

Effective regard to network debt data

**Response to AER's Energy Network Debt
Data Draft Working Paper**

14 August 2020

Contents

1	Overview	3
2	Importance of setting an appropriate debt allowance for customers	8
3	What industry data can tell us	10
4	Why industry data cannot be used to set debt compensation	15
5	Critical transparency and process problems	22
6	Measurement concerns	25
7	Comparing EICSI to historical benchmark credit spread is potentially misleading	37

1 Overview

Key Messages

- » Industry debt data shows that networks generally issue debt in line with the AER's current benchmark efficient assumption and that the networks' cost of that debt is in line with the AER's current estimates of the required return on debt. Thus, **the industry data confirms that the AER's current approach for determining the benchmark efficient cost of debt remains fit for purpose.**
- » The **interaction between the AER's approaches to regulatory inflation and cost of debt mean that the benchmark efficient cost of debt has not been delivered to networks over the last several years.** When properly analysed, the industry debt data analysis shows that regulatory compensation to network businesses has been consistently below actual (efficient) costs, which is not sustainable.
- » The 2018 Guideline process documented a number of material deficiencies with the construction of the AER's Energy Infrastructure Credit Spread Index (EICSI) index. ENA members will work with the AER to refine this index over time, so it can be used to monitor and assess the approach for setting the regulatory allowance. However, **even if these deficiencies are resolved, the implementation issues are too severe for the EICSI index to be given a weighting in determining the cost of debt.**

Energy Networks Australia (ENA) welcomes the opportunity to provide this submission to the AER's draft working paper on *Energy Network Debt Data*.

Energy Networks Australia is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide more than 16 million electricity and gas connections to almost every home and business across Australia.

Consistent with good regulatory practice, the AER has begun early consultation on the interpretation of this data and its potential role in the 2022 Rate of Return Instrument (2022 RORI). ENA looks forward to further constructive engagement with the AER and other stakeholders throughout this important process.

Appropriate use of industry debt data

Consistent with the AER's conclusion in 2018,¹ ENA submits that the industry debt data can be appropriately used for two purposes:

- » First, the industry data can be compared against the AER's assessment of the benchmark efficient financing approach. The AER currently considers that the benchmark efficient firm issues 10-year BBB+ debt on a staggered maturity basis. The industry debt data can be examined to determine whether that benchmark efficient assumption remains valid.

Competition Economists Group (CEG) have examined the industry data on behalf of ENA (to preserve confidentiality) and advised that the industry data supports the current benchmark in that approximately half of the networks have debt tenors greater than 10 years at issuance and half have tenors shorter than 10 years at issuance. Thus, there is no reason to change the current benchmark.

- » Having determined the efficient benchmark, the industry debt data can then be used to assess the current approach for setting the regulatory allowance. This is done by comparing the current regulatory allowance with the actual cost incurred by networks for debt that is consistent with the efficient benchmark.

CEG report that the industry data shows that the cost of 10-year BBB+ debt issued by networks is similar to the cost reported by the independent third-party data sources that the AER currently uses.

In summary, the industry debt data shows that networks generally issue debt in line with the AER's current benchmark efficient assumption and that the networks' cost of that debt is in line with the AER's current estimates of the required return on debt. The industry data therefore confirms that the AER's current approach for determining the benchmark efficient cost of debt remains fit for purpose.

Industry data should not be used to set regulatory allowances

ENA is concerned that the draft working paper is proposing that debt compensation could be directly determined based on industry debt data. The draft working paper appears to envision benchmarking debt expenditures in the same way the AER benchmarks operating and capital expenditures.

The AER currently determines what it considers to be the benchmark efficient financing approach and sets the regulatory allowance accordingly. Networks are free to deviate from the benchmark efficient strategy if they choose, but any such deviation has no impact on the regulatory allowance – consumers will only ever pay according to the AER's estimate of the benchmark efficient financing cost, and networks bear 100% of the cost and risk that comes from any departure from the benchmark efficient strategy.

¹ AER, Draft rate of return guidelines, Explanatory statement, July 2018, p.452.

By contrast, if the regulatory allowance is based on the industry data, any deviation by a network from the benchmark efficient financing approach *does* impact the regulatory allowance. In particular, if networks (on average) adopt a more aggressive financing strategy, that more aggressive strategy will then be reflected in the regulatory allowance. Consumers will then pay the cost of that more aggressive strategy and bear the risk associated with it – even if that strategy differs materially from what the AER currently considers to be prudent and efficient.

Problems with the construction of the EICSI

This submission documents a number of deficiencies with the current construction of the EICSI index, including for example:

- » The index gives ten times as much weight to one-year debt as it gives to ten-year debt;
- » The index gives the same weight to a \$1 million bank loan as to a \$500 million bond issuance; and
- » The index includes only a subset of the costs in relation to bank loans.

These issues were raised with the AER in the 2018 review but have not yet been addressed. Additional problems and concerns are raised in this submission.

ENA submits that the current EICSI is not sufficiently robust to be used for any purpose.

The EICSI cannot be transparent to any stakeholder

Due to the confidential nature of the debt data, it is impossible for the construction of the EICSI index to be transparent to stakeholders. Consumers and networks can never know which debt instruments are included in the index nor the weight each instrument might receive. This is a material problem that can never be remedied.

The EICSI is not consistent with any implementable debt strategy

Under the AER's current approach, a network can replicate the AER's allowance by issuing debt in accordance with the benchmark efficient financing strategy. That is, a network can issue 10% of its debt finance each year during the relevant averaging period to align its actual debt financing costs with the AER's allowance. A number of networks currently adopt that approach.

By contrast, a regulatory allowance based on the EICSI approach would be impossible to replicate because the index can only be computed in arrears.

That is, it is impossible for any network to issue its debt in a way that is consistent with the EICSI index. This raises the question of whether it is appropriate to set a benchmark efficient regulatory allowance on the basis of an approach that would be impossible for any network to implement.

Comparing EICSI to historical benchmark credit spread is potentially misleading

Figure 1 of the AER's draft working paper shows a historical comparison of the 12-month average EICSI (labelled "Industry Index") and the corresponding 12-month average of the benchmark credit spreads estimated following the 2018 RORI (labelled "AER history"). This shows a persistent and often large gap between the two series with the EICSI always being lower than "AER history".

The casual reader might infer from this presentation that "AER history" reflects historical compensation and "Industry Index" represents industry costs. If so, the reader may conclude that network service providers (NSPs) have typically been overcompensated for the cost of debt issued over this period. This would be a serious error and the AER should take care to prevent any such misunderstanding in future presentations of this data.

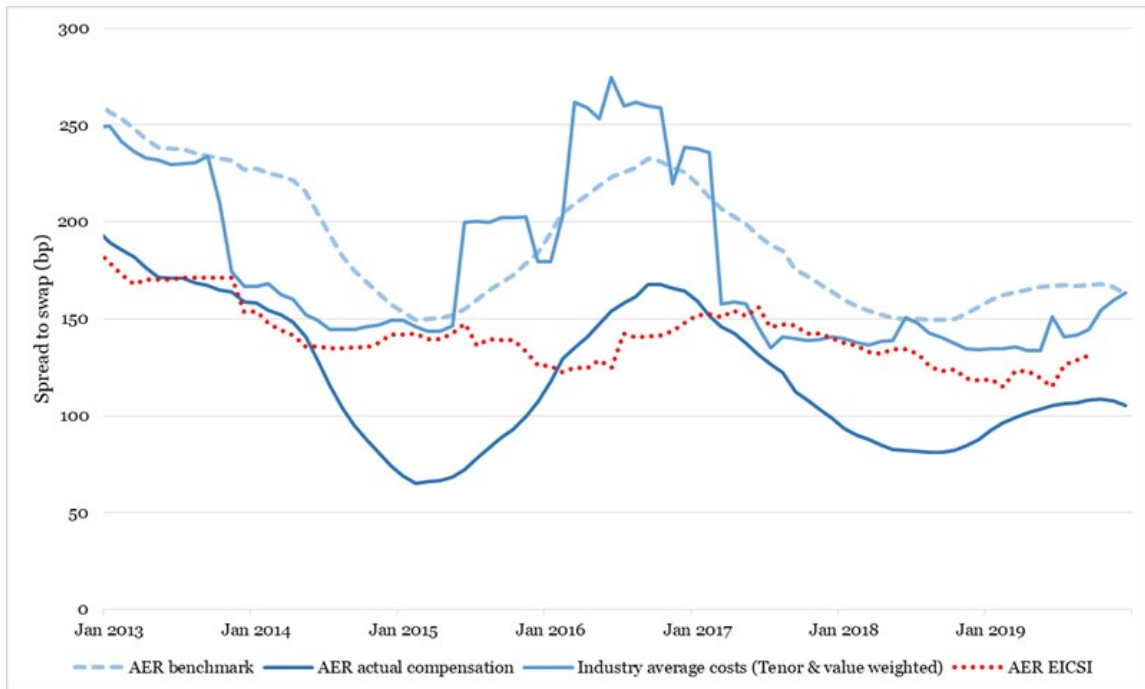
Rather, the interaction between the AER's approaches to regulatory inflation and cost of debt mean that the benchmark efficient cost of debt has not been delivered to networks over the last several years. When properly analysed, the industry debt data analysis shows that regulatory compensation to network businesses has been below actual (efficient) costs.

