



The impact of artificially suppressed government bond yields



Report for AusNet Services, CitiPower, Powercor and United Energy | 23 November 2020



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1 Executive summary

1. Frontier Economics has been retained by AusNet Services, CitiPower, Powercor and United Energy to provide expert economic opinion on the potential impact of low regulatory rate of return allowances.

Background and context

2. The AER lowered its equity risk premium allowance (i.e., beta multiplied by MRP) in each of its 2009, 2013 and 2018 WACC reviews.
3. Over that same period, government bond yields have fallen to historically low levels.
4. Since the AER's approach is to set the allowed return on equity as the sum of the prevailing government bond yield and the equity risk premium, the allowed return on equity has also fallen to historically low levels.
5. On 3 November 2020, the Reserve Bank of Australia (**RBA**) announced that it was embarking on a market intervention to reduce government bond yields below the level that would otherwise have been set in the market. The RBA further indicated that this practice had succeeded in artificially suppressing government bond yields in other countries. The RBA indicated its intention to hold rates at a low level for a number of years.

No adjustments can be made under a binding instrument

6. Under current legislation, the AER's 2018 Rate of Return Instrument is binding, so that the allowed return on equity must be set by adding a fixed equity risk premium of 3.66% to the prevailing government bond yield. That is, there is no opportunity for the AER to make any adjustment to the rate of return to reflect the RBA's actions to artificially suppress the government bond yield.
7. When it made its binding instrument in 2018, the AER could not possibly have anticipated that the RBA would take action to artificially suppress government bond yields during the currency of that instrument. The RBA has never taken such action before, and of course a global pandemic could not have been anticipated in 2018. But under a binding instrument, there is no opportunity to make any adjustment or correction in response to the unprecedented market conditions or to the RBA's actions to artificially suppress the government bond yield.

Implications of the low return allowances

8. Under the binding instrument, any reduction in the government bond yield flows directly and mechanically through to the allowed return on equity. The result is an allowed return on equity that is:
 - a Lower than any previous AER allowance;
 - b Lower than the allowances of comparable regulators; and
 - c Lower than the allowance would otherwise have been in the absence of the RBA's intervention to artificially suppress the government bond yield.
9. This has a number of important practical implications for regulated networks, including:



- a The current regulatory allowance for the benchmark firm implies a negative cash return to equity and a negative net profit after tax (**NPAT**). That is, under the regulatory model, equity holders in the benchmark firm are required to make an equity contribution each year to offset shortfalls in the regulatory allowance. If that situation persists for one more regulatory period, the benchmark firm would have ten consecutive years of losses. In practice, for any business that records losses for ten consecutive years there will be ramifications in terms of credit ratings and the ability to attract investment.
 - b The current level of regulatory allowances do not produce credit metrics that support an investment grade credit rating. Specifically, the important FFO/Debt metric falls within the BB range.
10. These implications are likely to be exacerbated by the RBA's 'lower for longer' approach to driving down government bond yields.

Problems remain even after the AER's draft decision on regulatory inflation

11. The AER's draft decision on regulatory inflation would partially mitigate these problems if applied in the final decisions for the Victorian distribution businesses. A lower estimate of regulatory inflation flows through to a higher cash return on equity. This has the effect of reducing the quantum of losses and slightly improving the FFO/Debt metrics. However, NPAT remains negative and the FFO/Debt ratio remains in the BB range.

Regulators overseas are currently setting return on equity allowances that are materially higher than those set by the AER despite facing similar changes in market conditions

12. A recent study by Brattle, commissioned by the AER, showed that the AER's return on equity allowances were lower than any of the other overseas regulators considered in the study.
13. Using a much larger dataset than Brattle's we show that return on equity allowance proposed by the AER in its draft decisions for the Victorian DNSPs are lower than nearly all European regulatory decisions applying in 2019 that were available for analysis.
14. Two recent regulatory decisions in the UK—by Ofgem and the Competition and Markets Authority (**CMA**)—also included return on equity allowances that are materially higher than those provided by the AER. This is true even though, like in Australia, interest rates are close to an all time low.
15. In those cases (and unlike the AER), the UK regulators made upward adjustments to the risk-free rate and estimated the market risk premium (**MRP**) using the Wright approach. These methodological differences between the AER and the UK regulators help explain why the AER and Ofgem decisions provide a higher allowed return on equity than the AER's most recent decision.



2 The impact of low yields and the RBA's bond-buying program

2.1 A program designed to suppress government bond yields

16. On 3 November 2020 the Reserve Bank of Australia announced its intention to pursue a government bond buying program over the following six-month period. The key features of this program are as follows:
 - a A total of \$100 billion will be committed to the program;
 - b The program will continue for six months;
 - c Approximately 80% of the funds will be used to purchase Commonwealth Government Securities and the remainder will be used to purchase semi-government (e.g., state) securities; and
 - d The focus of the program is on securities with 5 to 10 years to maturity.
17. This program is in addition to the yield target adopted in relation to 3-year Commonwealth Government Securities that is already in train. Under that program, the RBA purchases whatever quantity of 3-year bonds is required to drive the yield down to equal the RBA's cash rate target, which has now been reduced to a new record low of 0.10% p.a.
18. Thus, the RBA now has a two-pronged approach in relation to Commonwealth Government Securities:
 - a A yield target at the shorter (3-year) end of the term structure whereby the RBA will purchase government bonds to drive the yield down from the market-determined level to 0.10% p.a.; and
 - b A bond-buying program at the longer (5-10 year) end of the term structure whereby the RBA will purchase \$100 billion of government and semi-government bonds to drive yields down from the market-determined level.
19. The Governor of the RBA has explained the rationale and objective of these programs as follows:

