Options for Historical Excess Returns Sample Periods for 2022 Rate of Return Instrument

Response to consultation process on Commonwealth Treasury advice

25 November 2022

Energy Networks Australia

Contents

1 Executive summary

Energy Networks Australia (ENA) welcomes the opportunity to provide views on the Australian Energy Regulator's approach to estimating the market risk premium in light of queries from the Independent Panel and the advice that has recently been published from the Commonwealth Treasury.

This further consultation by the AER occurs in a context of an enhanced recognition of the need for Australian energy networks to attract investment to finance substantial new and ongoing grid-based investments to support the energy transition and meet agreed government and community emissions reduction goals.

It also occurs against the background of updated evidence before the AER that regulatory cost of equity allowances for energy network infrastructure remain well below those of other international comparator jurisdictions who will be seeking investment to support their own urgent energy transition journeys.[1] Estimates of the required investment capital to meet the challenges of the energy transition range from €400 billion for Europe this decade to US$1 trillion for the United States over the period to 2050.[2]

With the exception of the option of not altering long-standing AER practice, each of the options the AER has put forward for consultation would have the impact of making grid-based energy transition investments less attractive on a comparative basis with other global investment opportunities and increasing financeability pressures for major new projects and existing networks, compared to its own draft Instrument less than six months ago.

During this time, investment markets have become less favourable, economic uncertainty has grown, and the need for accelerating the energy transition has received greater focus, rather than less.

Does the Treasury advice reach the required bar for change?

In ENA's view, the primary consideration for the AER is whether it would be appropriate to make a fundamental change to the longstanding Historical Excess Returns (HER) approach that it uses to estimate the unconditional MRP in view of the facts that:

- The only additional advice it has received is a letter providing caveated recommendations based on a review of literature with mixed findings. There are real questions about whether the observations in the Treasury advice, with the limitations mentioned in the advice, are sufficient to effectively supplant the entirety of the consultation and underlying AER analysis that has gone before it;
- The AER has already considered the question of whether central bank interventions have any implications for its decision on the role of government bond yields as a proxy for the risk-free rate; and

[1] Brattle *International Rate of Return Methods—Recent Developments*, 1 September 2022, p.iv
[2] Euroelectric *Connecting the dots: Distribution grid investment to power the energy transition*, January 2021, and Ontario Teachers' Pension Plan *Power Shift Report*, 2021

- The timing of the advice that it has received leaves little time for the sort of consultation regarding the practical implementation of any changes in approach that has been applied to every other aspect of the 2022 Instrument.

While ENA ordinarily supports the use of recent data in the Rate of Return Instrument, in this case this is a significant and late deviation from the AER's consistent previous practice.

Whether or not the 'bar for change' has been reached should be assessed against the assessment criteria set out by the AER. The stability and predictability of the regulatory regime are relevant considerations here. ENA has included a draft assessment of the consistency of each of the potential options in **Appendix B**.

The HER approach estimates the unconditional MRP

The key question under consideration by the Panel and discussed by the Treasury advice is whether RBA monetary policy might impact observed excess returns.

This issue, however, is not relevant to the estimation of the unconditional (average) MRP. There are many events, policy actions and monetary policy regimes that affect observed excess returns. Some have the effect of increasing and other have the effect of decreasing observed excess returns. The intended purpose of an unconditional estimate is to average over all of these possible effects to estimate the average MRP.

The HER approach cannot be modified to make it 'a bit' conditional, or 'a bit' more reflective of prevailing market conditions. For example, market practitioners or regulators using HER estimates don't take an average over only those historical observations that match the prevailing monetary policy. The whole purpose of the HER approach is to estimate the long-run average MRP over all market conditions.

This is why estimates include the use of data points from periods such as the Global Financial Crisis, the returns data from which is far more extreme than that highlighted by the Panel as a subject for possible further investigation.

Current issues with estimate variation arise because the sample period is too short

The experts in the Concurrent Evidence sessions in 2018 and 2022 advised that a sample period beginning in 1988 is too short to produce a reliable estimate of the unconditional mean. For example, Dr Boyle has advised that "*the law of large numbers doesn't kick in over 30 years.*"[3]

An estimate computed over a longer period (e.g. from 1958) is not subject to material variation from year to year such that the question of whether or not an individual year is included becomes unimportant and uncontroversial.

To the extent that the AER identifies volatility in the market risk premium estimate as an issue needing to be addressed in the final Instrument, adoption of the sample period from 1958 represents a more direct, sustainable, and longer-term solution.

[3] AER, February 2022, *Transcript of Concurrent Evidence Session 3*, p. 69.

Recommendations

Reflecting the considerations discussed in this and prior submissions, ENA make the following recommendations on the HER approach to estimating the MRP:

Recommendation 1 – Recognise the need for regulatory stability, predictability and consistency.

The AER should not make a major change to its approach to compiling HER estimates of the MRP at this late stage of the process.

There is insufficient time to properly reconsider the evidence on this point or to properly consult on approaches that do recognise a relationship between monetary policy/interest rates and the MRP.

