

Rate of return and cashflows in a low- rate environment

Initial network sector views

AER Stakeholder Forum, 23 June 2021

Pathway to 2022 Rate of Return Instrument

Outline

1. Low interest rates and impacts: a two-part issue
2. Focus on the allowed **return on equity** – ENA supports the AER's current approach to the allowed return on debt.
3. Risk-free rate issues:
 - Correctly matching the **'risk-free' rate**
 - Accounting for **impacts of Reserve Bank interventions**
4. Cost of equity – setting the market risk premium
 - Giving appropriate **weight to forward-looking evidence**
 - Reflecting the efficient market cost of equity at each review.
5. Financeability:
 - A commonly applied regulatory tool for **'early warning' of emerging issues**
 - Ensuring clarity around what is being proposed → avoiding misunderstanding

Customer outcomes of low rate environment are good, have clear link for debt, but require some caution for equity

Outcome | Low interest rates support lower prices

Customers should and do benefit from lower prices in a low interest rate environment

Mechanism to get there

For debt this relationship works mechanistically and with enduring effect on lower prices

- » Debt pays interest and the 2018 RORI market observation method and network compensation dynamically align with networks costs / customer prices
- » Low debt costs will continue to benefit customers under the 10 year trailing average

Equity estimation requires caution in how this relationship is approximated, so networks can still attract adequate investment

- » Equity is compensated through profit
- » While we can (and do) measure interest rate projections for debt, the profit projections required to attract equity must be approximated

Any approximation will carry risk of error.

What happens if we get this wrong?

Do we understand the risks to consumers?

Traditional risks centred on:

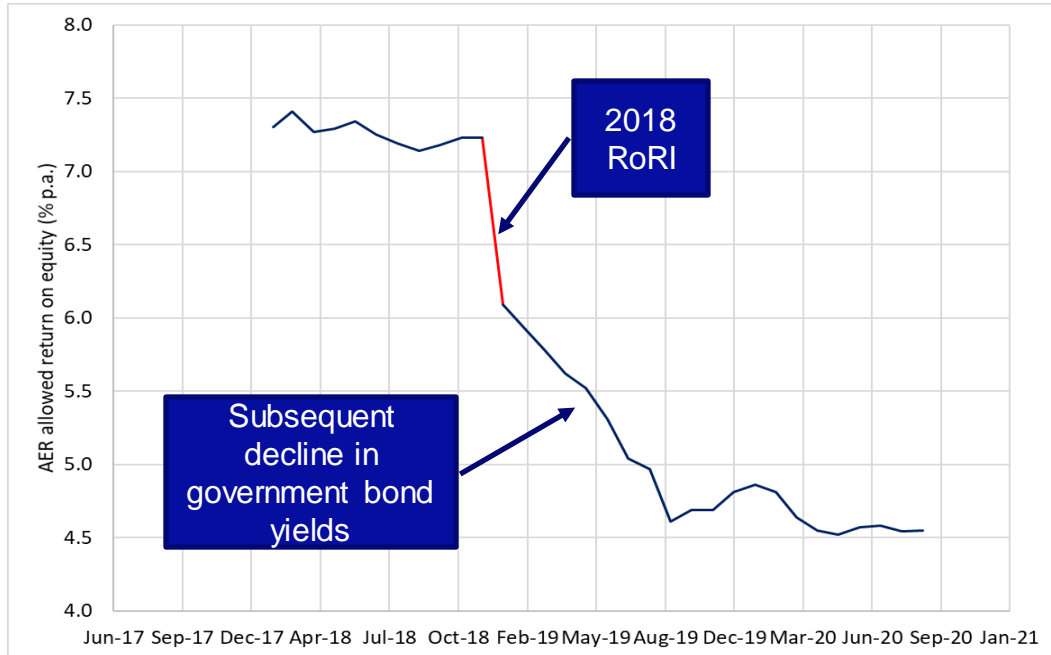
- » Outages
- » Resilience to severe weather and fires