*The package combines the price-based target at the shorter part of the yield curve that has been in place since March with a quantity target at the longer part of the yield curve. In doing so, **it will lower the whole structure of interest rates in Australia**. This lower structure of interest rates will work to support the economy through the normal transmission mechanisms, including lower borrowing costs, a lower exchange rate than otherwise and higher asset prices.¹*
20. That is, the objective of the RBA's interventions in the government bond market is to drive yields below the level that would otherwise have been set by the market.

¹ Lowe, P., 3 November 2020, *Today's Monetary Policy Decision*, Reserve Bank of Australia, p.3, emphasis added.



21. The Governor of the RBA has also indicated that the intervention in government bond markets is likely to remain in place for some years:

*The Board expects that this new lower level of interest rates **will be in place for an extended period**. The Board will not increase the cash rate until actual inflation is sustainably within the target range. **It is not enough for inflation to be forecast to be in the target range**. For inflation to be sustainably within the target range, wage growth will have to be materially higher than it is currently. This will require a lower rate of unemployment and a return to a tight labour market. On the current outlook, it will take some years to get there. Given this, **the Board is not expecting to increase the cash rate for at least three years**.*²

22. We note that the determining factor in relation to the length of this intervention is actual inflation returning to within the RBA target range of 2-3%. The RBA has specifically noted that it will not rely on inflation forecasts returning to its target range, but will act only when it observes such a move in actual inflation.

23. The Governor of the RBA has also noted that similar bond-buying programs have had the effect of lowering government bond yields in other countries:

*Today's decision supplements this price target with a quantity target further out along the yield curve. This quantity target is similar to the approach adopted by many other central banks, which have responded to the pandemic with government bond buying programs. The evidence is that **these programs have lowered government bond yields in other countries**.*³

24. In summary, the RBA's interventions into the government bond market are designed to drive government bond yields below the level that would otherwise have been set by the market.

2.2 Implications of the RBA interventions on regulated businesses

25. An artificial lowering of government bond yields has potential implications on regulatory allowances for the return on debt and the return on equity.
26. In relation to the allowed return on debt, a reduction in government bond yields may result in a consequential reduction in corporate bond yields. This would have an impact on the allowed return on debt via the trailing average approach. This, itself, would have no detrimental impact on the benchmark firm because the regulatory allowance is set to reflect the cost of servicing debt that would be incurred under the benchmark efficient financing approach. If the cost of servicing debt is lower – for whatever reason – it is appropriate for the regulatory allowance to be commensurately lower.
27. Whereas the required return on debt can be essentially observed in the form of corporate bond yields, that is not the case for the return on equity. Rather, the return on equity is set according to an economic model on the basis of a set of assumptions. Under the approach adopted in the binding 2018 Rate of Return Instrument (RoRI), a reduction in the 10-year government bond yield mechanically flows through, one-to-one, to a lower regulatory allowance.

² Lowe, P., 3 November 2020, *Today's Monetary Policy Decision*, Reserve Bank of Australia, p.3, emphasis added.

³ Lowe, P., 3 November 2020, *Today's Monetary Policy Decision*, Reserve Bank of Australia, p.6, emphasis added.



28. In this report, we consider the implications of the lower allowed return on equity stemming from the artificially suppressed government bond yield.
29. When it made its binding instrument in 2018, the AER could not possibly have anticipated that the RBA would take action to artificially suppress government bond yields during the currency of that instrument. The RBA has never taken such action before, and of course a global pandemic could not have been anticipated in 2018. But under a binding instrument, there is no opportunity to make any adjustment or correction in response to the unprecedented market conditions or to the RBA's actions to artificially suppress the government bond yield.
30. Rather, under the binding instrument, any reduction in the government bond yield flows directly and mechanically through to the allowed return on equity. The result is an allowed return on equity that is:
 - a Lower than any previous AER allowance;
 - b Lower than the allowances of comparable regulators; and
 - c Lower than the allowance would otherwise have been in the absence of the RBA's intervention to artificially suppress the government bond yield.

2.3 Unsustainable negative cash return on equity / negative NPAT

31. Under the AER's regulatory framework, the allowed return on equity is provided in two parts:
 - a There is a cash allowance via the PTRM; and
 - b There is an expectation of RAB indexation over the regulatory period.
32. Whereas the cash allowance is a known amount, the benefit of RAB indexation is uncertain, depending on whether actual inflation turns out to be above or below the AER's forecast.
33. The allowed cash return on equity can be computed as follows:
 - a Begin with the AER's allowed nominal return on equity;
 - b Deduct the AER's estimate of expected inflation – to avoid double counting when inflation is used to index the RAB at the end of the regulatory period; and
 - c Deduct 1.5 times the AER's estimate of expected inflation – to reflect the fact that:
 - i The AER sets a nominal return on debt allowance (in accordance with the nominal debt that the benchmark firm is assumed to issue and which all networks actually issue);
 - ii The AER then provides a cash allowance after deducting its estimate of expected inflation;
 - iii The equity holders are required to make up the shortfall (as debt holders require full nominal interest to be paid); and
 - iv The 1.5 multiplier reflects the 60/40 capital structure that is assumed for the benchmark efficient entity.
34. The AER's allowed cash return on equity since 2009 is summarised in **Figure 1** below. The allowed cash return fell below zero after the reductions in the 2018 Rate of Return Instrument, and has continued to fall due to subsequent reductions in government bond yields.