The Treasury advice is limited and inconclusive, and it has been published late in a two-and-a-half-year process.

All of these features of the advice, and the fact that the AER has always used the same approach for compiling its HER estimates since its inception, mean that changes should only be contemplated in light of the most compelling new evidence.

Moreover, Treasury is not in the usual practice of estimating the historical MRP in Australia or providing advice relating to appropriate values for a forward-looking MRP. By contrast, the AER itself has, as part of the review process, spent considerable time and resources collecting and weighing expert and other evidence relating to the estimation of the MRP.

Recommendation 2 – Avoid arbitrary filtering or elimination of data points.

The AER should not consider any new approach that eliminates observed data points – particularly when seeking to estimate an unconditional mean.

The removal of data points would raise a range of new areas of subjective judgement which would adversely affect regulatory predictability, confidence, and replicability. It is not clear how data points would be classified as 'unrepresentative' such that they would be removed.

The large negative observation in 2008 driven by the GFC remains in the current dataset, however this may also be considered to be 'unrepresentative'. A clear and consistent approach to identifying outliers would need to be developed rather than focussing only on the last three years.

As discussed, the whole basis of the HER approach is to produce an estimate of the unconditional MRP that reflects the average outcome over a long period of time. That average outcome includes large positive observations, large negative observations, and it certainly includes unremarkable observations like the last three.[4]

That is, ENA's view (as set out in **Recommendation 1**) is that the limited advice highlighting caveated views on possible impacts of changes in monetary policies from Treasury is not a proper basis for a departure from the AER's long-standing approach to HER estimation. If, however, the AER is minded to make a change, that change should not involve the elimination of selected observations.

ENA is strongly opposed to any approach of subjectively including or excluding recent data points to produce higher or lower estimates that might be more consistent with a particular pre-determined view – whether or not that view is consistent with the limited advice from Treasury.

In taking any step in this direction, the AER would have to weigh up:

[4] See Figures 1 & 2 p.16 and p.19

- Including the data for the full 2022 calendar year when it becomes available in early 2023; against
- The risk of a perception of regulatory asymmetry to arise in that:
  - this would involve a major change in the AER's approach to HER estimates;
  - it would seem to be based on advice which was limited to highlighting possible implications, and caveated by the fact that available evidence drawn from overseas experience was conflicting, and that the Treasury has undertaken no specific work on the equity risk premium since 2018
  - data from RoRI years in 2013 and 2018 were not included when they would have had the effect of increasing the MRP allowance; and
  - the 2022 review has proceeded on the basis that there should be a 'high bar' to support any material changes in approach.

Recommendation 3 – No consideration should be given to a part-year data point.

The inclusion of an end-September data point for 2022 would be problematic and is unnecessary.

The AER's practice has always been to compute excess returns on an annual basis as the difference between an annual stock market return and an annual government bond yield. It is not clear how a part-year market return would be converted into an annual figure, nor how the part-year figure might be weighted relative to the annual figures for every other year.

Due to the pattern of returns data through this year, the use of an end-September period for 2022 would also have the disadvantage of being capable of being interpreted by existing and potential capital providers - and other stakeholders - as being selected ex post to minimise the resulting HER estimate, as further discussed in Section 6.3.

This risk of potential interpretation is now entirely avoidable. Fortunately, there is no reason to consider a part-year figure now that the AER has delayed publication of the final Instrument until early 2023 – at which time the full year of data will be available.

Recommendation 4 – A longer historical data period would eliminate the controversy.

The historical period should start in 1958.

The purpose of the HER approach is to estimate the unconditional MRP which is, by definition, a constant.

This additional consultation process has arisen because the AER's preferred HER estimate is sensitive to whether or not a small number of recent data points are included. In particular, the estimate varies depending on whether or not the post-2018 data points are included, and even whether or not the 2022 data point is included.

The instability in the AER's preferred estimate indicates that it is a poor estimate of the (constant) unconditional MRP. That instability results from the use of a very short sample period, consisting of only 30 or so observations.

It is for these reasons that the network sector has previously supported the use of the period from 1958. The estimate from that period is not subject to material variation from year to year such that the question of whether or not an individual year is included becomes unimportant and uncontroversial.

Recommendation 5 – If the 2022 data is to be used, an annual update must occur at the end of each year.

There is no logical basis for delaying the final Instrument to include 2022 data, but then not updating for new data that becomes available each year.

This would have the benefit of future MRP estimates used in future determination being based on the fullest set of easily available data, best supporting an unbiased unconditional HER estimation. It is unclear how could be essential to include the most recent 2022 data when it becomes available, but also then in any sense counterproductive to include the 2023 data when it becomes available.

It would be straightforward for the AER to write an annual update of its HER estimate into the Instrument. The AER already performs this task and releases the results to stakeholders as part of its annual rate of return update publication.