Risks critical to this review stem from the **importance of timely network investments to:**

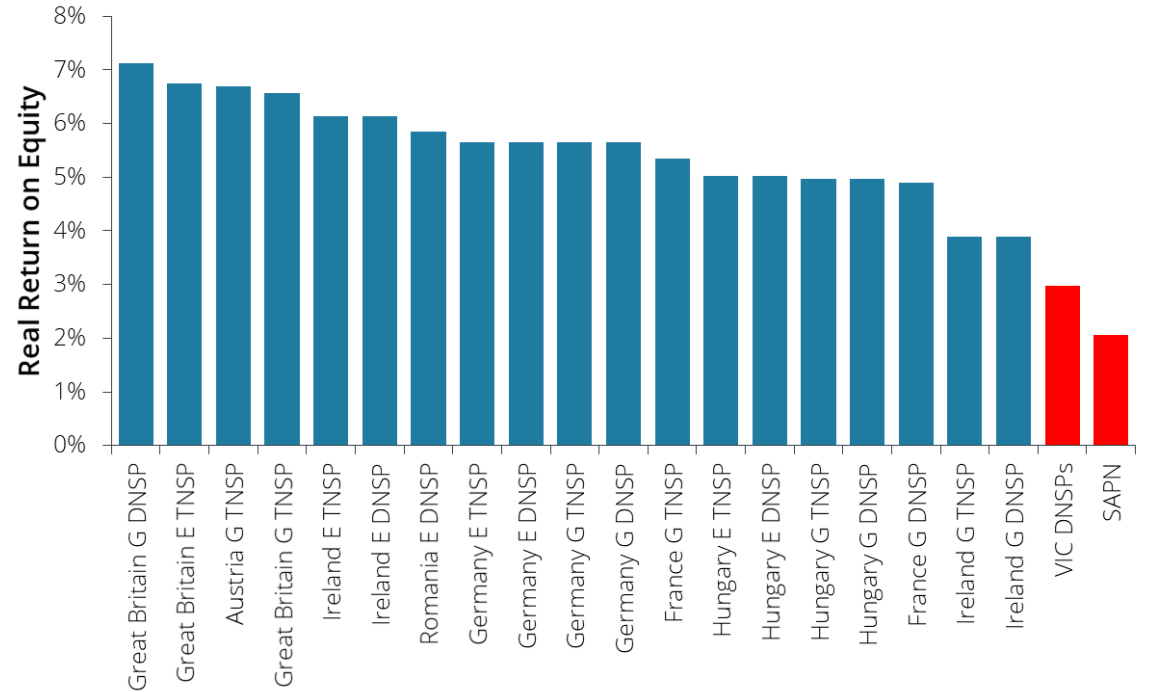
- » **facilitate lower wholesale prices**, through both:
 - Transmission investments to interconnect the NEM and REZs by delivering AEMO's ISP
 - Distribution investments enabling consumers to lower theirs and all consumers' energy costs by efficiently integrating DER
- » **facilitate customer agency**, absent investment to integrate DER, customers face constraint and control on their DER, thereby losing agency and risking stranding or underutilising their DER
- » **decarbonise Australia's economy**, emissions targets cannot be met without timely grid investment. EVs will need charging infrastructure as ubiquitous as our petrol stations, and renewable energy must be securely moved and stored from where and when it is produced to where and when it is used
- » **maintain system security**, all of the above cannot be securely delivered without grid investment, the alternative for customers is outages, lower power quality, constraint on their DER choices, and slower more expensive renewable transition.

Two elements of 'low rates'

Allowed return on equity has fallen to **historical lows**.



Allowed return on equity is among the **lowest allowed in any internationally comparable jurisdiction**.



Brattle identified that the AER's allowed return on equity tends to be lower than that of comparable regulators:

*When we compare the AER's method with those of the other regulators, we observe **important differences** in four related areas concerning the cost of equity. We think that these observations indicate some areas in which the AER's approach, in our view, is **not as effective as the approach of other regulators**.*

Critical to engage with the Brattle material and recommendations throughout the Return on Equity process.