Figure 1: AER allowed cash return on equity



Source: AER regulatory determinations; Frontier Economics calculations. Computed as prevailing 10-year government bond yield plus AER allowed equity risk premium (beta times MRP) minus 2.5 times AER's inflation estimate.

- A corollary of the negative allowed cash return to equity is a negative net profit after tax (**NPAT**) for the benchmark firm. We have computed the NPAT allowed under the AER's Victorian Draft Decisions and summarise the results in **Table 1** below.

Table 1: Net profit after tax implied by Victorian Distribution Draft Decisions (\$ millions)

Network	2020-21	2021-22	2022-23	2023-24	2024-25	Total
AusNet Services	-25	-26	-27	-28	-29	-135
CitiPower	-11	-11	-11	-12	-12	-56
Powercor	-24	-25	-27	-28	-29	-133
United Energy	-13	-13	-14	-14	-15	-69

Source: AER Draft Decisions. Computed as Allowed Revenue, less interest, opex, depreciation and tax. Customer contributions and revenue adjustments have been zeroed out to provide estimates for the benchmark firm.

- Table 1** shows that the Victorian networks are scheduled to receive a negative NPAT allowance under the AER's draft decisions. This is a real concern for network businesses. Any suggestion that a negative profit allowance may not be an issue because those losses will be offset by expected increases in future RAB values overlooks the practical importance of reported profits. If this issue should persist for one more regulatory period, the regulatory allowance would result in the benchmark firm recording losses in ten consecutive years.
- In practice, for any business that records losses for ten consecutive years there will be ramifications in terms of credit ratings and the ability to attract investment. The expectation of such losses may result in businesses being operated contrary to the long term interests of consumers. In our view, these are real practical effects that require careful consideration in the regulatory setting.



38. Moreover, a further corollary of a negative cash return on equity is that the regulatory allowance each year is insufficient to pay the benchmark firm's nominal interest bill. That is, equity holders are required to make an equity contribution for the firm to continue functioning.

39. The importance of this issue has been recognised in the Sapere report commissioned by the AER:

Stakeholders have correctly identified that the current regulatory approach may result in negative cash returns to equity; negative cash returns to equity may occur with a low allowed nominal rate of return on equity and/or high leverage. If, in addition, outturn inflation is low relative to expected inflation, then the return on equity may in amount be insufficient to meet the obligation to pay interest...we note that the sustained fall in inflation expectations means that the parameter estimates determined recently by the AER imply a negative cashflow return on equity for a benchmark efficient entity. We suggest that the AER consider, during its 2020 Inflation Review, whether a projected negative cash return on equity might indicate an underlying inconsistency in one or more inputs into its estimate of WACC and expected inflation.⁴

40. We agree with Sapere that it is important to carefully consider whether a negative cash return might indicate an underlying inconsistency in the AER's approach and note that this issue has not yet been addressed.

2.4 Negative cash returns are a new development

41. **Figure 1** above shows that the AER's allowed cash return on equity has only fallen into negative territory after the reductions that were implemented in the 2018 Rate of return Instrument, falling further due to the subsequent decline in government bond yields. AER decisions made prior to the 2018 Instrument provided a positive cash return on equity and generated positive NPAT for the benchmark efficient firm. For example, the benchmark NPAT allowances in the 2016 final decisions for the Victorian distribution networks are contrasted with the current draft allowances in **Table 2** below.

Table 2: Net profit after tax implied by Victorian Distribution Decisions (\$ millions)

Network	2016-21 Final	2021-26 Draft
AusNet Services	73	-135
CitiPower	10	-56
Powercor	38	-133
United Energy	31	-69

Source: AER 2016 Final Decisions and 2020 Draft Decisions. Computed as Allowed Revenue, less interest, opex, depreciation and tax. Customer contributions and revenue adjustments have been zeroed out to provide estimates for the benchmark firm.

⁴ Sapere, 30 June 2020, *Target return and inflation*, p. 30.



42. That is, the problems of negative allowed cash returns on equity and negative benchmark NPAT allowances do not arise under the current decisions. Consequently, those problems will not be reflected in any historical profitability or performance metrics.

2.5 Unsustainable credit rating metrics

43. Another implication of the historically low allowed returns in the Victorian draft decisions is that the important FFO/Debt metric falls below the level that is required to support an investment grade credit rating. For example, Moody's⁵ provides the benchmarks for the FFO/Debt ratio that are set out in **Table 3** below.

