. We additionally construct a sample of instruments with the same date filter as the previous sample but instead include all instruments with a face value above 200 million. These filters return a sample of 28 instruments across 10 issuers.

Appendix A.3 Method to calculate early finance of sample of debt instruments

93. We calculate how early a business finances its maturing debt for our sample of 19 and 28 debts by looking back at debt commencements for the 452 debt instruments that are considered in this analysis.

94. We identify the number of months before a debt in our sample matures that one needs to go back until the issuer has raised at least the face value of the maturing debt with prior new issuances (e.g. we would identify 4 months if a debt in the sample matured on 1 June 2025 with a face value of $100m, and that issuer had $50m commencing on 1 April 2025 and another $100m commencing on 1 February 2025).

95. We then take the weighted average (by face value of the issuance) number of months that the issuer financed its maturing debt with new issuances (e.g. we would identify 3.33 months if a debt in the sample matured on 1 June 2025 with a face value of $100m, and that issuer had $50m commencing on 1 April 2025 and another $100m commencing on 1 February 2025).

96. This estimate will underestimate the number of months as it examines each bond in the samples with replacement (e.g. our calculation allows the dollars raised in a bond issuance to be used more than once to "fund" multiple maturities). Consequently, our approach is conservative.

97. Our approach also assumes that there is no (zero) RAB growth such that 100% of all prior debt raised is used to fund refinance of debt. In reality some fraction of that will be used to fund nominal RAB

growth and, therefore, our estimate is an underestimate of the amount of prefunding (and underestimate of how far back in time one needs to go to generate funds available for refinancing).

Appendix A.4 Early finance results

98. The following table summarises the simple and face value weighted average number of months required for new issuances to fund the maturities in our samples.

Table 5-1: Months to fund debt maturity with new issuances

	Months of early refinance*	Weighted average of months of early refinance*
19 bond sample	7.6	6.4
As above but excluding one bond with more than 12 months prefunding	5.4	4.3
28 bond sample	8.5	7.7
As above but excluding four bonds with more than 12 months prefunding	5.5	4.7

*Months of early refinanced measures how many months one must go back in time to fully fund a maturing debt. Weighted average is lower to reflect the fact that, sometimes, multiple prior debts are being used to fund maturity and we take the value weighted average of all prior issuances used to fund the maturity.