Focus is on the allowed return on equity

- AER's current approach to setting the allowed return on debt means the allowance falls when debt costs fall.
- The low interest rate environment does not create problems with this approach.

- Focus is on the allowed return on equity.
- What do comparable regulators do differently to partially offset the effect of low government bond yields?

Risk-free rate

- Some regulators adopt alternative proxies.
- Question whether government bonds are an appropriate proxy for use in CAPM.
- What is the relevance of the current central bank intervention?

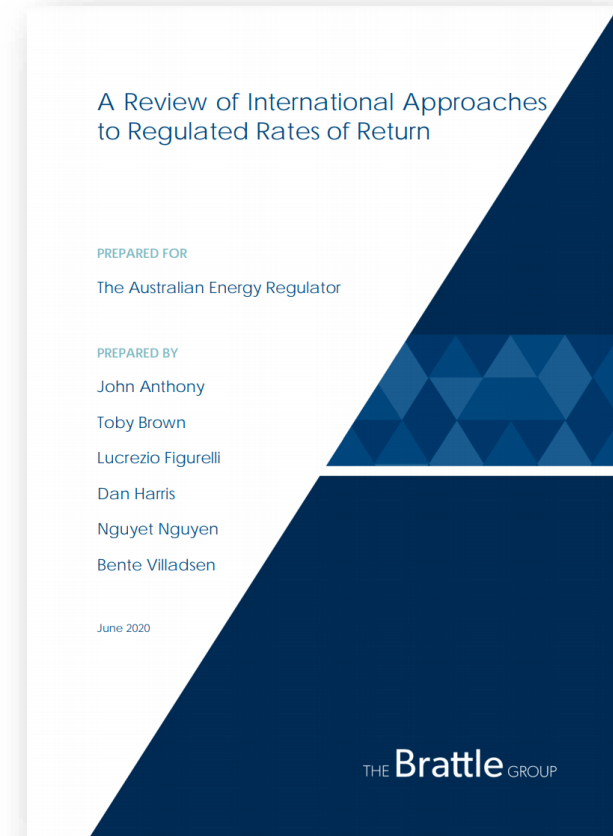
Market risk premium

- AER's current approach assumes that the market cost of equity falls 1:1 with every fall in government bond yields. Is this reasonable?
- Brattle concludes that there is not a 1:1 relationship, and recommends giving some weight to forward-looking evidence.

Evidence from Brattle and international practice on risk-free rates

Need to review how others have addressed historically low risk-free rates, and addressed potential negative rates

- Brattle review and AER Working Paper on Term of the Rate of Return provide evidence on international practice.
- Some approaches
 - Use of longer-term historic government bonds rather than short-term 'spot' observations of yields
 - Adoption of a minimum 'floor' on the real risk-free rate (ARERA)
 - Adjustment of risk-free rate to reflect market expected increases (forward market evidence): Ofwat and Ofgem



Ensuring the appropriate proxy for the CAPM risk-free rate

CMA has concluded that the government bond yield is a downwardly biased estimate of the risk-free rate

The UK Competition & Markets Authority (CMA) (17 March 2021):