Table 3: Moody's FFO/Debt ratings ranges

FFO/Debt ratio	Rating	
	Moody's	S&P
5-11%	Ba	BB
11-18%	Baa	BBB
18-26%	A	A

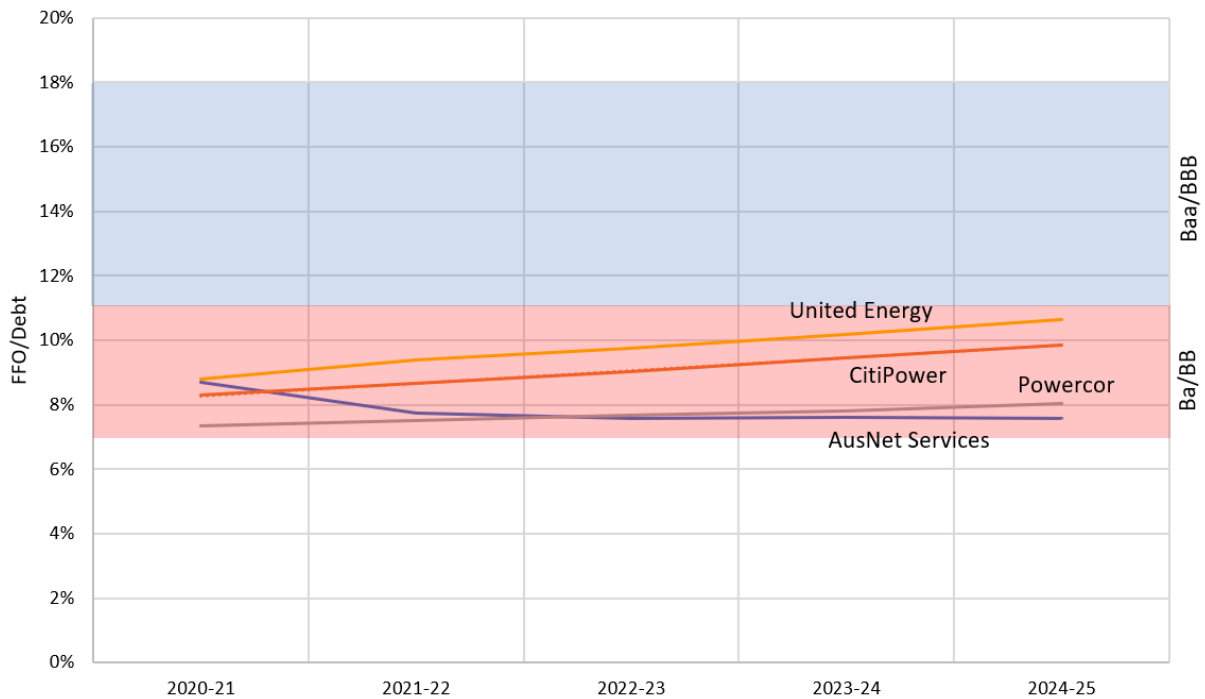
Source: Moody's.

44. The FFO/Debt ratios drawn from the PTRMs published with the AER's Victorian Draft Decisions are summarised in **Figure 2** below. That figure shows that, in every year of the forthcoming regulatory period, the metrics derived from the draft decisions fall materially below the level that would support an investment grade credit rating.
45. As for the negative NPAT allowance, this has a real practical impact on regulated businesses that requires careful consideration in the regulatory setting.

⁵ Moody's Investor Service, 13 February 2020, Rating Methodology: Regulated Electric and Gas Networks, p. 19.



Figure 2: FFO/Debt metric implied by Victorian Draft Decisions



Source: AER Draft Decisions; Moody's.

2.6 The impact of the AER's draft decision on regulatory inflation

46. We note that the AER's draft decision on regulatory inflation proposes to reduce the estimate of expected inflation from 2.37% (the figure adopted in the Victorian draft decisions) to 1.95%. This change would serve to mitigate the problems outlined above if applied in the final decisions for the Victorian distribution businesses. A lower estimate of regulatory inflation flows through to a higher cash return on equity. This has the effect of reducing the quantum of losses and slightly improving the FFO/Debt metrics. However, although the outcomes are somewhat improved, NPAT remains negative and the FFO/Debt ratio remains in the BB range⁶ – as illustrated in **Table 4** and **Figure 3** below.

⁶ But for United Energy's FFO/Debt ratio moving just within the BBB range in 2024-25.