Specifically, the regulatory regime compensates for debt costs on a real, not a nominal, basis. Figure 1 below illustrates that actual benchmark nominal compensation for the cost of debt has been around 1.0% lower than the AER EICSI.

That is, NSPs have been undercompensated for their nominal debt costs incurred over the last 5 years (the period shown in Figure 1 of the AER draft working paper). This is evident when comparing the solid blue line in Figure 1 with the AER EICSI line.

The difference is even more stark when the EICSI is corrected for the deficiencies identified above. The appropriate comparison is between the two solid lines where the higher line represents the costs actually incurred by networks and the lower line represents the regulatory compensation that has been provided to them.

Figure 1: EICSI with all debt instruments included weighted by tenor



Source: CEG analysis of industry data.

2 Importance of setting an appropriate debt allowance for customers

The allowed return on debt makes up approximately 30% of network revenues. Consequently, it is important for both networks and consumers that the regulatory allowance properly reflects the costs of a prudent and efficient debt management strategy.

ENA considers that each generation of consumers should be asked to pay the efficient cost of the service that is provided to them.

This is an important regulatory principle that is grounded in the National Electricity Objective (NEO), National Gas Objective (NGO), and Revenue and Pricing Principles (RPP).

No generation of consumers should be asked to pay more than the efficient cost of what is provided to them. And, symmetrically, no generation of consumers should under-pay relative to the efficient cost – because that harms future consumers who either have to catch up that under-payment or bear the costs of less than efficient investment in the network.

Under the current approach, implementation of that principle is straightforward. The AER determines what it considers to be the benchmark efficient financing approach and sets the regulatory allowance accordingly. Networks are free to deviate from the benchmark efficient strategy if they choose, but the network bears the entire cost and risk of any such departure.

Specifically, if a network elects to adopt a financing approach that is more aggressive than what the AER considers to be prudent and efficient, it is the network that bears the cost if its departure from the benchmark strategy results in additional cost.

For example, if such a departure results in the network having to refinance more than the benchmark efficient amount of debt during a period of high rates, or if a network bears a higher cost of debt as a result of adopting gearing above the efficient benchmark – those are costs that are borne entirely by the network. Under the current approach, consumers will only ever pay what the cost of what the AER considers to be the benchmark efficient financing strategy.

By contrast, under an approach of applying the EICSI in setting debt allowances, any deviation by a network from the benchmark efficient financing approach *does* impact the regulatory allowance. In particular, if networks (on average) adopt a more aggressive financing strategy, that more aggressive strategy will then be reflected in the regulatory allowance. Consumers would then pay the cost of that more aggressive strategy and bear the risk associated with it – even if that strategy differs materially from what the AER currently considers to be prudent and efficient.

That is, under the EICSI approach, the allowed return on debt is determined by the debt financing strategies that are adopted by network businesses from time to time, rather than according to what the AER considers to be a prudent and efficient benchmark financing strategy. It is not clear that this is an approach that is desired by consumers, nor in their long-term interests.

3 What industry data can tell us

ENA submits that the EICSI data can, and should, be used in the manner envisaged in the 2018 review process – where the AER concluded that it should use that data to check whether its assessment of the benchmark efficient financing strategy remained appropriate.²

As identified in our discussion paper, comparison of the AER's approach over 2013-17 compared to actual debt instruments serves as a sense check of:

- *Our benchmark characteristics (term and credit rating) – for example, our current benchmark term is 10 years. Collection of information on actual return on debt issuances allows us to evaluate directly whether the service providers have been issuing debt at terms reflecting this assumption.*
- *How we implement these benchmark characteristics – for example, we rely on a set of third party yield curves with a number of adjustments in order to estimate the yields on AUD BBB+ corporate debt.*

That is, we are not undertaking a reconciliation of NSPs actual revenues and costs. Rather, we are reviewing the overall reasonableness of our benchmark allowance consistent with the principles of incentive regulation.

That is, the industry debt data can be used to assess two distinct, but related, questions.

- » **First**, is the stylised benchmark debt funding strategy as set out in the RORI (the issuance of 10 tranches of evenly staggered 10-year BBB+ debt issues) consistent with the range of actual debt issuance practices observed across networks?
- » **Second**, does the compensation that is provided for that benchmark debt issuance strategy match the costs of networks when they fund themselves according to the benchmark efficient strategy?

These questions recognise that there are two separate issues of interest. The first relates to the reasonableness of the benchmark debt management strategy. The second relates to the reasonableness of the level of compensation for that strategy. There is a sequence to these two questions. ENA notes that it is impossible, and potentially misleading, to try to determine the reasonableness of compensation without first knowing what debt strategy is being compensated.

² AER, Draft rate of return guidelines, Explanatory statement, July 2018, p. 452.

3.1 Does the AER's current benchmark financing assumption remain appropriate?

The EICSI data can be used to shed light on whether the AER's current benchmark debt management strategy remains appropriate. Given the wide range of debt management strategies pursued by different networks we can only attempt to assess whether the benchmark strategy is within or outside of the range of strategies we observe. We would not expect that every network will fund itself exactly in line with the stylised benchmark nor would we expect that the industry average practice will be in line with the benchmark.

Importantly, there are several reasons why a tranche of debt might differ from the regulatory benchmark. It might be:

- » a temporary reaction to particular prevailing market conditions;
- » a network deciding to depart from the efficient benchmark, accepting any increased cost or risk that arises from such departure (discussed more below); or
- » evidence of a widespread permanent change in the financing practices of networks.

The first two reasons should not lead to a change in the efficient benchmark. However, if the benchmark debt management strategy consistently falls outside the range of observed practice then this may provide reason to revisit the reasonableness of the assumed benchmark strategy.

For example, imagine that it was observed that across the industry the average maturity at issuance was consistently between 4 and 7 years. This would suggest that the benchmark assumption of 10-year debt issuance on average was outside the observed range. This might then trigger a review of whether the stylised benchmark debt management strategy was consistent with efficient debt management practices.

However, CEG has investigated this issue and has advised ENA that the industry debt data remains consistent with the AER's current benchmark financing approach. That is, the network data does not indicate that a review of the current benchmark financing strategy is required.

CEG reports that approximately half of the networks in the sample have average tenors of debt at issuance of greater than 10 years and roughly half have average tenors at issue of less than 10 years.

CEG's advice is not precise in this matter with a view to preserving confidentiality of the underlying data. However, CEG recommends that the AER examine a chart of average term of debt at issuance for each data respondent as at 30 June each year from 2013 onwards. CEG also considers it would be useful for the AER to colour code the networks between those networks who have been privatised for more than 5 years and those who have not.³

³ A recently privatised network that elected to finance in a way that was entirely consistent with the AER's benchmark financing assumption would raise its debt in ten tranches of debt with one

This is consistent with Chairmont’s findings on industry average “WATMI” summarised in Figure 2 of the AER’s draft working paper. That figure shows that the average term at issuance is between 10.5 and 7.5 years depending on the assumptions and time period analysed.

Chairmont’s WATMI (weighted average term to maturity at issuance) asks what is, at any given time, the value weighted average term at issuance for all debt that is active⁴ across all networks? This gives a single answer at any point in time that is, naturally, most heavily influenced by the largest networks with the greatest value of debt. CEG asks the same question but on a per network basis.

Both analyses support the conclusion that the current benchmark assumption is consistent with the range of observed industry practice. ENA submits, however, that looking at network’s individual WATMI is an important adjunct to examining a single ‘whole of industry’ WATMI as presented by Chairmont. The latter risks the AER’s assessment of the benchmark strategy being simply a reflection of the largest networks’ strategies.

3.2 Is the benchmark compensation consistent with the benchmark strategy?

Separately from defining the benchmark debt management strategy (10-year staggered BBB+ debt issuance), the 2018 Rate of Return Instrument (2018 RORI) also defines a benchmark method for estimating the cost of the benchmark financing strategy (an average of RBA, Bloomberg and Thomson-Reuters estimated BBB+ 10-year debt yields).