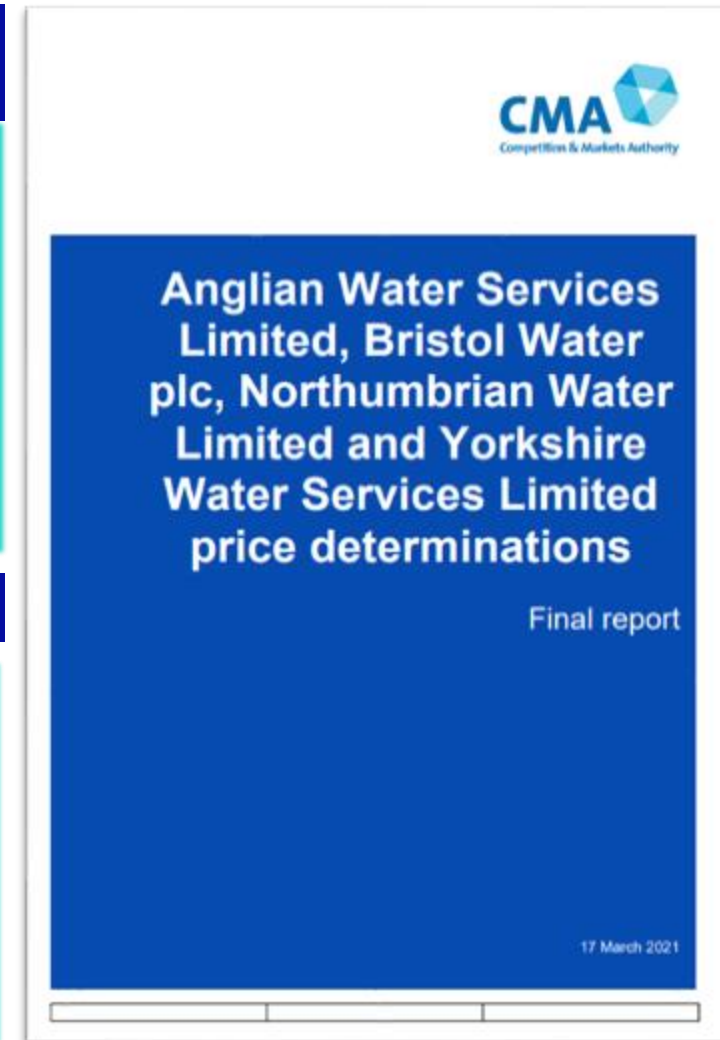
- *a CAPM based on the ILG [long-term government bond yield] rate alone may **understate the return required by investors** on equities, if it underestimates the return associated with a 'zero-beta' asset. [9.106]*
- *..the 'true' rate of RFR in the market is likely to be above this level. [9.158]*
- *we consider the yield on **AAA-rated non-government bonds** to be a suitable input into our estimate of the RFR. [9.162]*

https://assets.publishing.service.gov.uk/media/60702370e90e076f5589bb8f/Final_Report_---_web_version_-_CMA.pdf

Why is the government bond yield a biased proxy?

- CMA identifies a "convenience yield." Government bond yields are low because (i) they are risk-free and (ii) they can be used to fulfill capital adequacy requirements, they have more value as collateral, they can be purchased with higher leverage, and they have superior liquidity. Only (i) is relevant to the CAPM risk-free rate. CMA Final Decision, 9.81.
- Van Binsbergen et al (2021) quantify a convenience yield in US government bonds and note that the effect is greater in shorter-dated bonds, and in the presence of quantitative easing.

Jules H. van Binsbergen, William F. Diamond, Marco Groth, Risk-Free Interest Rates, *Journal of Financial Economics* (2021).



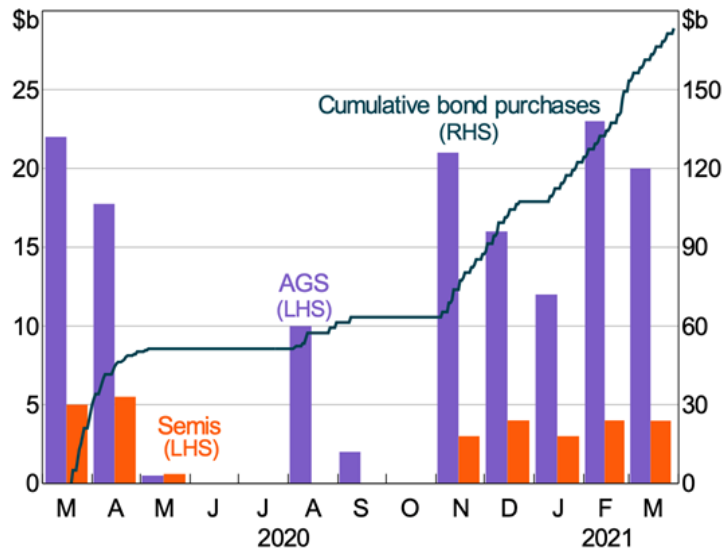
7 **Need to consider whether Australian government bond yields are a biased proxy of the CAPM risk-free rate.**

Things have been made worse by unprecedented RBA market interventions

RBA market interventions passed \$150 billion in March.