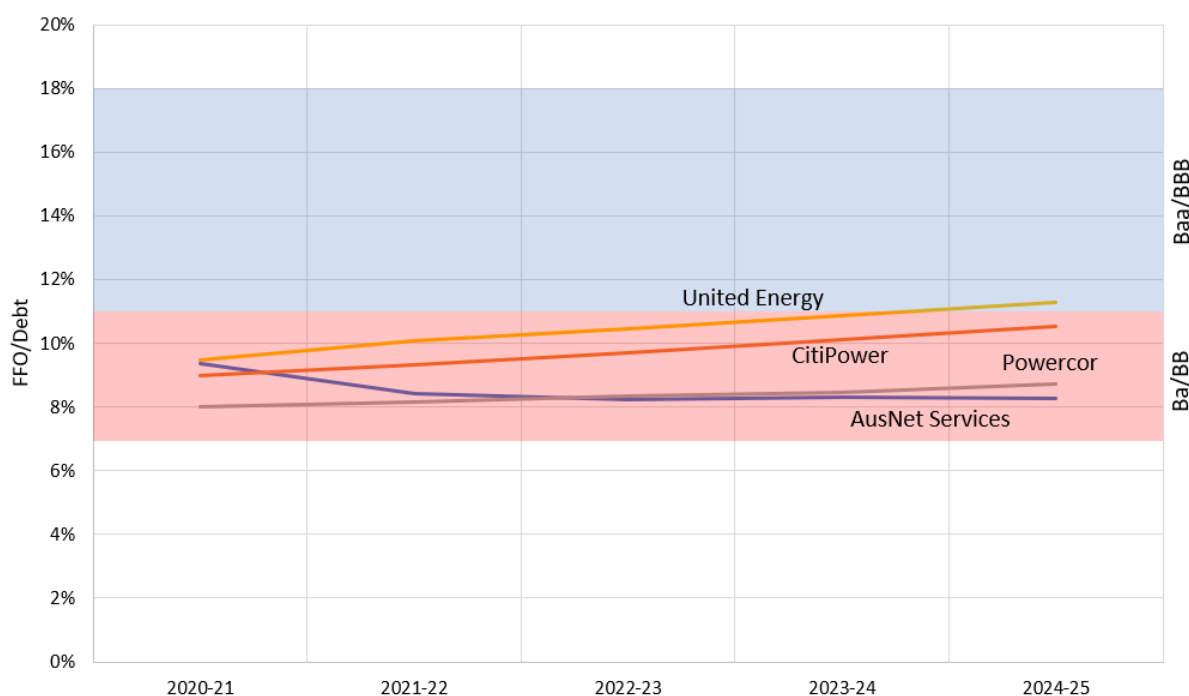


Table 4: Net profit after tax implied by Victorian Draft Decisions – incorporating draft decision on regulatory inflation (\$ millions)

Network	2020-21	2021-22	2022-23	2023-24	2024-25	Total
AusNet Services	-5	-5	-6	-6	-6	-28
CitiPower	-2	-2	-2	-2	-2	-12
Powercor	-5	-5	-6	-6	-6	-28
United Energy	-3	-3	-3	-3	-3	-14

Source: Source: AER Draft Decisions. Computed as Allowed Revenue, less interest, opex, depreciation and tax. Customer contributions and revenue adjustments have been zeroed out to provide estimates for the benchmark firm. Regulatory inflation has been changed to 1.95%.

Figure 3: FFO/Debt metric implied by Victorian Draft Decisions: Incorporating inflation draft decision



Source: AER Draft Decisions; Moody's.

2.7 Averaging periods for Victorian distribution businesses

47. We are advised that the averaging period for the Victorian distribution networks – for determining the risk-free rate used in setting the allowed return on equity – will fall within the period 1 December 2020 to 31 March 2021.



48. We note that this period falls entirely within the RBA bond-buying program, in which case the government bond yield will be artificially suppressed, flowing through to the allowed return on equity.



3 The approach of other regulators

3.1 Brattle analysis

49. In a report commissioned by the AER, Brattle compared the AER's allowed return on equity with the corresponding allowance from other comparable regulators overseas. Brattle reported that the AER's allowed real return on equity is materially lower than that of any other regulator.
50. Specifically, Brattle report that the AER's allowed real return on equity of 2.42% (at the time of their report) was materially below the corresponding figures of 5.77% for ARERA, 4.80% for Ofgem, and 4.19% for Ofwat.⁷

3.2 Comparison with an expanded sample of overseas regulators

51. The Brattle report used a relatively small (eight) sample of overseas regulators to compare the returns allowed by the AER.
52. We used a much larger alternative sample, based on a 2020 report published by the Council of European Energy Regulators (CEER), which surveys (amongst other things) the allowed rates of return and individual WACC parameter decisions that prevailed in 2019 in European Union member states, as well as Norway and Iceland.⁸
53. Using data contained in that report, we constructed:
 - a the real return on equity allowances that applied in 19 European decisions for electricity and gas DNSPs and TNSPs in 2019; and
 - b the nominal return on equity allowances that applied in 63 European decisions for electricity and gas DNSPs and TNSPs in 2019.
54. We then compared the AER's draft real and nominal return on equity allowances for the Victorian DNSPs to the European decisions in the CEER report.⁹
55. **Figure 4** shows that the real return on equity allowance provided by the AER in its recent draft decisions for the Victorian DNSPs (i.e., 2.17%) is 173 basis points lower than the lowest real return on equity allowance in the European sample.
56. Whilst it is true that a number of the European decisions represented in the Figure below were made a number of years ago when market rates were considerably higher than they are at present, it is nevertheless the case that equity investors in all of the European networks in the sample could *today* earn significantly higher real return on equity allowances than would investors in the Victorian DNSPs under the AER's draft decisions.

⁷ Brattle, June 2020, *A review of international approaches to regulated rates of return*, Table 4, p. 49.