That is, ENA's view (**Recommendation 1**) is that the caveated and limited advice from Treasury is not a sufficient or proper basis for a departure from the AER's long-standing approach to HER estimation. If, however, the AER is minded to make a change, it would be logical and improve the quality of estimates over time to routinely update the estimate each year as new data becomes available. We note that such an approach, including the conditional mean and using a Calibrated DGM model, has been consistently put forward by network businesses at previous stages of the review, but at a minimum, using the December 2022 data requires that the HER be updated each year.

2 Panel recommendations on HER estimates of MRP and framework for consideration

2.1 Draft Rate of Return Instrument

The AER's draft Instrument proposes to estimate the MRP by placing 100% weight on the HER estimate over the period 1988 to 2021. The AER considers this to be the appropriate approach because observed returns are the best indicator of investor expectations:

> *To date, our approach has been to rely on HER as the best indicator of future values of the MRP. This approach is based on the view that (on average)* ***past realised returns are the best indicator of investor expectations****. It has several desirable characteristics for estimating the MRP in a regulatory setting:*
>
> • ***Investor expectations of future returns are informed by past realised returns****.*[5]

The AER has further explained that it considers that an estimate of the unconditional MRP (i.e., averaged over all different market conditions) is most appropriate for its task:

> *In our view, the* ***unconditional MRP*** *is most relevant to our regulatory task as there is difficulty in estimating the conditional MRP. As seen in the expert session, there was no consensus among the experts on how to estimate the conditional MRP which captures variations in the MRP. Therefore,* ***we rely on the HER data for our estimate of the unconditional MRP****.* [6]

These two conclusions by the AER's review process to date have important implications for the choices facing the AER in response to the Panel's observations and subsequent Treasury advice.

In particular, any proposed update must be consistent with investor expectations being based on the unconditional mean of historical excess returns.

2.2 Panel observations and recommendations

The Panel appointed by the AER to review the draft RoRI notes that the HER estimate has increased since the 2018 RoRI.[7] The Panel notes that the AER has applied the same approach as the 2018 RoRI, simply updating to reflect more recent data. This has resulted in the HER estimate increasing from 6.1% to 6.5% (relative to a 10-year risk-free rate).

This led the Panel to consider whether the four additional years of data since the 2018 RoRI are representative and relevant data points – whether it is evidence that investors would consider in forming their expectations about the future MRP. The Panel specifically referenced the central bank interventions that occurred over this period:

> *In considering possible sources of* ***variation in the long-term market risk premium****, it would be useful for the AER to access advice on whether the returns on financial assets in the post- global financial crisis period were influenced by quantitative easing and whether*

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[5] AER, June 2022, *Draft rate of return instrument: Explanatory statement*, p. 127, emphasis added.
[6] AER, June 2022, Draft Rate of Return Instrument: Explanatory Statement, p. 129, emphasis added.
[7] AER Panel, August 2022, *Independent panel report: AER draft Rate of Return Instrument*, pp. 26-28.

> *this may have contributed to an upwards bias to the HER-based estimate of the MRP. From a **forward-looking perspective**, the unwinding of excess liquidity caused by quantitative easing has the potential to progressively lower the MRP. The Panel believes that analysis of these issues, could provide a useful addition to the information previously considered by the AER.* [8]

The Panel's speculation about what might happen to observed excess returns in the future, and about what investors might currently expect in this regard, led it to recommend that the AER:

> *Seeks expert advice on the implications of central bank liquidity expansion (following the onset of the Global financial crisis and during the COVID-19 pandemic) on the valuation of financial assets and the implications that this may have for historical excess returns (HER) based estimates of the long term MRP.* [9]

That is, the Panel's concern appears to be that the forward-looking MRP varies over time and that the variation may be linked to the level of interest rates, as affected by monetary policy.

The Panel questions whether the "forward-looking" MRP may differ from the recent historical average due to changes in monetary policy and hence interest rates.

Thus, the Panel clearly appears to be considering a conditional MRP – where the MRP varies according the level of interest rates, as affected by different monetary policies. The Panel may have either been unaware that the AER had already rejected a conditional MRP in favour of its unconditional HER approach, or the Panel was questioning whether the AER should also have regard to estimates of the conditional (forward-looking) MRP.

2.3 The Treasury letter of advice

In response to the Panel's recommendation, the AER sought advice from the RBA and Commonwealth Treasury.

Whilst the RBA indicated it was not in a position to provide any advice, the Commonwealth Treasury has provided a short letter indicating that:

- It has undertaken no analysis of changes in the MRP from late 2018 to now;
- There is limited literature on the issues of unwinding of highly accommodative monetary policy but it is Treasury's assessment that is it "more likely than not" that during policy normalisation, the measured HER will decline in the future; and
- There is a significant body of literature suggesting that periods of low real risk-free rates are associated with higher measurements of HER (i.e. a negative relationship between risk-free rates and the observed MRP).

Treasury's note was only made available to the AER for publication in early November, leaving no time for the consideration of other expert views, nor for the sort of consultation process and testing of the evidence that has been applied to every other aspect of the Instrument.

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[8] AER Panel, August 2022, *Independent panel report: AER draft Rate of Return Instrument*, p. 28, emphasis added.
[9] AER Panel, August 2022, *Independent panel report: AER draft Rate of Return Instrument*, p. 29.