RBA now owns more than 20% of all government bonds – heading higher in the future.

FIGURE 3 RBA BOND PURCHASES (FACE VALUE, UP TO AND INCLUDING 29 MARCH 2021)



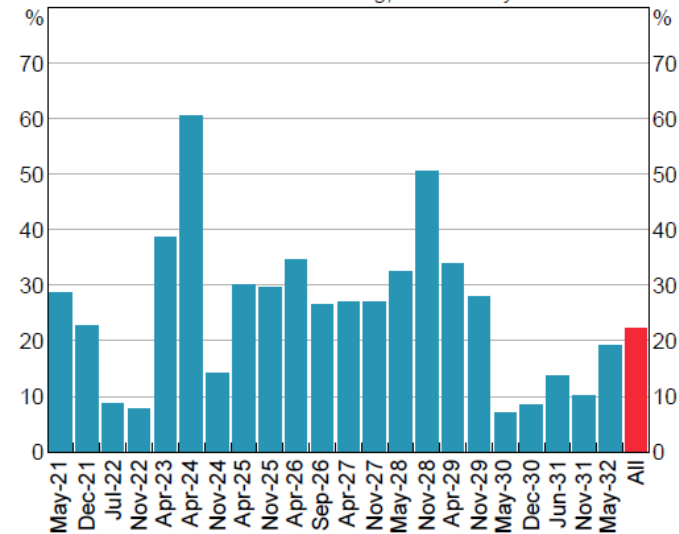
Source: RBA.

RBA Statement of Monetary Policy, May 2021.

Graph 3.8

RBA AGS Holdings*

Share of AGS outstanding; as at 6 May 2021



* Excludes holdings under repo; excludes linkers

Sources: AOFM; RBA

RBA Statement of Monetary Policy, May 2021.

We can't just wait for it to go away...

RBA interventions are designed to have a long-running effect

RBA holdings are to increase to 30% of all government bonds...

*The Bank now holds 22 per cent of outstanding AGS and 10 per cent of outstanding semis (Graph 3.8). These shares are projected to **increase to around 30** and 15 per cent respectively by early September* RBA May 2021 SOM, p. 46.

..such that the RBA anticipates that its interventions will have a **long-term effect**...

*...**the total size of the purchases that affects bond yields** and financial conditions including the exchange rate, rather than how many bonds the central bank is buying each week. Clearly the two are closely related. But one important implication of this is that **the stimulus remains in place even when the bond purchase program finishes**. The **stimulus only begins to unwind as the bonds that the central bank has bought mature**.* Guy Debelle, Shann Memorial Lecture, 6 May 2021.

...including a material impact on the 10-year bond yield.

*Our assessment is that the bond purchase program has continued to keep longer-term yields in Australia about **30 basis points lower** than they otherwise would have been.* Guy Debelle, Shann Memorial Lecture, 6 May 2021.

RoRI will need to account in its cost of equity process for the extent to which government bond yields have been artificially driven down by RBA interventions.

Market risk premium: Recommendations from Brattle

Brattle notes the importance of forward-looking information – particularly during periods of change in market conditions

For example, the CAPM using a historical MRP relies on backward-looking information, while the Dividend Growth Model (DGM) uses forward-looking information. **During periods of changes in financial markets, it becomes important to consider both historical (stable) and forward-looking (contemporaneous) information.** Brattle Report, Paragraph 142.