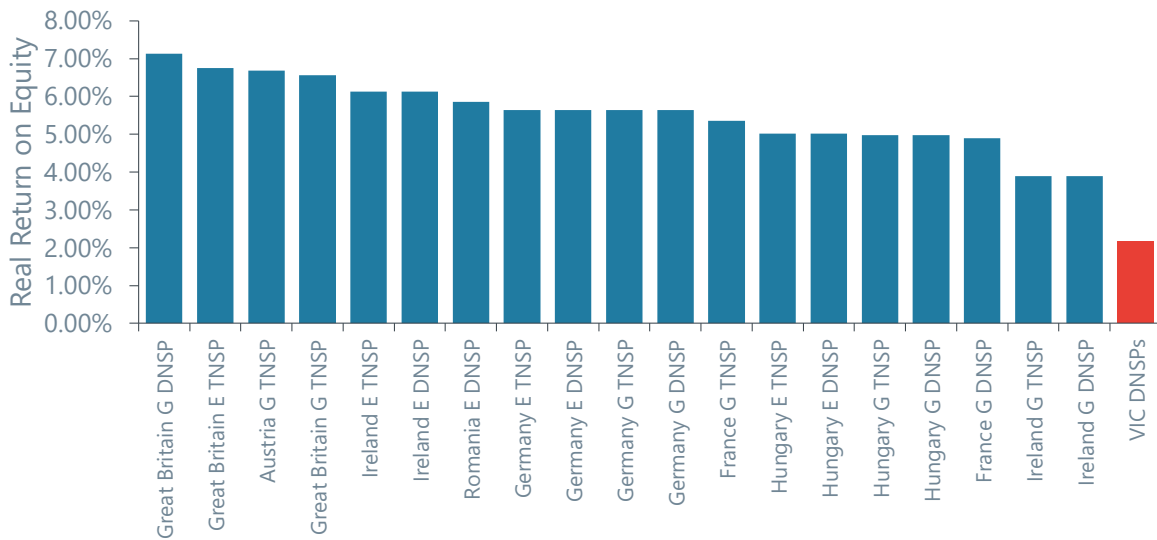
⁸ CEER, *Report on Regulatory Frameworks for European Energy Networks 2019: Incentive Regulation and Benchmarking Work Stream*, Ref: C19-IRB-48-03, 28 January 2020.

⁹ We calculated the real return on equity allowance in the AER's Victorian decisions by deflating the nominal allowed return on equity of 4.59% by the AER's estimate of expected inflation of 2.37% using the Fisher formula.



- 57. Given the openness of global capital markets, this would make it more challenging for Victorian DNSPs to attract equity capital than the European networks subject to the regulatory decisions presented in **Figure 4**.

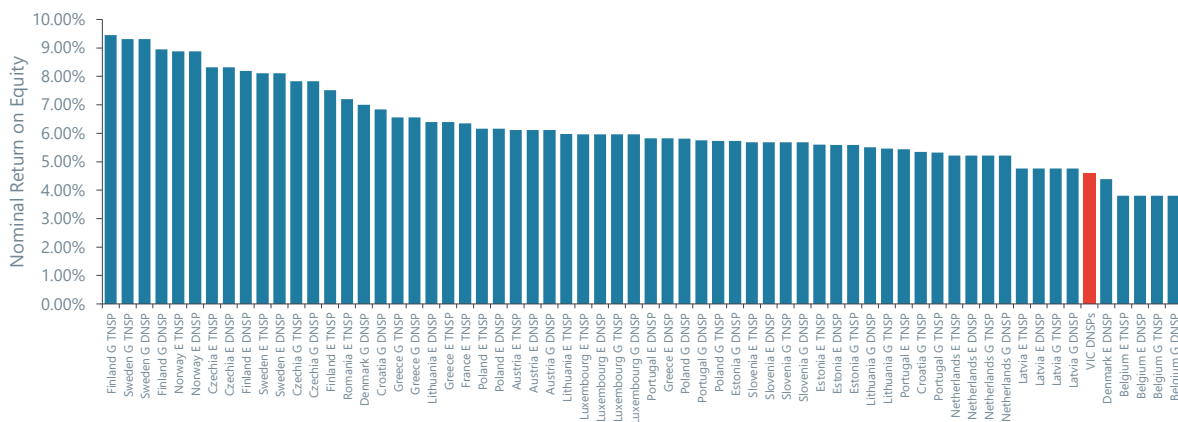
Figure 4: Comparison of real return on equity allowances provided by the AER and a sample of European regulators



Source: CEER report, AER decisions, Frontier Economics analysis

- 58. **Figure 5** below shows that out of a sample of 63 European energy network decisions that applied in 2019, 58 set a higher nominal allowed return on equity than the nominal return on equity provided by the AER in its draft decisions for the Victorian DNSPs. Only a handful of decisions—by the Danish and Belgian energy regulators—set a lower nominal allowed return on equity than the AER.

Figure 5: Comparison of nominal return on equity allowances provided by the AER and a sample of European regulators