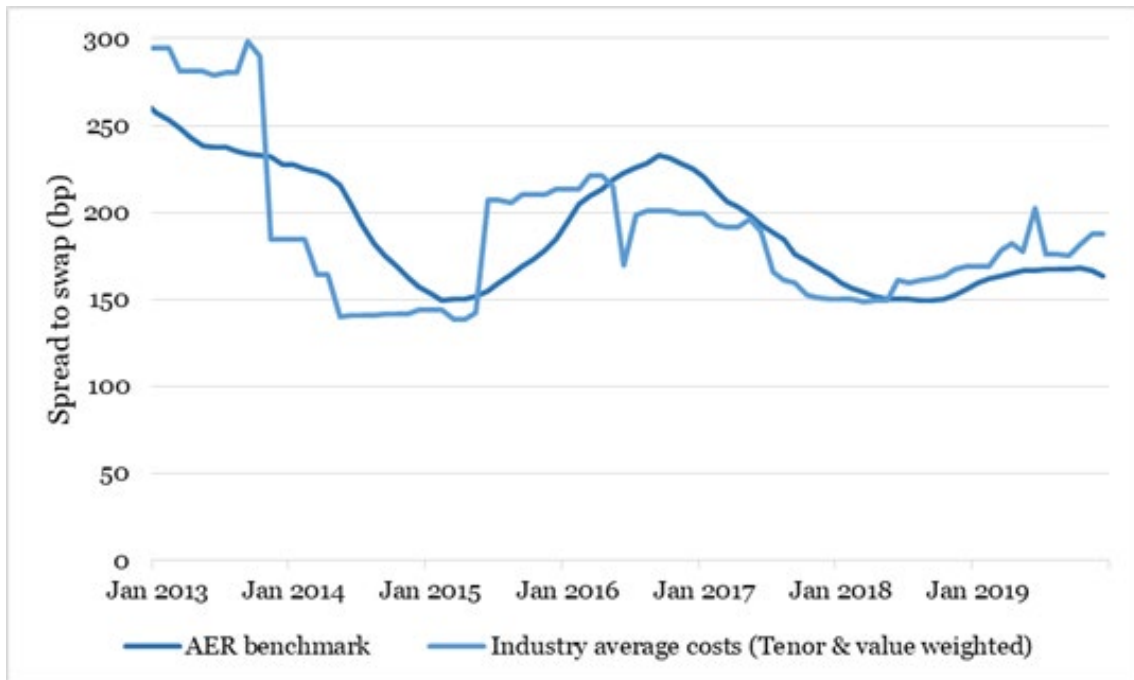
The industry data can be used to cross-check the accuracy of this cost estimate approach. This can be done by comparing networks’ actual costs, when they issue instruments similar to the benchmark, with estimates of benchmark costs. CEG has used the industry data to shed light on this question.

CEG has restricted the sample to only include instruments with tenor close to 10 years and credit ratings close to BBB+ (and with no embedded options). When this is done, the average credit spreads have been sometimes above and sometimes below, but generally broadly in line with the benchmark cost estimated pursuant to the 2018 RORI, as illustrated in Figure 2 below.

tranche maturing after one year, another maturing after two years, and so on. Each tranche would then be replaced by 10-year debt when it matures.

⁴ That covers all debt that was issued in the past and has not yet matured/been repaid.

Figure 2: BBB to A- rated, non-callable debts



Source: CEG analysis of industry data.

This analysis suggests that the RORI as currently constituted is providing accurate compensation for network debt costs when networks issue debt consistent with the benchmark debt management strategy. There is no evidence of a material “halo” affect for regulated networks. That is, there is no evidence that networks with close to BBB+ issues achieve materially lower credit spreads than other BBB+ issuers.

Consequently, ENA submits that the industry data does not present any reason for departure from the AER’s current approach to determining the benchmark efficient allowance.

3.3 Benchmark credit rating

The AER’s analysis of credit ratings of individual debt issuances is summarised in Table 2 of the draft working paper. This is consistent with a historical BBB+ credit rating on average across issuances.

ENA does not consider, however, that such an analysis is an appropriate way in which to assess the benchmark credit rating. Rather, the benchmark credit rating in the 2022 RORI should be congruent with the overall package of expected returns and/or cashflows provided by the 2022 RORI and expected network determinations.

The historical average credit rating data presented by the AER does not reflect the impact of the 2018 RORI nor the impact of regulatory determinations being made under the current low return market conditions. The AER has only investigated network debt data up to midway through 2019. The 2018 RORI only affects businesses whose regulatory decisions are made from 2019 onwards. The only privately owned

businesses in the AER sample that had decisions made under the 2018 RORI in 2019 were Endeavour and Ausgrid – with decisions starting 1 July 2019.

This means that, unless these businesses issued debt in the first months of their 2019-24 regulatory periods, none of the debt data was issued by firms subject to the 2018 RORI. It will take until 2024 or longer before there are material debt issuances from networks who have been subject to the 2018 RORI for a material length of time – such that their credit metrics reflect the cash-flows allowed by the 2018 RORI. This means, even at the time that the AER is finalising the 2022 RORI, actual network credit ratings will not fully reflect the effects of the 2018 RORI.

For this reason, the benchmark credit rating must be set on a forward-looking basis. This means that the 2022 RORI should adopt a benchmark credit rating that is consistent with the credit metrics that application of the 2022 RORI is expected to deliver. Forward-looking financeability analysis should underpin the benchmark credit rating.

We encourage the AER to consider the benchmark credit rating as an important element of its working paper on the Rate of Return and Cashflow in Low Return Conditions.

4 Why industry data cannot be used to set debt compensation

4.1 Overview

ENA is concerned that the draft working paper presents options for debt compensation to be directly determined based on industry debt data. The draft working paper, and presentation delivered by the AER at its 29 July public forum, appears to envision benchmarking debt expenditures in the same way the AER benchmarks operating and capital expenditures:⁵

We see some important advantages in placing greater reliance on the EICSI. These include:

...

- *A regulated return on debt set using the EICSI (in whole or in part) would still be a benchmark approach, because the EICSI reflects costs across all networks rather than any network individually.*
 - *A firm would have no incentive to issue debt at higher than efficient costs if the resulting upward shift in the EICSI was insufficient to compensate for the higher costs directly incurred by that network.*
- *The desirable properties of the incentive regime are preserved. That is, networks have an incentive to pursue efficiency gains across time, and consumers benefit in the long term when these efficient costs are revealed.*

ENA considers that it would be inappropriate to use the industry data to directly set the regulatory allowance for the return on debt.

Under the current approach, the AER currently determines what it considers to be the benchmark efficient financing approach and sets the regulatory allowance accordingly. Networks are free to deviate from the benchmark efficient strategy if they choose, but any such deviation has no impact on the regulatory allowance – consumers will only ever pay according to the AER’s estimate of the benchmark efficient financing cost, and networks bear 100% of the cost and risk that comes from any departure from the benchmark efficient strategy.

By contrast, if the regulatory allowance is based on the industry data, any deviation by a network from the benchmark efficient financing approach *does* impact the regulatory allowance. In particular, if networks (on average) adopt a more aggressive financing strategy, that more aggressive strategy will then be reflected in the regulatory allowance. Consumers will then pay the cost of that more aggressive

⁵ AER Draft Working Paper, p. 18.

strategy and bear the risk associated with it – even if that strategy differs materially from what the AER currently considers to be prudent and efficient.

The remainder of this section sets out a framework for understanding the problems that could arise from linking the industry data to the regulatory allowance.

4.2 Implications of the Modigliani Miller theorem

ENA submits that the above quote from the AER’s draft working paper is fundamentally at odds with modern finance theory.

The implicit logic behind the above quote is that higher debt costs are always ‘bad’ for a network. This fails to appreciate that debt funding costs are fundamentally different to other expenditures. Debt and equity funding costs are two sides of the same coin.

What matters to a network is its weighted average cost of capital (WACC); being the weighted average of both debt and equity. A funding strategy with higher debt costs typically implies lower equity costs (and *vice versa*) such that the WACC is independent of debt costs. This result is known in finance theory as the Modigliani-Miller theorem (or MM).

A simple and common text-book explanation of this is the effect of higher leverage on the cost of debt and the cost of equity. Consider a company with zero debt and with stable expected future earnings of \$5m pa and a market value of \$100m, implying a 5% cost of equity and WACC (given there is no debt).⁶

Now imagine four separate cases:

- i. The equity holders continue to operate the company with zero debt;
- ii. The equity holders raise \$10m in debt at a 2% interest rate using the proceeds to fund a one-off special dividend of \$10m; and
- iii. The equity holders raise \$50m in debt at a 3% interest rate using the proceeds to fund a one-off special dividend of \$50m; and
- iv. The equity holders raise \$80m in debt at a 4% interest rate using the proceeds to fund a one-off special dividend of \$80m.

This is summarised in Table 1 overleaf.

⁶ \$5m pa in perpetuity discounted at 5% results in a \$100m present value.

Table 1: Illustration of MM with respect to gearing strategy

Value (\$m)	Cash flow (\$m)	Leverage	Interest rate	Interest \$m	Equity \$m	Equity return	WACC
a	b	c	d	e	f	g	h
Input	Input	Input	Input	=a×c×d	b-e	f/(a×(1-d×c+g×	d×c+g×
100	5.0	0%	0.0%	0.0	5.0	5.0%	5.0%
100	5.0	10%	2.0%	0.2	4.8	5.3%	5.0%
100	5.0	50%	3.0%	1.5	3.5	7.0%	5.0%
100	5.0	80%	4.0%	3.2	1.8	9.0%	5.0%

Under all scenarios the shareholders are no better or worse off. If the shareholders raise zero debt they continue to earn an expected return of \$5m in perpetuity (worth \$100m at a 5% cost of equity).

If shareholders raise \$10m in debt they benefit from a \$10m special dividend up-front but the value of their residual claims falls to \$90m. They expect to earn a return of \$4.8m pa each year (\$5m less interest costs of \$0.2m). This is a higher percentage return (5.3%=\$4.8m/\$90m) than with zero debt but this higher return comes with higher risk due to the need to pay \$0.2m pa in interest costs before any equity returns are earned. The weighted average of debt and equity returns is unchanged at 5.0%.