2.4 Framework for consideration

In ENA's view, the AER should have regard to the following considerations when determining whether to change its proposed approach in light of the Panel's comments and Treasury's limited advice:

- **Process issues**

  The AER should consider whether it would be appropriate to make a fundamental change to the longstanding HER approach that it uses to estimate the unconditional MRP in view of the fact that:

  - The only additional advice it has received is limited in its conclusions, and the evidence it discusses is mixed, providing no clear or compelling basis for any specific action. There are real questions about whether that should be sufficient to supplant the entirety of the consultation and analysis that has gone before it; and
  - The timing of the advice that it has received leaves little time for the sort of consultation that has been applied to every other aspect of the 2022 Instrument.

- **The magnitude of the 'problem' to be fixed**

  The Panel's concern appears to centre around the four additional HER observations that have become available since the 2018 RoRI.

  The AER should consider whether those four observations are so extreme and unusual that it would require a change to its longstanding approach at this very late stage of the decision process.

- **Whether the AER is seeking an estimate of the unconditional (average) MRP or the conditional (forward-looking) MRP**

  The AER's draft decision clearly states that it considers that an estimate of the unconditional MRP is most appropriate for its task. The HER approach provides an estimate of the unconditional MRP.

  However, the Panel's comments are cast in terms of a conditional MRP. They suggest that the MRP may vary over time and that the variation may be linked to the level of interest rates (as affected by monetary policy). They also suggest that the forward-looking MRP may differ from the recent historical average due to changes in monetary policy and hence interest rates.

  Thus, the AER needs to determine whether it will continue to use an unconditional MRP or change to a conditional MRP. There would seem to be three options available to the AER:

  - If the AER maintains its unconditional approach, observations about conditional estimates would be irrelevant and the standard HER approach would be used, as proposed in the draft decision;
  - If the AER decides to change to a conditional MRP, it should use one or more of the approaches that are designed to estimate the conditional MRP. The HER approach would be irrelevant in this case; and
  - If the AER decides to give some weight to both approaches, it would use conditional estimation methods to estimate the conditional MRP and the standard HER approach to estimate the unconditional MRP. Such an approach, using a Calibrated DGM model, has been consistently put forward by network businesses at previous stages of the review.

  As discussed, there is no sense in which the unconditional HER approach can be 'modified a bit' to give it some conditional characteristics. That would simply amount to back-solving a

methodology design decision to seek to achieve an entirely new objective of a 'somewhat' conditional MRP estimate. Even if this course were to be pursued, there is no clear basis for a view that including 2022 year data would 'correct' for the caveated suggestion in the Treasury advice that 2020 and 2021 data 'may' be impacted by accommodative monetary policies.

- **Symmetry of application**

  Any proposed change to the AER's longstanding approach should be symmetric. For example, it should not be the case that any modification is only applied in circumstances where it would have the effect of reducing the allowed return in the Instrument.

ENA provides our views on each of these considerations in the remainder of this submission.

3 Process issues

3.1 Process and timing

In a letter dated 26 August 2022, the AER requested advice from the Commonwealth Treasury about the potential impact of RBA monetary policy on observed annual excess returns.

The AER received a short letter in response from Treasury dated 26 October 2022. That letter was published by the AER in early November.

In our view, this raises questions about whether it would be appropriate for the AER to make any material change to its long-standing process for compiling the HER estimate of the MRP, as set out in the Draft Instrument. Before even considering the substance of the Treasury advice, it is relevant that the advice is limited and inconclusive, and that the advice has been published late within a two-and-a-half-year process.

All of these features of the advice, and the fact that the AER has always used the same approach for compiling its HER estimates since its inception, mean that changes should only be contemplated in light of the most compelling new evidence.

3.2 Role and scope of the advice

In its request, the AER specifically asked whether:

> *The Treasury has identified a change in the equity market risk premium in Australia from late 2018 to now.*

Treasury has advised that it has not conducted any analysis of changes in the equity market risk premium in Australia from late 2018 to now. The advice does not identify any Treasury estimates or approaches for estimating the MRP, nor any purpose for which it would ordinarily undertake such a task as part of its functions. This is unsurprising as Treasury is not in the usual practice of estimating the historical MRP in Australia or providing advice relating to appropriate values for a forward-looking MRP.

By contrast, the AER itself has, as part of the review process, spent considerable time and resources collecting and weighing expert and other evidence relating to the estimation of the MRP.

ENA considers the extensive process undertaken in the formation of its draft views on MRP issues should be given appropriate weight in the final Instrument outcomes. Given the absence of directly relevant recent analysis undertaken by Treasury on the Australian equity risk premium, this suggests that the scope of the advice able to be offered by Treasury that is relevant to the AER's task is limited.

This is highlighted by the functional responsibility for the conduct, monitoring and understanding of the impacts of monetary policy being a responsibility of the RBA rather than Treasury. In this regard, RBA does publish estimates of the equity risk premium from time to time (albeit derived on a different basis to the AER for different purposes), and publishes research focused on the topic.