Brattle notes the AER's reliance on Historical Excess Returns (HER), and the low regulatory allowance that results

The AER's MRP estimate is **below those of other regulators** with recent determinations. Brattle Report, Paragraph 214.

Brattle recommends the incorporation of forward-looking evidence

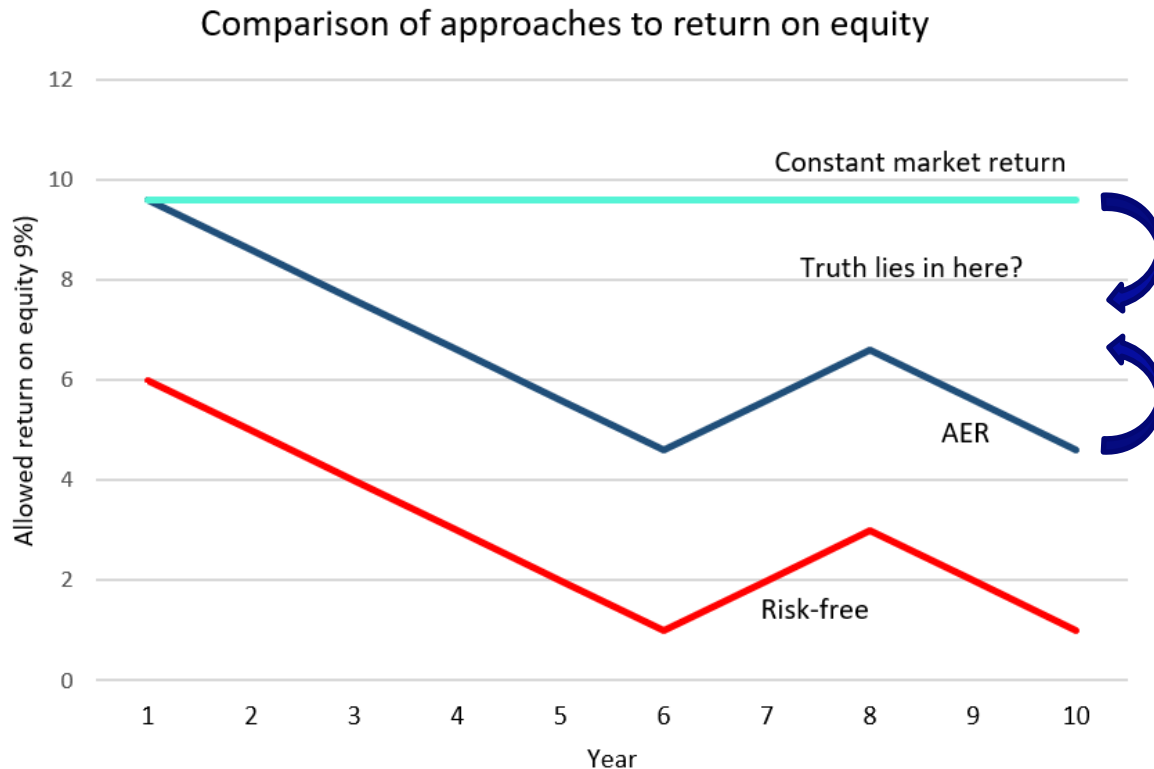
We think that these observations indicate some areas in which the AER's approach, in our view, is **not as effective as the approach of other regulators.** These areas include incorporating **forward-looking evidence** into the cost of equity. Brattle Report, Paragraph 217.

We think that it is beneficial to **incorporate at least some forward-looking evidence** into the cost of equity determination.

Brattle Report, Paragraph 222.

There is a need for the MRP estimate to more strongly incorporate forward-looking evidence.