If shareholders raise \$50m (\$80m) in debt they benefit from a \$50m (\$80m) special dividend upfront but the value of their residual claims falls to \$50m (\$20m). They expect to earn a return of \$3.5m (\$1.8m) pa each year (\$5m less interest costs of \$1.5m (\$3.2m)). This is a higher percentage return (7.0%=\$3.5m/\$50m (9.0%=\$1.8m/\$20m)) than with zero debt but this higher return comes with higher risk due to the need to pay \$1.5m (\$3.2m) pa in interest costs before any equity returns are earned. The weighted average of debt and equity returns is unchanged at 5.0%.

The critical conclusion that flows from MM is that the shareholders should be indifferent between these outcomes (at least to the first order of approximation).

The 80% leverage strategy has a 2% higher interest rate than the 10% leverage strategy. The 80% leverage strategy, however, also provides \$80m of risk-free value to the equity holders upfront (via the initial special dividend) compared to just \$10m under the 10% leverage strategy. The expected return on equity is higher with 80% leverage than 10% leverage (9.0% vs 5.3%) but this is offset by higher risk due to the need to meet the higher interest bill before any cash-flows can be claimed by shareholders.

Brealey Myers and Allen summarise MM thus:⁷

⁷ Brealey, Myers and Allen, Principles of Corporate Finance, Tenth Edition, p. 421.

*This is really a law of conservation of value. The value of an asset is preserved regardless of the nature of the claims against it. Thus proposition 1: Firm value is determined on the left-hand side of the balance sheet by real assets—**not by the proportions of debt and equity securities issued to buy the assets.***

The simplest ideas often have the widest application. For example, we could apply the law of conservation of value to the choice between issuing preferred stock, common stock, or some combination. The law implies that the choice is irrelevant, assuming perfect capital markets and providing that the choice does not affect the firm's investment and operating policies. If the total value of the equity "pie" (preferred and common combined) is fixed, the firm's owners (its common stockholders) do not care how this pie is sliced.

The law also applies to the mix of debt securities issued by the firm. The choices of long-term versus short-term, secured versus unsecured, senior versus subordinated, and convertible versus nonconvertible debt all should have no effect on the overall value of the firm.

Combining assets and splitting them up will not affect values as long as they do not affect an investor's choice. When we showed that capital structure does not affect choice, we implicitly assumed that both companies and individuals can borrow and lend at the same risk-free rate of interest. As long as this is so, individuals can undo the effect of any changes in the firm's capital structure. [Emphasis added.]

In its strongest form, where financial markets are perfect and there are no transaction costs, MM implies that no funding strategy is superior to any other. In reality, transaction costs may imply some extreme funding strategies are inefficient. For example, leverage approaching 100% is probably inefficient because it raises the expected transaction costs of dealing with financial distress (e.g., fire sale of assets, legal disputes with various claimants, distraction of management etc).⁸

However, the key conclusion of MM for the purpose of this submission still holds. Within a broad range of debt management strategies, the networks will, holding their cash flows constant, be indifferent between higher and lower debt risk premiums (credit spreads). For example:

- » Higher gearing will raise credit spreads but it will not be damaging to equity holders (as per the example above).
- » Longer term debt will raise credit spreads because long maturity horizons lock in interest rates and expose debt holders to greater risk (both the risk that interest rates change and also greater risk over the creditworthiness of the borrower over the life of the instrument). However, the flipside is that equity returns will be safer/more stable precisely because more risk has been shifted to debt holders. The net effect on the value of the company and WACC is zero.

⁸ See section 5 of Grundy, B., July 2014, *Observations on the Review of Submissions on the Cost of Debt and the TAMRP for UCLL and UBA Services.*

The same logic applies to all dimensions of the debt management strategy. Strategies that raise the credit spread paid are not de facto “bad” for shareholders because, in an efficient finance market, those higher credit spreads correspond to the amount of risk that is being transferred to debt holders from equity holders.

This is critical for understanding the flaw in the draft working paper statement that:⁹

A firm would have no incentive to issue debt at higher than efficient costs if the resulting upward shift in the EICSI was insufficient to compensate for the higher costs directly incurred by that network.

This statement assumes, contrary to MM, that a higher credit spread is costly to network shareholders. It is, of course, correct that paying a higher than necessary credit spread on any given set of debt instruments is bad for a network’s shareholders (i.e., paying a higher than market price for a given level of risk). However, adopting a *debt management strategy* that raises credit spreads (higher leverage, longer term debt etc.) is not costly to NSP’s shareholders – because there are offsetting benefits in the form of crystallising some risk-free value upfront and earning higher equity returns on the residual equity (if the firm adopts higher leverage) or lower equity risks (if the firm issues longer-term debt).

Consequently, if the AER applies benchmarking techniques to the cost of debt alone (ignoring the consequential effects on equity and the WACC) then the AER could unintentionally create strong individual incentives for networks to pursue debt funding strategies that raise their debt risk premiums (credit spreads). Consistent with the Modigliani Miller theorem this will leave their individual WACC unchanged but the regulatory regime will, via impact on the EICSI, reward them with higher compensation for the cost of debt. With all networks having this individual incentive the impact on measured costs will likely be significant.

In short, MM no longer holds if a company’s EBIT is positively related to their debt costs – as would be the case if the EICSI was used to set compensation for debt costs. In that situation, rather than being indifferent between high and low DRP strategies, networks would positively prefer higher DRP strategies.

Of course, this problem could be avoided if benchmarking of funding costs could be undertaken at the level of the WACC rather than just one component of the WACC. However, precisely because equity funding costs are not directly observable (especially for unlisted networks) any benchmarking of a 12-month trailing average WACC is impossible.

Debt costs cannot be separately analysed/benchmarked from equity costs and equity costs are unobservable. In light of this, ENA considers that the proposed direct use of industry debt data to set regulated compensation for debt costs is fundamentally flawed.

ENA is unaware of any regulatory regime that has employed the kind of practices that the draft working paper is considering implementing. Specifically, ENA knows of no

⁹ AER Draft Working Paper, p. 18.

regulatory regime, where networks are free to pursue their own debt funding strategies and debt compensation is based directly on an average of industry debt costs.

The closest parallel is where a network's compensation for debt costs is based on that specific network's debt portfolio (as is commonly the case in the US). However, in this case the regulator plays a hands-on, extremely detailed role in approving the structure/prudency of that debt portfolio – including in relation to individual debt issuance. ENA notes that the average term of debt at issuance for US electricity networks is around 20 years which is double the AER benchmark. This may, in part, reflect the fact that US NSPs have an incentive to issue 20-year debt because they are automatically compensated for any higher debt costs and they benefit from lower risk for the residual equity.

The considerations outlined above are sufficient to establish that industry debt data should not be used to set direct compensation for NSPs. This is true even absent any concerns around process or measurement problems. There are material such concerns, however, as outlined below.

4.3 What if the Modigliani Miller theorem is wrong?

The logic set out in the draft working paper assumes that higher debt costs are always bad for a network and, therefore, a network will always strive to lower its debt costs. This logic suggests that if compensation for debt costs is based on an industry wide benchmark then networks will strive to lower their debt costs to be at, or below, the industry average. Only then will networks be able to achieve (or beat) the allowed return on equity.

ENA submits that this logic is at odds with modern finance theory for the reasons set out in the previous section. As a thought experiment, however, it is useful to ask how a network could lower their credit spreads. That is, if networks were to simply treat lower credit spreads as an end in themselves and prioritising “beating the benchmark” how would they do this? Moreover, how would the regulatory regime adapt to that?

One obvious way to beat the benchmark would be to lower the term of debt issued. Lower debt terms mean that debt holders are exposed to lower interest rate risk and lower default risk.¹⁰ If, notwithstanding MM, networks single-mindedly competed to “beat the benchmark” by lowering their debt terms then they would inexorably end up at extremely short tenors.

Let us assume networks responded by purely funding themselves with one-year debt. Of course, if it is accepted the ‘beat the benchmark as an end itself’ logic there is no reason why networks would not instead fund themselves on the overnight markets. If

¹⁰ A 10-year bond holder is exposed to any potential default over the next decade while a 1-year bond holder is only exposed to default over a single year. Given that events over 1 year can be more accurately forecast than those over 10 years the former is a riskier proposition.

a reader does not believe that is a credible possibility, they are invited to question whether the reason for their disbelief is to be found in the analysis of section 4.2.

A critical question is how would the AER benchmark adapt to this changed behaviour?

Would the AER's models continue to assume a 10-year trailing average of 10-year debts – even though the observed spreads in the EICSI (and used to set debt compensation) were for one-year spreads? Would the AER add a 1-year credit spread estimate to a 10-year swap rate and call that the input into the 10-year trailing average cost of debt?

If so, this would appear to be manifestly wrong – taking spreads from one funding strategy and adding them to base rates from another funding strategy would have no reasonable basis.