Source: CEER report, AER decisions, Frontier Economics analysis

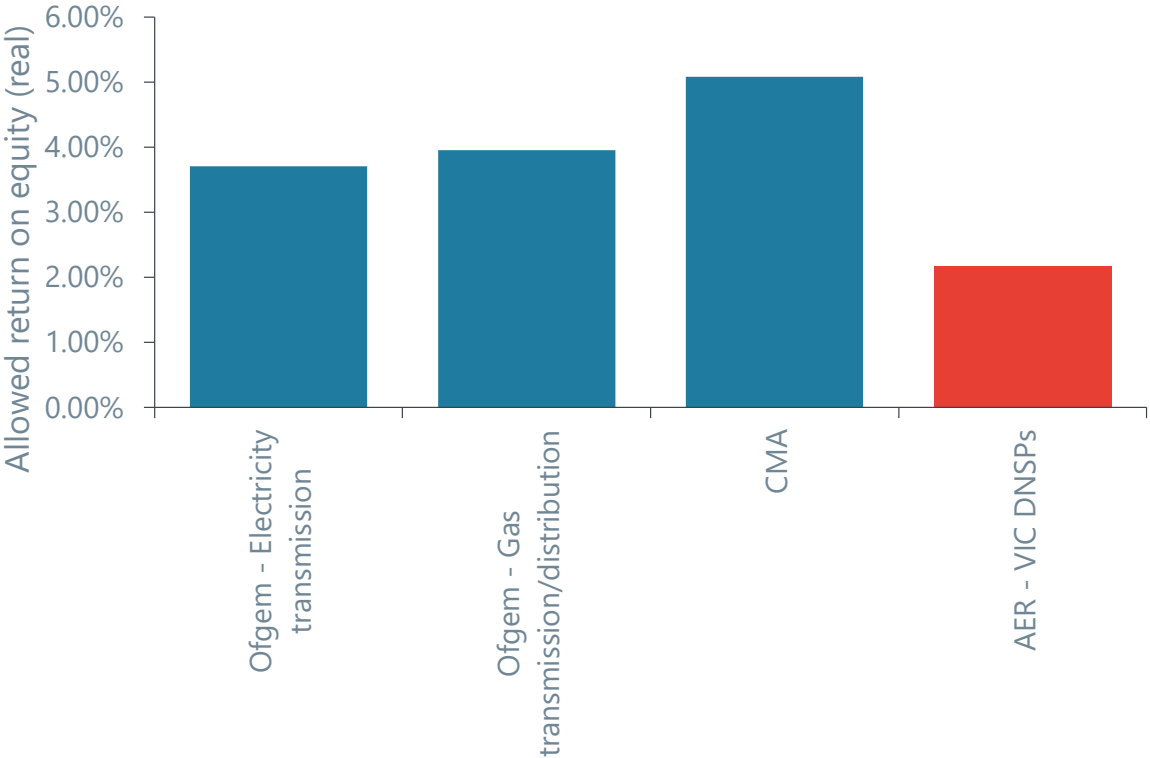
- 59. The results above corroborate Brattle’s findings that the AER’s return on equity decisions are low outliers compared to the recent decisions by regulators in other jurisdictions overseas.



3.3 Recent UK regulatory decisions

- 60. Two new decisions have been made by regulators in the UK since Brattle finalised its report to the AER:
 - a In July 2020, Ofgem published its RIIO-2 draft determinations for gas and electricity transmission, gas distribution and Great Britain’s electricity transmission operator; and
 - b In September 2020, the UK’s Competition and Markets Authority (CMA) published its provisional findings in an appeal sought by four water companies in England and Wales against Ofwat’s PR19 determinations.
- 61. **Figure 6** shows that the real return on equity allowance proposed by the AER for the Victorian DNSPs is between 159 and 178 basis points lower than the real return on equity allowance set by Ofgem in its draft decision, and 291 basis points lower than the real return on equity allowance set by the CMA in its provisional findings.

Figure 6: Comparison of real return on equity allowances provided by the AER and in recent UK decisions



Source: Ofgem, CMA and AER draft decisions.

- 62. It is striking that Ofgem and the CMA have set materially higher return on equity allowances than the AER, even though (like in Australia), the yield on UK government bonds is close to an all-time low at present—as shown in **Figure 7** below.



Figure 7: Zero-coupon yield on 20-year index-linked gilts



Source: Bank of England data. Note: Both Ofgem and CMA use the yields on 20-year government bonds to determine the risk-free rate allowance.

63. The difference between the return on equity allowances set by the AER and the UK regulators is in large part due to differences in the methodologies adopted by the regulators.
64. For example, when setting the return on equity allowance, Ofgem:
- a Adopted a risk-free rate estimate that was on average 10 basis points higher (based on forward curve evidence) than the spot inflation-indexed gilt rate. By contrast, the AER makes no adjustment to prevailing government bond yields to reflect forward expectations over the regulatory period.¹⁰
 - b Estimated the MRP allowance using the Wright approach. That is, Ofgem first estimated an expected total market return (TMR) calculating the average long-run historical real return on the market.¹¹ Ofgem then calculated the MRP by subtracting from the TMR its estimate of the real risk-free rate. This means that Ofgem's estimate of the MRP increases inversely, and one-for-one, as its estimate of the risk-free rate falls (and vice versa). By contrast, the AER's MRP estimate is fixed at 6.10% (nominal) regardless of movements in the risk-free rate. This means that the AER's estimate of the overall required return on equity falls or rises in lock-step with changes in its estimate of the risk-free rate.
65. The CMA's decision also made adjustments that the AER does not use. For instance:
- a When estimating the risk-free rate, the CMA noted that because the UK government can "borrow at rates substantially lower than even higher-rated non-government market participants", the yield on index-linked gilts "is likely to sit below the 'true' estimate of the theoretical RFR, if the RFR is expressed as the yield on a 'zero beta' asset."¹² As such, the CMA

¹⁰ Ofgem, *RIIO-2 Draft Determinations – Finance Annex*, 9 July 2020, Table 9.

¹¹ Ofgem, *RIIO-2 Draft Determinations – Finance Annex*, 9 July 2020, para 3.23. In an earlier decision, Ofgem explains that it estimates the TMR "by considering the historical long-run average of market returns as the best single objective estimate of investors' expectations of the future." See Ofgem, *RIIO-2 Sector Specific Methodology Decision – Finance*, 24 May 2019, para. 3.44.