Market risk premium: An unbiased estimate at the time of the RoRI

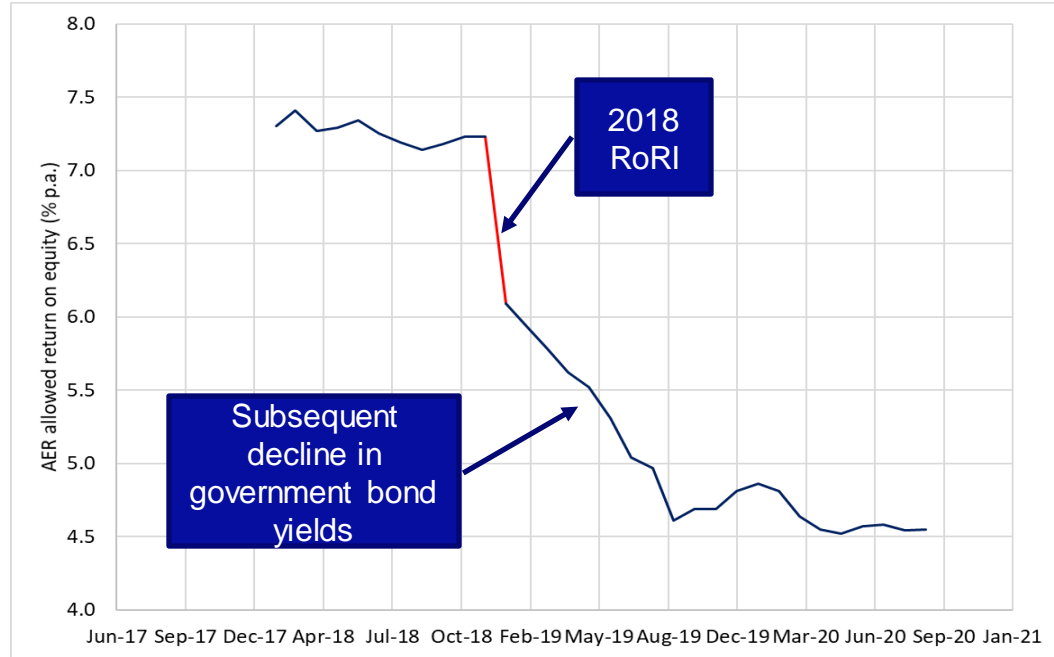


While a change in the (spot) risk-free rate between two dates can be measured, we do not think that the overall rate of return changes one-for-one with the change in risk-free rate.

Brattle, pp. 3-4.

- **Need to consider whether 1:1 variation with changes in government bond yields is reasonable.**
- **Approach should not be used if it leads to upwardly biased estimates in some market conditions and downwardly biased estimates in others (not in long-term interests of consumers).**

It follows that maintaining a 6.1% MRP is not the best estimate of the MRP in today's low rate environment



- 2018 Rate of Return Instrument based on a risk-free rate of 2.7% - with market risk premium set at 6.1%.
- Current CGS yields are approximately 1.5%:
 - Not reasonable to simply retain MRP at 6.1%.
 - Market practice is inconsistent with a 1:1 reduction in the required return on equity.
 - Forward-looking evidence is inconsistent with a 1:1 change.
- The 1:1 assumed decline in the cost of equity with bond yields since the 2018 RORI is one key (but not the only) driver of Brattle's conclusions that Australian returns are lower than other jurisdictions.
- The 1:1 assumption produces estimates that are upwardly biased in some market conditions and downwardly biased in others.

Foundation for addressing cost of equity issues is reaching an appropriate market risk premium for current conditions, before considering whether MRP should be updated during the RoRI period.

Expectations for forthcoming AER cost of equity paper

- 1. Engage with findings of Brattle:** Important to engage with the key Brattle findings on comparative returns and recommendations throughout the Return on Equity process.
- 2. Consider issue of the risk-free proxy:** Need to consider whether government bond yields are still an appropriate proxy for the CAPM risk-free rate in light of new evidence.
- 3. Account for impact of RBA intervention on risk-free rate estimation:** Need to ensure that the RoRI is robust to RBA interventions and other potential market conditions during the life of the RoRI.
- 4. Consider bias in MRP estimates:** Need to consider whether 1:1 variation with changes in government bond yields is reasonable. An approach should not be used if it leads to upwardly biased estimates in some market conditions and downwardly biased estimates in others (not in long-term interests of consumers).
- 5. Give stronger weight to forward-looking evidence:** MRP estimate would be improved by better incorporating forward-looking evidence.