Alternatively, would the AER benchmark adapt somehow so that the entire cost of debt each year was based on the previous year's one-year interest rates? This would align the benchmark to how the cost of debt was being observed – which would be a positive. However, on the other hand, it would mean that customers now would have extreme price volatility. This volatility would come from two sources:

- » First, any change in base interest rates (e.g., monetary policy rates) would immediately be reflected in the debt compensation for the next year. This would immediately be reflected in changes to the prices that customers paid in that next year.
- » Second, with a one-year funding strategy it is certain that large amounts of debt would need to be raised during the next period of financial dislocation/crisis. When that happens, credit spreads paid would rise dramatically and across all networks. As with changes in base rates, this would be immediately and fully reflected in a cost of debt based on the EICSI.

Finally, what if half of all networks responded to the incentives in the way described as likely in section 4.2. and raised their debt term even further above 10 years but the other half lowered their debt term down to say 3 years?

ENA has no solution to how the EICSI could be used to set a meaningful return on debt allowance in such circumstances. A clear answer to all of these questions and concerns, however, would have to be provided before the AER proceeds further with any plans to base network compensation on observed network spreads.

5 Critical transparency and process problems

ENA is deeply concerned about the transparency and process problems created by relying on the EICSI to set debt compensation.

5.1 Confidentiality of network data

The only way the AER can arrive at an estimate of the industry average debt costs is by examining the debt costs of each NSP and the debt structure of each NSP. That information, however, is highly commercially sensitive and confidential to each NSP. This means that no customers, nor individual NSP, can analyse the overall dataset themselves. This makes it extremely difficult for them to critique any methodological decisions taken by the AER.

ENA has attempted to deal with this problem by commissioning an independent consulting firm (CEG) to analyse the industry data for us. CEG has been bound by confidentiality undertakings in this context. We have been able to do this because individual networks have, to date, trusted that these arrangements will keep their data confidential. Gaining this agreement was not easy and it is not certain that such agreement can be relied on into the future.

No other stakeholders (individual networks, individual customers or groups of customers) could replicate the arrangements made by ENA. This means that only two parties will be able to perform any analysis on the industry debt data (the AER and ENA).

Moreover, even ENA's ability to interrogate and understand the data is limited. While CEG has access to the full dataset, they are restricted by confidentiality considerations from presenting us with any analysis from which individual NSP data could be 'back-solved'. This excludes a range of analyses being presented to us including analysis of any individual debt issues.

This results in an unsatisfactory level of transparency over regulatory decision-making on a key element of the building block. This is especially problematic in the context of the significant number of measurement issues that remain unresolved, as discussed in the next section.

In this regard, ENA refers back to the AER's original decision to rely on publicly available independent third-party data sources. Specifically, the AER listed the following advantages in its December 2013 guideline decision:¹¹

Third party data sources are provided for use by market practitioners and developed independently from the regulatory process.

¹¹ AER, Explanatory Statement, Rate of Return guideline, December 2013, p. 127

Third party data sources are constructed by finance experts with access to a comprehensive financial database, where judgements are made in terms of debt selection and any necessary adjustments to yields. Using an independent third party also reduces the scope for debate on debt instrument selection issues and curve fitting or the use of some form of averaging methods to derive the estimate of the return on debt. As we have previously highlighted, if we used an in-house method, we would need to develop and apply:

- *detailed criteria for selecting debt instruments with appropriate specification of contingencies to allow automatic updating.*
- *a detailed description of the estimation method (that is, a curve fitting technique or some form of averaging observed yields—for example, Nelson–Siegel, Svensson or spline-based approaches).*

A third party data source can be more readily implemented in the context of automatically updating a trailing average of the return on debt as required by the rules.

This logic was reaffirmed in the AER’s 2018 discussion paper on estimating the allowed return on debt.¹²

A third party data series can be practically applied in the annual debt update process. This approach allows all stakeholders to estimate the annual return on debt using pre-determined data series, to combine them using a pre-determined formula and to capture this data over set averaging periods. This creates a high degree of predictability and transparency in implementing the approach.

A third party data series is independent information developed by finance experts with access to financial datasets. These experts develop this primarily for the use of market practitioners and it is independent from any regulatory process.

Using a third party data series also reduces the scope for debate on debt instrument selection and curve fitting—For instance, independent data service providers have already exercised their judgement on bond selection, curve fitting and adjusting yields. To undertake this process during each annual debt update would be impractical, and potentially impermissible under a binding rate of return instrument.

ENA submits that these same conclusions apply to the use of the AER’s EICSI – only with more force. The above discussion was in the context of the AER taking publicly available information (e.g., bond yields from Bloomberg) and constructing its own cost of debt estimate. The AER EICSI has the same problems plus the serious additional problem that it uses exclusively non-publicly available information.

¹² AER, Discussion paper, Estimating the allowed return on debt, May 2018.

ENA also notes that the NEL and the NGL both state that a rate of return instrument must describe:¹³

how the stated value, or the way to calculate the rate or value, was decided.

It is not obvious to ENA that the AER could use a version of the EICSI and satisfy this requirement. The AER could write a broad description of the factors it would consider when deciding whether to include or exclude a debt instrument from the EICSI. However, no network or customer would be able to replicate or understand what the AER actually did to arrive at its value.

¹³ NEL s 18F, NGL s 30A.

6 Measurement concerns

ENA does not and, due to confidentiality restrictions, cannot fully understand the AER's construction of the EICSI. This is a critical threshold point of failure in relation to its proposed use to directly estimate costs.

However, based on broad descriptions of the AER's method, ENA has several methodological concerns. A number of these concerns were raised during the 2018 Rate of Return process and remain unaddressed.

6.1 Exclusions of some instruments

ENA has been informed by CEG that the AER has excluded many debt instruments from the EICSI construction. However, CEG cannot advise the ENA specifically which instruments, and their associated risk premiums, have been excluded. Neither do customer groups know which instruments have been excluded or why they have been excluded or the effect that their exclusion has on any outputs. Individual NSPs do know which of their debt issues have been excluded but do not know the effect of this on the EICSI because they do not know the other constituents of the AER EICSI. Similarly, individual NSPs do not know which of their peer's debt issues have been excluded or the effect of those exclusions on the EICSI.

The draft working paper provides no discussion of the policy guiding the exclusions of debt. The only oblique reference is in section 6.2 where the AER seeks comments on the "inclusion of callable or subordinated debt" which only makes sense if callable debt or subordinated debt has been excluded.

CEG informs us, however, that only some callable debt has been excluded and that other callable debt is included in the construction of the index. Callable bank debt (i.e., bank debt that can be repaid at any time at the discretion of the borrower without any make whole provisions) has typically been included by the AER. Callable long-term bonds have, however, been excluded.

CEG informs the ENA that some very short-term instruments have been excluded but not others.

ENA, like all other stakeholders, is left unable to understand the AER's stated high level policy on the exclusion of debt instruments - let alone the specific debt instruments excluded.

Original decisions on the exclusion of debt instruments were made by Chairmont in 2018. The guidance provided by Chairmont in that context was only three sentences:¹⁴

EICSI seeks to include only senior vanilla debt, similar to the structural restrictions of market data indices. Special case debt, involving credit-

¹⁴ Chairmont, Aggregation of Return on Debt Data, 28 April 2018, p. 6.

adjustment criteria or special purpose conditions, is removed. This includes working capital, bridging loans, leases and subordinated debt.

It is not clear to ENA or its advisors what this practically means and we note that there is no mention of callable debt being excluded unless this is captured by “special purpose conditions”.

CEG has informed us that they are unable to use these three sentences as a practical of coherent guide to understanding the actual exclusions made by Chairmont in 2018 or subsequently by the AER in its most recent analysis. CEG informs ENA that it appears that if a network wrote “working capital” in the description the loan was excluded – but otherwise identical loans without that attribution from a network were included. CEG notes that the EICSI includes large numbers of bank debt instruments despite the fact that bank debts are not included in “market data indices” – at least to the extent that that phrase refers to independent third-party estimates.

ENA has significant concerns about the role of AER decisions around inclusion and exclusion of data. It is not clear to ENA why any debts used to fund the RAB should be excluded. It is also unclear why any debt that is not used to fund the RAB (e.g., debt used for working capital or short-term reserves) would be included in the index. Moreover, in terms of process, ENA echoes the AER’s own 2018 concern that:¹⁵

... independent data service providers have already exercised their judgement on bond selection, curve fitting and adjusting yields. To undertake this process during each annual debt update would be impractical, and potentially impermissible under a binding rate of return instrument.

6.2 Overweighting and underestimating short-term debt

The current EICSI both over-weights and fails to capture the full costs of short-term debt. The current EICSI also over weights networks that have short-term debt strategies (because those debts are, by definition, refinanced more often and show up in the EICSI more often).

Need to weight by tenor

The current EICSI is biased as a measure of NSP costs because it is a simple average of all instruments issued in any 12-month period. As a result, the EICSI gives most weight to instruments that are refinanced most often. Short-term instruments are, by definition, refinanced more often than long-term instruments. Consequently, the EICSI gives more weight to short-term debts – even if short-term instruments are less important in funding the RAB.

This can be illustrated by imagining an NSP that decides to fund a \$110m RAB with:

- » \$100m of 10-year debt split into 10 staggered 10-year bonds – each with 3% credit spread and with one bond refinanced each year;

¹⁵ AER, draft working paper, Energy network debt data, p19.