The RBA would appear better placed, based on these factors, to provide actionable insights on these questions, but has unfortunately declined to provide any such advice. Such advice from the RBA

would seem to be a reasonable precondition to any consideration of a change to the AER's long-standing approach to compiling HER estimates.

3.3 Nature and limitations of Treasury advice

A key factor in the AER's assessment of the implications of the Treasury advice should be the nature and limitations of the advice provided.

The Treasury advice is a single piece of evidence in a multi-stage process, and its robustness as a basis for a change in regulatory practice should be considered in a systematic way, taking into account the elements of the AER's assessment criteria.

In this regard, the Treasury has provided a letter that provides limited and inconclusive advice.

First, the AER asks for advice about:

> *Whether monetary policy, including quantitative easing, may have contributed to an upward bias in our HER based estimates over the period from 1988 to 2021.*

Treasury's response to this question does not appear to be based on specific Treasury practice or analysis, but on a reading of some of the relevant literature. The concludes that:

> *Highly accommodative monetary policy, including quantitative easing programs,* ***may contribute*** *to a rise in measured historical excess returns.*[10]

This finding is said to be empirically supported by a set of literature, which is cited. None of these empirical analyses, however, appear to establish that the specific quantitative easing (QE) measures undertaken by the RBA have any causal link to measured Australian equity returns. A finding that "all else being equal," lower risk-free rates "may contribute" to a rise in measured historical excess returns would not seem to reach the threshold required for the AER to change its longstanding approach to HER estimation. Indeed, the literature presented and summarised by the Treasury on potential impact of QE and quantitative tightening (QT) policies appears far less extensive than the set of empirical, academic and regulatory practice evidence put forward to support recognition of a relationship between the market risk premium and the risk-free rate in ordinary market conditions.[11]

Moreover, the Treasury letter does not address the AER's question about bias. In every year it is possible to speculate about what might have caused the observed excess return that year to have been higher or lower than it would otherwise have been. This, however, has no bearing on a question of bias. In every year, there are myriad factors that cause the excess return to be higher than it would have otherwise been, and myriad factors with the opposite effect. Indeed, that is the whole basis for using the HER approach to estimate the unconditional mean MRP – the HER approach produces an estimate that reflects the long-run average of everything that affects the level of excess returns.

By contrast, the very effect of excluding some of these factors and including others is a process that would inevitably introduce a bias. It would no longer produce an estimate of the unconditional mean

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[10] Cully, M., 26 October 2022, Letter to the AER, p. 1, emphasis added.
[11] Noting that the AER concluded that, following consideration in the Working Paper and review process, this evidence was insufficiently compelling to recognise and take forward.

– that much is certain.[12] The unconditional mean is computed by taking a long-run average over all observations, not an average over some observations.

Second, the Treasury letter concludes that:

> *We assess that it is **more likely** than not that, as monetary policy normalises, the measured HER will decline. The decline in equity prices that has accompanied the withdrawal of monetary stimulus by central banks in recent months **may in part** reflect this.*[13]

It is not clear how this conjecture could be of any specific use to the AER in its regulatory task.

An assessment about the future direction of the measured HER is, irreducibly, a prediction about the future direction of the Australian equities market. It is not at all clear that allowed returns should be set on the basis of an untestable supposition on future equity market valuations. ENA is unaware of any regulatory determination on rate of return globally that has been based, even in part, on a government agency's view of the potential future direction of equity markets.

The Treasury letter provides no evidence that an allowed return based on its view of the possible future direction of the Australian equities market would better meet the requirements of the National Electricity and Gas Objectives, the relevant Revenue and Pricing Principles, the AER's goals for its Instrument, or the assessment criteria it has set out.

A critical limitation of a projection or assessment that excess returns are likely to decline in the future is that this view is unavoidably based on current expectations around the speed and nature of the 'unwinding' of accommodative monetary policies. That is, the Treasury advice is based on two levels of conjecture that:

- monetary policy will continue to tighten in the predicted manner, without the reversals empirically observed in other jurisdictions implementing QE policies; and
- rising interest rates will be associated with falling observed risk premiums.

Similarly, Treasury's assessment about whether the withdrawal of monetary stimulus "may" be reflected "in part" in the recent decline in stock prices is not a fact that is able to be verified by any empirical source or method. Therefore it should also have no impact on estimates of allowed returns.

Finally, as problematic as it would be to have regard to such limited advice, which provides no clear guidance to the AER, it would be even more problematic to have regard to uncertain and inconclusive views from a single source.