What does ENA mean by 'financeability'?

ENA's proposal on financeability

1. Apply the draft and final 2022 RORI through the Post-Tax Revenue Model as a cross-check to ensure results support benchmark credit rating
2. Using a **notional benchmark efficient firm** (e.g. an median business, with 'stress testing' against a firm in a capital investment phase)
3. If 2022 RORI settings do not support benchmark credit rating, re-examine decision elements

What financeability is not...

Financeability is not...

- a test of whether a firm might be able to raise capital.
- a test of whether a firm might become insolvent.
- a back-solving approach to setting allowed returns.
- to be applied mechanistically to adjust regulatory allowances.
- just about the speed of money (cash returns vs. RAB indexation).

Consideration of financeability cannot start with the presumption that the allowed return is appropriate – the value is to test that presumption.

Need to ensure shared clarity on what financeability approach is being suggested by networks.

Financeability is an early warning tool for the AER

Why? Financeability testing is proposed as an early warning tool for the AER

- **A useful tool to help the regulator identify the potential future implications of its decisions – and to ensure that those decisions are robust to a range of potential future market conditions.**
- Key purpose is to identify the risk of credit rating downgrades.
- Valuable to consumers as rating downgrades increase the allowed return on debt.
- Easy to build into the PTRM.
- A natural complement to backward-looking profitability data.

Why now? Financeability concerns have increased in the 'low rates' environment

- Historically low allowed return on equity.
- Negative Net Profit After Tax in some decisions.
- Credit rating downgrades for some networks.
- Some networks unable to pay distributions.
- Some key investments are uneconomical for private investment and cannot proceed without taxpayer underwriting.

- **Each RoRI has an impact for up to 9 years.**
- **Financeability testing is particularly important in the context of a binding RoRI, which contains no 'safety valve' in the event that problems do start arising.**



Financeability tests are a key component of good regulatory practice adopted in regimes with similar features to the Australian regime

Financeability tests have been adopted by several regulators.

NERA (2020) indicates that financeability tests are common in regimes that are similar to the AER's (incentive regulation, RAB indexation, benchmark return on debt)

A number of regulators have adopted financeability tests voluntarily because it is good regulatory practice.

IPART: Applies financeability tests when making pricing decisions for regulated water businesses in NSW.

ESC: Applies financeability tests when making pricing decisions for regulated water businesses in Victoria.

ESCOSA: Applied a financeability test when setting SA Water's regulated prices in 2020.

Ofgem: Required to ensure that regulated firms are “able to finance the activities” that are the subject of regulation.

- Considers a notional benchmark operator.
- Computes a set of 11 financial ratios based on benchmark gearing.
- Sensitivity tests for robustness to different future scenarios.
- License requirement for firms to maintain investment grade rating.

Ensuring financeability of networks promotes the long term interests of consumers in two ways

1. Keeping the prices down by keeping the required return on debt low.

If the regulatory decisions made by the AER do not allow networks to maintain the benchmark credit rating adopted by the AER when setting allowances, then:

- The resulting deterioration in credit quality may result in credit downgrades.
- This, in turn, would push down the industry-average credit rating...
- Which would necessitate a lowering of the benchmark credit rating...
- And an increase in the allowed return on debt...
- And an increase in prices to consumers.

Maintenance of financeability across the industry would prevent such outcomes, by definition.

2. Supporting Networks ability to make efficient and prudent investments.

- If a deterioration in credit quality results in NSPs having to raise new debt at a premium over the allowed rate of return, then efficient and prudent investments may not proceed commercially.
- The NSW-SA interconnector project (which passed the RIT-T) was only able to proceed due to Government support via the Clean Energy Finance Corporation. The project (which was efficient and prudent) was uncommercial through the normal means of cost recovery under the existing regulatory framework.