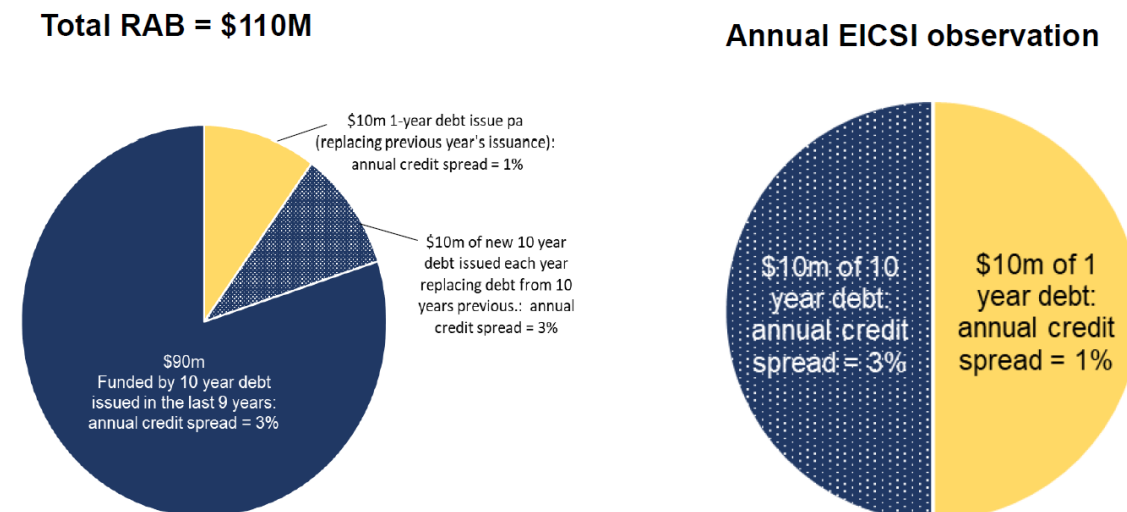
» \$10m of one-year debt – with a credit spread of 1% refinanced every year.

This hypothetical NSP will have an average credit spread on its portfolio of 2.82% $(=(3\% \times 100 + 1\% \times 10) / 110)$. However, because each year there is the same number of instruments issued, the EICSI will estimate a cost of only 2% $(=(3\% + 1\%) / 2)$.

The simple average ignores the fact that a long-term bond remains within a network's debt portfolio for longer than short term debt. Recognising this fact means that long term debt should receive a higher weight than short term debt.

The above example is illustrated graphically below in Figure 3. The left-hand pie chart shows the weight of 10-year and 1-year debt in the portfolio used to fund the RAB. The right-hand pie-chart shows the weight of 10-year and 1-year debts in the EICSI. The EICSI gives more than 5 times too much weight to 1-year debt.

Figure 3: Network funded >90% with 10-year debt but EICSI gives 50% weight to short term debt



This failing should be addressed by weighting each issuance by its tenor. This will give each instrument a weight that is consistent with its importance in funding the RAB. In the above example, weighting by tenor gives an "EICSI" that correctly matches the network's average credit spread on its portfolio of debt (i.e. 2.82%).

CEG has informed ENA that the AER does remove from the EICSI 3-month notes that were for a long period continually refinanced by one of the networks. CEG has advised that including these 3-month notes in the EICSI has the effect of reducing the estimated "industry cost" by around 50bp for several years. CEG will provide details of this analysis directly to the AER in order to preserve any confidentiality issues.

However, the critical question for the AER is why were these short-term debts excluded from the EICSI? The obvious reason is that, because they were being refinanced four times a year and because the EICSI is not tenor weighted these instruments would have received a clearly incorrect weight – out of all proportion to their role in the overall funding burden. However, if this is the case then why doesn't

the same argument apply, albeit with less force, to all short-term debts? It would be helpful for all stakeholders that are part of this consultation process if the AER could provide a direct response to this question.

The ENA made submissions on these issues in 2018. The final explanatory statement to the Rate of Return Instrument acknowledged “the tendency of a simple average estimate to understate the benchmark return on debt” but suggested that this issue could be addressed in the future with ongoing collection of actual cost of debt information:¹⁶

We consider that ongoing collection of actual cost of debt information will allow us to develop a longer-term EICSI value-weighted portfolio which would avoid the tendency of a simple average estimate to understate the benchmark return on debt. Collection of a consistent time-series of actual debt data should allow us to form conclusions about the benchmark term which are not materially impacted by particular market circumstances.

This statement is repeated in the draft working paper (page 7). Nowhere in the draft working paper, however, is the ENA’s proposal that the EICSI should weight by tenor addressed. In fact, Section 6.2 does not even list this issue as one that the AER seeks input around from stakeholders:

In addition to the two improvements we have implemented (additional data and the weighted average term), there were a number of other alterations to the EICSI suggested in the 2018 review. Our current assessment, based on the 2018 analysis, is that these changes would be unlikely to improve the accuracy of the EICSI and may add complexity. Nevertheless, we would like to hear views on whether we should adopt any of the following:

- *Inclusion of callable or subordinated debt*
- *Inclusion of more fees associated with spread estimates*
- *Exclusion of debt instruments which have previously been deemed ‘upward outliers’ by consultants.*

This list does not include the ENA’s 2018 submission on tenor weighting of the EICSI rather than a simple average. This is despite the AER acknowledging, in 2018 and in the draft working paper, that there is a “tendency of a simple average estimate to understate the benchmark return on debt.”

This tendency is evident in the example provided in this section which demonstrates that the EICSI will understate average credit spreads for NSPs if it fails to weight by tenor.

Indeed, the same rationale that led the AER and Chairmont to adopt the WATMI instead of a simple average tenor of debt issued should lead the AER to weight its EICSI by tenor. The WATMI avoids overweighting short-term debt by only taking an

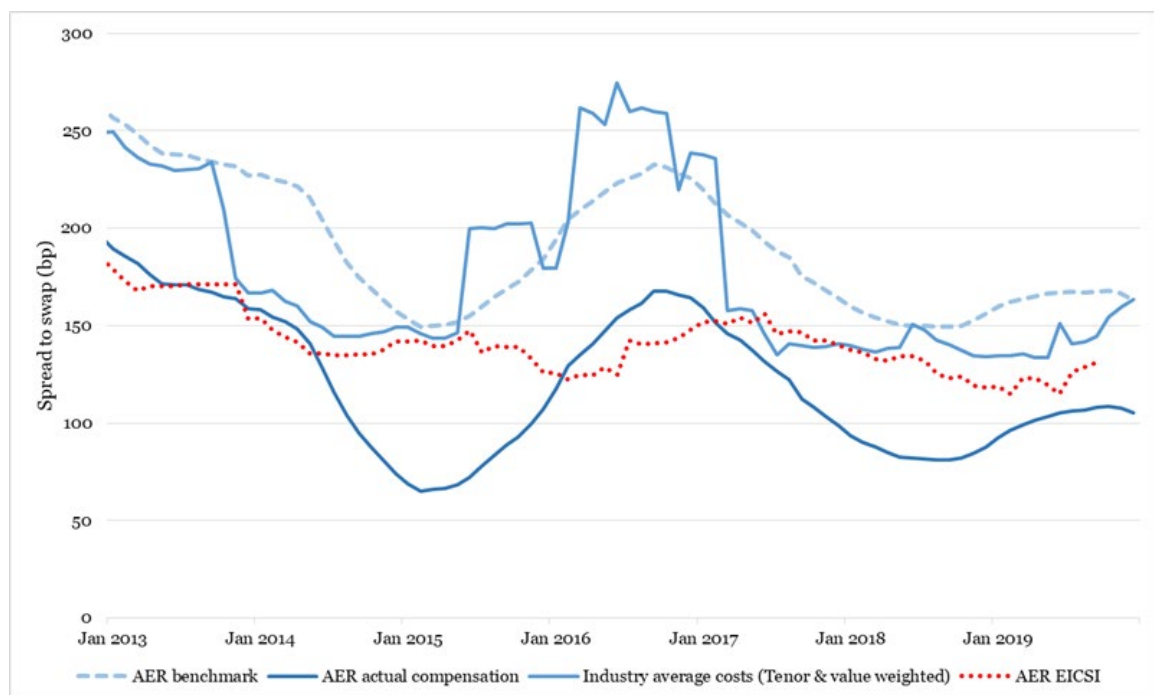
¹⁶ AER, Rate of return instrument | Explanatory statement, December 2018, p.300.

average of ‘active debt’ at any time. The AER could estimate a similar value for the EICSI (taking the average credit spread on active debt at any time). This would not, however, restrict the estimate to only debts issued in the last 12 months (it would include 13-year instruments issued 12 years prior and 3-year instruments issued 2 years prior etc.). This could not meaningfully be compared to the 12-month rolling average benchmark credit spreads in the way that the AER seeks to. The only way to do that without overweighting short-term debt is to weight debts issued in the last 12 months by the length of time they will be in NSPs portfolio (i.e. by their tenor)

CEG informs the ENA that weighting by tenor materially raises the estimated EICSI as illustrated in Figure 4 below.

The industry average cost series is the EICSI with each instrument weighted by its tenor and its value (although CEG informs us that weighting only by tenor results in a similar time series). This is universally above the AER EICSI. The other two series in this chart are explained in section 7 below.