3.4 Summary of ENA's views

ENA's view is that it would not be sound regulatory practice for the AER to make a change to its longstanding approach to HER estimation on the basis of Treasury's letter because:

- There is no indication that Treasury has any direct or new evidence that is relevant relating to MRP estimation for the purposes of the AER's regulatory decision-making task, beyond that

[12] See, for example, the discussion of conditional vs. unconditional MRPs during the AER's concurrent evidence sessions at: https://www.aer.gov.au/system/files/AER%20-%20Concurrent%20Evidence%20Session%203%20-%20Proofed%20transcript%20-%20February%202022.pdf, pp. 68-69.
[13] Cully, M., 26 October 2022, Letter to the AER, p. 2, emphasis added.

already available to the AER via its staff, consultants, and expert submissions throughout the RoRI consultation process;

- The note provides a point in time assessment about what may have caused past equity market rises and falls, and about the likelihood of future equity market rises and falls. It is not clear how the AER overturning its draft decision (which reflects the AER's assessment of all of the combined evidence and expertise from its two-and-a-half-year consultation process) on the basis of this assessment could be consistent with clear, transparent, and predictable decision-making, underpinning ongoing regulatory confidence in the review process; and
- In any case, the note has been provided close to the time of the final determination, after a two-and-a-half-year consultation process.

4 Assessing the evidence of 'bias' in historical excess returns

4.1 Excess returns data points since 2018 fall well within the normal range

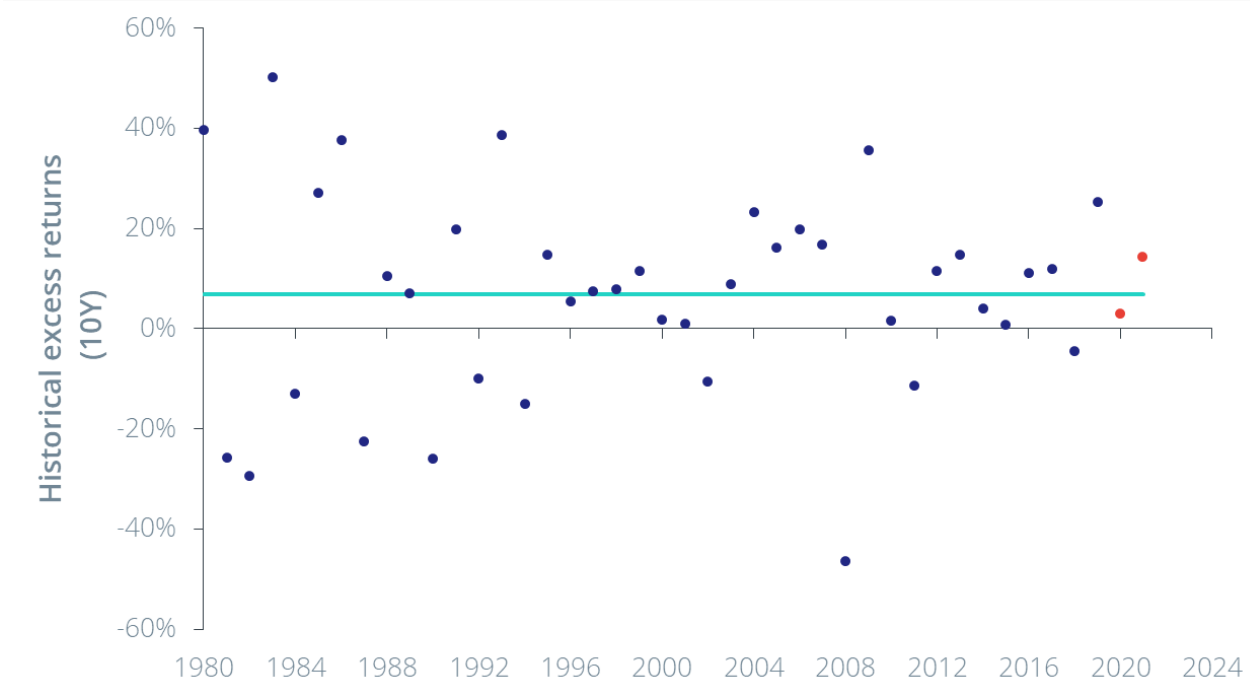
Since the 2018 RoRI, four additional excess returns observations have become available – those for 2018, 2019, 2020, and 2021. These four observations are entirely unremarkable, as illustrated in **Error! Not a valid bookmark self-reference.** below.

Figure 1 also identifies the data points for 2020 and 2021 in red. This is because one approach that is currently being contemplated is to end the data set at the end of 2019 to remove the "COVID period" from the calculations. These two data points are particularly unremarkable:

- One is above and one is below the historical mean; and
- Both are within the middle 50% of observations.

Indeed, it is impossible to imagine any set of criteria that would filter out the two most recent observations, while simultaneously retaining 2008.

Figure 1: Historical excess returns



Source: AER, https://www.aer.gov.au/system/files/Historical%20excess%20returns%20and%20Wright%20approach%20data.XLSX, updated to present. Observations for 2020 and 2021 shown in red.

Any suggestion that certain data points might be filtered out or down-weighted would also give rise to a series of questions, the answers to which would be entirely subjective, and which would

compromise the satisfaction of the AER's assessment criteria around promoting simplicity and replicability and the use of market-based data in a manner that is sustainable over time.