¹² CMA, *Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations*, Provisional findings, 29 September 2020, para. 9.135.



viewed the prevailing yield on index-linked gilts, -1.40%, as a “lower bound” for its estimate of the risk-free rate and selected a point estimate for the risk-free rate that was 44 basis points higher than the prevailing rate.¹³ The CMA defined the upper bound for its estimate of the risk-free rate using the yields on AAA-rated non-government bonds.

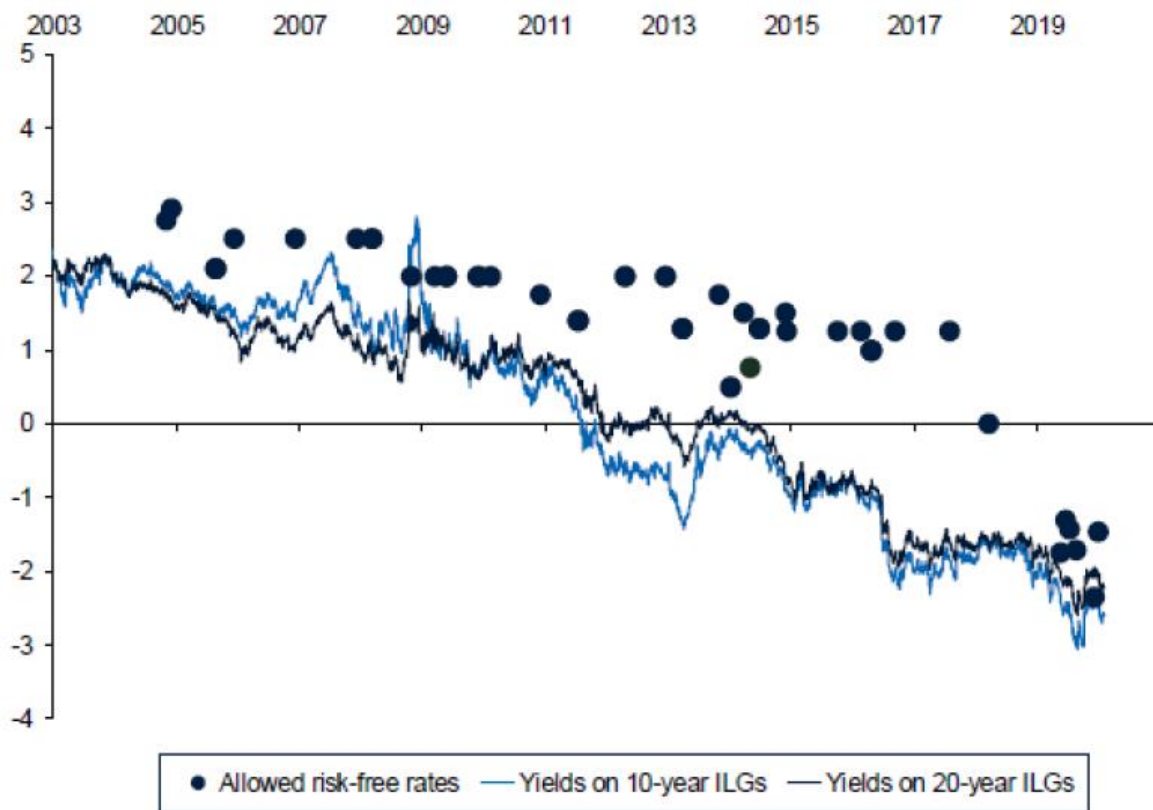
- b Like Ofgem, the CMA adopted primarily the Wright approach to estimate the MRP, with other methods acting only as cross-checks.¹⁴ This means that, unlike the AER, the CMA did not adopt an approach that applied a fixed MRP estimate regardless of prevailing market conditions. Rather, the CMA’s return on equity allowance was based on an MRP estimate that rose/fell one-for-one with changes in the risk-free rate estimate.
66. These features of the approaches used by Ofgem and CMA ensured that the return on equity allowances set by these UK regulators were more stable and resilient to volatility in government bond yields than is the return on equity allowance set by the AER.
 67. It is noteworthy that in past regulatory decisions, most UK regulators had used risk-free rate allowances that incorporated material ‘headroom’ over and above the prevailing yield on government bonds. Since 2018, a number of regulatory decisions have applied risk-free rate allowances that are substantially closer to the prevailing yield on government bonds, as shown in **Figure 8**, which is reproduced from the CMA’s provisional findings.
 68. It is striking that, as shown in the Brattle report and the discussion above, UK regulators continue to set materially higher return on equity allowances than the AER, notwithstanding that they no longer appear to apply the level of headroom within the risk-free rate allowance that was commonplace until 2018.

¹³ CMA, *Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations*, Provisional findings, 29 September 2020, Table 9-26.

¹⁴ The CMA stated that: “We consider that the most robust approach to estimating TMR is to use historical ex-post returns (from 1900 to the present day) as a proxy for investors’ forward-looking expectations as this method is the least reliant on assumptions and forecasts of those available to us. However, we believe that both historic ex-ante approaches and forward-looking evidence can provide a useful cross-check in some cases.” CMA, *Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations*, Provisional findings, 29 September 2020, para. 9.216.



Figure 8: Comparison of UK regulatory determinations of the risk-free rate and the prevailing yields on index-linked bonds



Source: Oxera chart reproduced in the CMA provisional findings, Appendix C, Figure 2.

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