Figure 4: EICSI with all debt instruments included weighted by tenor



Source: CEG analysis of industry data.

It is deeply concerning to ENA that the draft working paper includes options to rely on the simple average EICSI to set compensation for NSPs without acknowledging this clear source of bias previously submitted to, and recognised by, the AER.

Need to account for higher fees for short term debt.

The current EICSI not only over-weights short term bank debt but also under-estimates the costs of short-term debt.

This is because up-front fees for short-term debt can translate into extremely high effective costs in terms of basis points per annum (bppa) on that debt. Similarly, undrawn fees on bank debt can be an important part of total fees.

By way of illustration, consider a \$100m line of credit with a 5-year tenor and a 70bppa credit spread but with \$0.6m upfront costs and a 33bppa commitment fee. This line of credit has fees of 59bppa if it is, on average, half drawn.¹⁷ Thus, the 'all in' credit spread (70bppa + 59bppa) is almost double the reported value that would be used in the AER EICSI (70bppa).

Failure to properly account for the higher bppa cost of fees on short term debt will compound the overweighting of short-term debt in a simple average EICSI.

6.3 Per instrument vs. value weighted average

The current EICSI gives the same weight to a \$1bn and \$10m instrument. This tends to over-weight small value debt issuance relative to the true value in funding the total assets of the industry.

Were the AER to rely on an unweighted simple average EICSI to set network compensation, then networks would have a strong incentive to artificially:

- » Combine low credit spread debts into fewer instruments (e.g., have one large line of credit rather than 5 smaller ones); and
- » Split higher credit spread debts into a larger number of instruments (e.g., instead of issuing one \$1bn dollar 13-year bond, issue ten \$100m 13-year bonds).

Providing such incentives to distort debt management practices is not in the long-term interests of customers.

However, it would also be problematic for the AER to weight debt instruments by value. This would tend to give most weight to the largest networks with the most debt.

This illustrates that, however the EICSI is structured, it will be problematic for the AER to use it to set regulated revenues.

6.4 Non-exhaustive list of other challenges associated with use of the EICSI to set compensation

The draft working paper describes how the EICSI might be used to set compensation for the cost of debt. It appears that the AER has in mind that the cost of debt can be estimated as the sum of

- a) An EICSI estimated over some period (the draft working paper mentions 12, 6 and 3 months as options); plus

¹⁷ 26bppa annualised upfront costs (\$0.13m pa on \$50m average drawn) plus 33bppa commitment fee.

- b) The observed average swap rate estimated over some period¹⁸ (see footnote 38).

The combined value of these estimates would then be treated as an estimate of the “cost of debt” to be used alone or in conjunction with independent third party estimates of the cost of debt to inform the annual update for the 10-year trailing average of debt costs.

In discussing implementation of this potential approach, the AER states:¹⁹

We also see a range of challenges in placing greater reliance on the EICSI. We would want to consider carefully how these may affect the options we have set out above. This will be part of assuring ourselves that any change we make has net benefits and provides a better estimate of the benchmark cost of debt for the utilities we regulate than the current approach:

- *Debt is not raised evenly amongst networks, so when using the EICSI as a benchmark it could be weighted towards one or two networks, especially over small time samples.*
 - *The EICSI uses a 12 month rolling window. Currently networks specify averaging periods between 10 days and 12 months long. Using the EICSI as a benchmark would require us to consider how to handle shorter debt averaging periods. Options include:*
 - *Combining the longer term EICSI cost of debt with other estimates (from data providers) observed in the period.*
 - *Using the EICSI spread from the prior 12 months with the swap rate observed in the shorter period.*
 - *Using a shorter EICSI rolling window (though this reduces data informing the benchmark).*
 - *Estimating the EICSI more frequently (e.g. quarterly or 6-monthly)*
- a) *We currently propose to estimate the EICSI annually. The regulated return on debt needs to be calculated closely following the end of the nominated debt averaging period so that it can be used in pricing determinations. Use of the EICSI as a benchmark might mean:*
- *Ongoing data collection (networks reporting debt instruments to the AER as they are issued).*
 - *Using placeholder figures that are trued up in the following year.*

¹⁸ See footnote 38 of the Draft Working Paper.

¹⁹ AER Draft Working Paper, pp. 18-19.

- *Many networks are held in consolidated groups where debt is centrally raised and finances both regulated and unregulated activities. Using the EICSI as a benchmark would require guidance around the allocation of debt costs and so which debt costs are reported as relevant to the regulated return on debt.*
- *To the extent that greater weight is placed on the EICSI in decision-making we may require a more formal reporting regime with audit and assurance requirements.*

The ENA commends the AER for contemplating the challenges that could be associated with using the EICSI to explicitly set compensation. It would, however, be useful to hear more from the AER on how it considers these challenges would optimally be tackled if it did go down this path.

Moreover, there are a number of other challenges, not listed above. It would be useful for all stakeholders to understand how the AER would anticipate dealing with them as well.

It appears that the AER is envisaging an implementation that involves:

- » deriving a cost of debt observation as the sum of an EICSI observation (based on credit spreads for a range of debt tenors issued in the last X months) and a 10-year swap rate estimated in a network's specified debt return averaging period; and
- » using this as an (or the) input to the annual update to the return on debt used in the context of a 10-year trailing average.

In this context, the ENA considers that it would be useful to consider how the following additional challenges would be dealt with.

Firstly, there are the challenges that arise from the fact that, due to its construction, the average tenor for the observed debts in the EICSI will not match either the benchmark tenor of 10-years nor the average tenor of debt used by networks to fund themselves:

- a) How would the AER respond if, in one particular EICSI averaging period for one network, there were ten one-year debts issued at a 1% credit spread and ten 10-year debts issued at 3% credit spreads?
 - As currently constructed, the EICSI would be 2% (the unweighted average of all debts issued).
 - However, if the AER used a value of 2% in the cost of debt update that 2% would stay in the trailing average cost of debt for 10 years. In effect, the AER would compensate the network for the next 10 years 'as if' the observed spreads on 1-year debts in the EICSI averaging period were actually locked in for 10 years.
 - Would the AER be comfortable compensating a network for the **next 10 years** based on 50% weight given to credit spreads for **one-year** debts?

- b) If the AER were comfortable with the outcome in a), how would the AER rationalise this with providing a return that was commensurate with efficiently incurred costs? Does the AER have a view that a network should be able to lock in observed credit spreads for 10 years even if the observed credit spread is for a 1-year instrument? If so, the ENA would find it helpful if the AER could explain the basis for this view.
- c) How would the AER respond if the industry average WATMI was consistently close to 10 years but the simple average tenor of the EICSI was consistently close to 5 years?
- Note that the WATMI has been designed to avoid over-weighting short term debt by only calculating the average tenor on active debts at any given time (thus debts are given weight in the time series proportional to the time that they are used to fund the RAB).
 - By contrast, the EICSI gives weight to debts in the time series proportional to the rate at which they are refinanced. This is the opposite of the WATMI – giving more weight to debts the shorter their tenor/more often they are refinanced.
 - It follows that one expects the average tenor underpinning the EICSI to be below the average tenor underpinning the networks’ aggregate debt portfolio.
 - In the hypothetical scenario underpinning this question, the networks would be funding themselves consistently with debt that had an average tenor of 10 years but being compensated for credit spreads that had an average tenor of 5 years.
- d) If the AER were comfortable with the outcome in scenario c), how would the AER rationalise this with providing a return that was commensurate with efficiently incurred costs? Does the AER have a view that networks should be able to simultaneously fund themselves with average tenor of 10-year debt based on credit spreads for instruments with an average tenor of 5-years? If so, the ENA would find it helpful if the AER could explain the basis for this view.

Secondly, with heterogeneity across network’s funding strategies the use of an industry wide EICSI creates fundamental considerations of horizontal equity across networks and customers. Even if most networks fund themselves in a way that is consistent with the benchmark, problems and internal inconsistencies will be created if some networks fund themselves in a different way:

- e) Currently approximately half of the networks choose to fund themselves with 10-year or longer debt and approximately half choose to fund themselves with shorter term debt. It is typically the case that short-term debt has a lower credit spread than long-term debt. Even if the EICSI gave roughly equal weight to each set of networks,²⁰ the networks that follow the benchmark strategy will be

²⁰ In reality the EICSI will overweight the short-term debt issuers.

compensated for less than the benchmark costs. Despite paying less than the 10-year benchmark funding costs, customers will still benefit from the stability of the 10-year benchmark trailing average. By way of illustration:

- o Consider a case where half the networks solely funded themselves with 10-year debt and half the networks solely funded themselves with 4-year debt. Assume away the overweighting of short-term debt in the EICSI and assume that the average tenor of debts in the EICSI was 7-years.
 - o This would mean that all networks, including those following the benchmark 10-year strategy, would be compensated based on credit spreads for 7-year debt;²¹
 - o But these 7-year credit spreads would be fed into a 10-year trailing average. This would mean that customers received the stability of the 10-year trailing average without paying for its cost. It would also mean that networks following the benchmark would be compensated for less than their costs.
- f) A possible response to the problem in (e) would be to lower the assumed term of the trailing average from 10-years to 7 years (to match the term of debts in the EICSI). However, this would be problematic because:
- o Any change in the benchmark tenor should only be implemented with a transition and a transition from 10 to 7 years would be complicated.
 - o In fact, this would be further complicated because networks are currently part way through a transition to the AER's current benchmark approach. That is, we would need a transition from a transition if the AER decided to change its approach to the return on debt again before the previous change had been fully implemented.
 - o If, after the transition, the "benchmark matching" networks matched the new 7-year benchmark then the new average tenor in the EICSI would fall to 5.5 years (assuming the other networks stayed issuing 4-year debt). This would then require a transition to a new benchmark and so on and so on until the benchmark was set at 4 years.
 - o The outcome of this process is that a subset of networks, willing to take on more equity risk and fund themselves with shorter term debt, would drag the benchmark with them. Instead of, as is currently the case, networks departing from the benchmark at their own risk, the opposite would be true. Networks departing from the benchmark would drag the benchmark with them and expose customers to, in this scenario, higher risk.
 - o Of course, the opposite process could happen with networks departing 'upwards' from the benchmark term dragging the benchmark up with them.
- g) It is also important to ask how a temporary change in tenor issued would feed into changes in the benchmark. For example, consider a scenario in which we see

²¹ Assuming a linear relationship between tenor and credit spreads.

a material reduction in the tenor of debts issued during the period affected by COVID19? If a formulaic approach were taken to match the benchmark tenor to the average EICSI tenor then after every market dislocation the benchmark would be transitioning to a new tenor and then, very likely, back again after the market dislocation was passed. This would not be appropriate or reflective of underlying efficient costs.

Thirdly, even if the EICSI did reflect 10-year credit spreads, there would be challenges in hedging to the benchmark:

- h) ENA members are also particularly concerned that placing weight on an index containing data up to 12 months old that cannot be said to reflect the prevailing cost of debt – debt costs can materially change over a year. As a result, it will be impossible for networks to closely to replicate the benchmark credit spread – which has been a focus for adopting the benchmark trailing average in the past.
- i) Moreover, the EICSI will only be known with a lag (at the moment updates occur years apart). Networks take decisions on managing risk based on real time benchmark data available during averaging periods. The EICSI index could not be available in real time. This would increase financing risk compared to current practice.
- j) To the extent that the AER dealt with lag problems by increasing reporting frequency this would add unacceptable burdens on networks. To the extent that EICSI averaging periods were shortened to less than 12 months the resulting estimates would likely be highly volatile (depending on which network issued debt in the short period and what kind of debt was issued).

Fourthly, the EICSI has the potential to be much more volatile than underlying debt conditions. For example:

- k) How would the AER respond if the network with the highest credit spreads changed strategy to increase in the number of debt instruments issued (or *vice versa*)? For example, instead of issuing one \$1bn debt instrument per year, what if the network issued fifty \$20m debts at the same credit spread? This would affect the EICSI but would not reflect any change in underlying debt market conditions. Would the AER be comfortable in the compensation for networks varying due to factors unrelated to debt market conditions?
- l) How would the AER respond if the networks with the lowest credit spreads consolidated their debt issues into a small number of long-term instruments such that they were seldom refinanced and so were given little weight in the AER EICSI? This would affect the EICSI but would not reflect any change in underlying debt market conditions. Would the AER be comfortable in the compensation for networks varying due to factors unrelated to debt market conditions?
- m) How would the AER respond if the networks with the lowest credit spread ceased to raise debt within the regulated entity – with parents instead preferring to gain their desired leverage elsewhere? This would affect the EICSI but would not reflect any change in underlying debt market conditions. Would the AER be

comfortable in the compensation for networks varying due to factors unrelated to debt market conditions?

- n) How would the AER respond if each network consolidated all their many bank facilities (short and long term) into a single evergreen (no maturity date) line of credit (e.g., subject only to maintaining a certain credit rating)? Such an instrument would only ever show up once in the AER EICSI.

Fifthly, the EICSI will be materially affected by temporary effects including events like the GFC and COVID19:

- o) NSP's debt data can be heavily influenced by responses to temporary market crises, such as associated with COVID-19. These need to be filtered from permanent changes in industry practice.

7 Comparing EICSI to historical benchmark credit spread is potentially misleading

Figure 1 of the draft working paper shows an historical comparison of the 12-month average EICSI (labelled “Industry Index”) and the corresponding 12-month average of the credit spreads associated with the spread to swap that would have been estimated for 10-year BBB+ debt following the estimation rules set out in the RORI (labelled “AER history”).

This shows a persistent and often large gap between the two series with the EICSI always being lower than “AER history”.

The casual reader might infer from this presentation that “AER history” reflects historical compensation and “Industry Index” represents industry costs. If so, the casual reader may conclude that NSPs have typically been overcompensated for the cost of debt issued over this period. This would be a serious error and the AER should take care to prevent any such misunderstanding in future presentations of this data.

As the AER has explained in other fora, the current regulatory regime compensates for debt costs on a real, not a nominal, basis. This involves the AER deducting a forecast of inflation from the RORI cost of debt and then ‘adding back’ actual inflation. Since January 2013 the AER’s forecast methodology has consistently deducted around 1.0% more inflation than has been “added back”. Consequently, actual nominal compensation for the cost of debt has been around 1.0% lower than the “AER history” series in Figure 1.

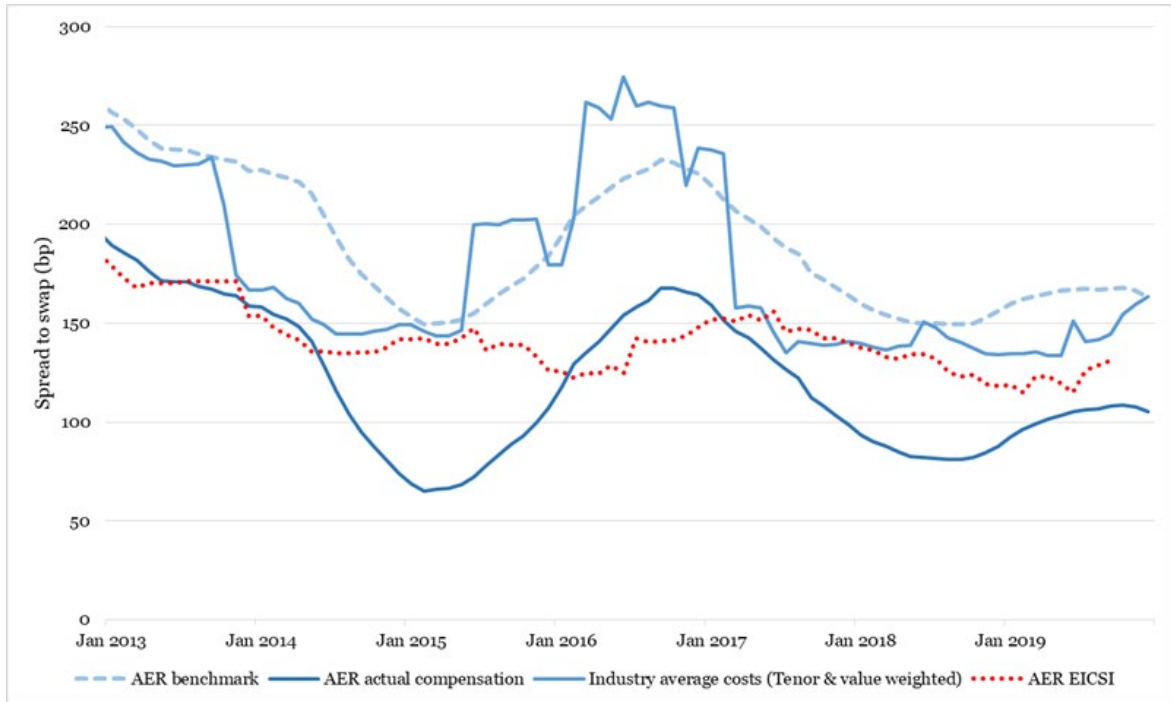
By contrast, CEG informs us that networks debt data is overwhelmingly incurred on a nominal basis (i.e., the rates that industry pay are fixed irrespective of actual inflation outcomes). As a result, the correct representation of costs versus compensation would show that networks have been typically undercompensated for their nominal debt costs incurred over the last 5 years (the period shown in Figure 1 of the draft working paper).

That is, the interaction between the AER’s approaches to regulatory inflation and cost of debt mean that the benchmark efficient cost of debt has not been delivered to networks over the last several years.

Figure 5 below illustrates that actual benchmark nominal compensation for the cost of debt has been around 1.0% lower than the EICSI. This is evident when comparing the solid blue line with the EICSI line. The difference is even more stark when the EICSI is corrected for the deficiencies identified above. The appropriate comparison is between the two solid lines where the higher line represents the costs actually incurred by networks and the lower line represents the regulatory compensation that has been provided to them.

ENA encourages the AER to accurately portray the regulatory compensation that it has actually provided to networks. It is important that, throughout this consultation process, all stakeholders have a proper understanding of the regulatory allowances that have actually been made to networks.

Figure 5: EICSI with all debt instruments included weighted by tenor



Source: CEG analysis of industry data.