These questions include:

- On what specific basis would data points, which represent real-world market transactions by actual investors, be filtered out?
- What criteria would apply to the filtering exercise?
- What types and degree of evidence would be required to consider the filtering out of one or more data points?
- What would be the basis for a consecutive period of data points to be excluded?
- Would the filtering criteria would be applied to all data points in a series, rather than just the two most recent?
- Would data points that are filtered out remain excluded for the purposes of future Instruments?
- Could other data points prior to the current Instrument period also be excluded?
- Where other estimates or parameters are set by reference to the historical record of actual equity returns, would these estimates or parameters be derived against the actual index, or the filtered index? If so, why?
- Would 'outlier' data also be considered for omission across samples of other parameters, e.g. beta, gamma, debt indices?
- What role would evidence that real-world investors do not derive their forward-looking estimates of MRP by using a filtered subset of past actual returns play?
- How would current or potential future investors be able to form any reasonable assessment of long-term future allowed returns, in the absence of stable answers to each of the above questions?

The attempt to answer these and other implementation questions would be likely to give rise to further complexity, abstract theoretical debates, and add to uncertainty around each Rate of Return Instrument decision – increasing avoidable regulatory risk.

In particular, we note that the most extreme outlier in **Figure 1** is that associated with the Global Financial Crisis in 2008. That data point has been adopted by the AER (in the 2009, 2013 and 2018 Guidelines and Instruments) as a relevant data point to be included in the historical average. The AER has included all historical data points on the basis that:

> *Investor expectations of future returns are informed by past realised returns.*[14]

ENA agree that all historical data points are relevant and should be included. It is clear that investor expectations will be informed by <u>all</u> past realised returns and not a subset of them.

Indeed, the basis of the HER approach is to produce an estimate of the unconditional MRP that reflects the average outcome over a long period of time. That average outcome includes large positive observations, large negative observations, and it certainly includes unremarkable observations like the last two.

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[14] AER, June 2022, *Draft rate of return instrument: Explanatory statement*, p. 127.

Moreover, adjusting the historical data in some way to reflect a particular analyst's views about what might be more or less likely to occur in the future would no longer produce an unbiased unconditional estimate. It would be subject to that analyst's views about how the future is more or less likely to be consistent with realised data points.

4.2 Realised market returns since 2018 fall within a normal range

The HER estimate is a function of two components – (i) the observed market return and (ii) the risk-free rate. In this section, ENA notes that the observed market return has been entirely unremarkable since the 2018 RoRI.

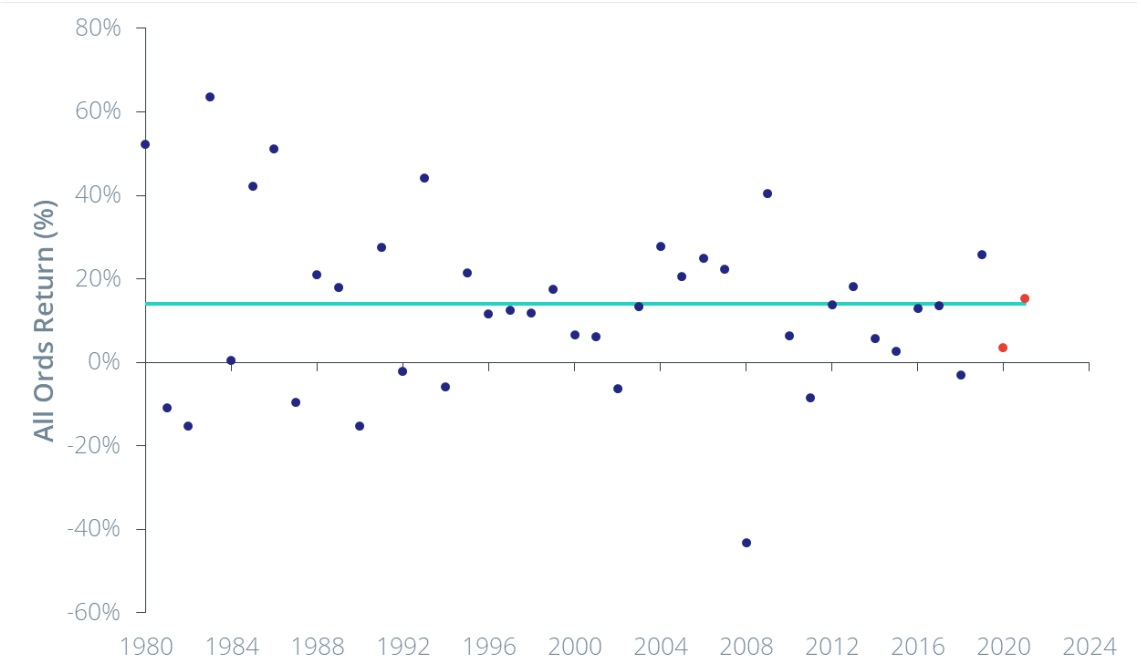
Figure 2 overleaf identifies the data points for 2020 and 2021 in red. These two data points are particularly unremarkable:

- One is above and one is below the historical mean; and
- Both are within the middle 50% of observations.

Again, it is impossible to imagine any set of criteria that would filter out the two most recent observations, while simultaneously retaining 2008.

Thus, there would appear to be no reasonable basis for concluding that the 2020 and 2021 observations are unusual or extreme in any way. They are run-of-the-mill observations of the broad market return.

Figure 2: Realised market returns



Source: AER, https://www.aer.gov.au/system/files/Historical%20excess%20returns%20and%20Wright%20approach%20data.XLSX, updated to present. Observations for 2020 and 2021 shown in red.

4.3 Relationship to AER decisions on the risk-free rate proxy

For each year, the excess return is computed as the difference between the observed market return and the prevailing risk-free rate.

The previous section establishes that the observed market returns have been unexceptional since the 2018 RoRI. In this section, ENA notes that the AER has already determined that government bond yields remain an appropriate proxy for the risk-free rate. Consequently, there would appear to be no basis for concern with either component of the excess return figures since 2018.

To the extent that quantitative easing and other central bank interventions have had any impact on observed historical excess returns, it would be via the risk-free rate. Indeed, the expressed purpose of the RBA's bond buying program was to affect the yield on government bonds.

Our July 2021 submission[15] set out considerable detail about the extent and effect of targeted RBA interventions. ENA invited the AER to consider this issue as follows:

> *ENA proposes that, as part of the 2022 RoRI process, the AER consider:*
>
> - *What impact recent monetary interventions by the RBA have had on observed government bond yields; and*

[15] ENA, July 2021, *Rate of return and cashflows in a low interest rate environment: Response to Draft AER Working Paper*, Section 4.2.

- *How a best unbiased estimate of the required return on equity should be determined in circumstances when central bank interventions have driven government bond yields lower than the level that would be determined by the market.* [16]

The AER did consider this issue in its September 2021 Working Paper,[17] concluding as follows (pp. 106-107):

> *Furthermore, we do not consider that RBA interventions in the longer term CGS market affects the appropriateness of using the CGS as the proxy for the risk-free rate. We agree with the NICE that interest rates are determined by market forces, and are not artificial.*
>
> *It is the role of central banks to intervene in the financial market. While the RBA has generally targeted the cash rate (conventional monetary policy) and not the longer term rates (or the term structure), the intention of this monetary policy is to change the time value of money over longer periods (and the term structure of interest rates).*
>
> *Investors are well aware of the RBA's role and its current use of monetary policy, and they continue to use the CGS as a proxy for the risk-free rate — as evidenced by the NSG and Investors Mutual submissions. The majority of the 5000 practitioners (in 81 countries) surveyed by Fernandez et al. (2020) used the government bonds as the proxy for the risk free asset. There was also no mention that any of the 37 Australian respondents reported the use of a risk free asset other than government bonds.*
>
> *We are also not aware of another Australian regulator using a proxy other than the CGS for the risk-free rate. Fundamentally, we see no reason or evidence to indicate monetary policy in Australia has altered the evidence for using the CGS as the risk free asset proxy. We consider the RBA's intervention has simply reduced the price of risk free money over longer time periods.* [18]

That is, the AER has already considered the question of whether central bank interventions have made government bond yields an inappropriate proxy for the risk-free rate. The AER has reached a conclusion on this question, ruling that government bond yields remain an appropriate proxy for the risk-free rate.

Consequently, there would appear to be no basis for concern with either component of the excess return figures since 2018, and certainly no cause for concern with the 2020 or 2021 figures above all others in the historical series.

4.4 Implications of Treasury advice for a constant market risk premium

A further important consideration for the AER in assessing the use of the Treasury advice as a basis for a change in regulatory precedent is its wider implications for the methodology of setting a constant MRP value over the life of the Rate of Return Instrument.

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[16] ENA, July 2021, *Rate of return and cashflows in a low interest rate environment: Response to Draft AER Working Paper*, p. 33.
[17] AER, September 2021, *Term of the rate of return and rate of return and cashflows in a low interest rate environment: Final working paper*.
[18] AER, September 2021, *Term of the rate of return and rate of return and cashflows in a low interest rate environment: Final working paper*, pp. 106-107.

The AER's current position in the draft Instrument Explanatory Statement is that the application of a constant MRP value, added to a prevailing risk-free proxy at the time of the individual network determination, provides a return on equity which reflects market movements. That is, the market-based movements of the risk-free proxy, with a constant MRP, result in a cost of equity which itself reflects market-based shifts.[19]

The basis of Treasury's advice, as well as public findings from the RBA's review of its bond-purchasing program, is that some market movements across the 2018-2022 period were not related to market movements.

In RBA's estimation, for example, the cumulative total impact of its bond purchasing policies were to lower longer-term AGS yields by around 30 basis points, with the largest effects identified at the 9 to 10 year maturity.[20] It was the acknowledged purpose of these highly accommodative monetary policies, including the bond-purchasing program, to cause a shift from the market equilibrium value of longer-term government bonds.

The review of the bond purchase program by the RBA highlights that this tool remains one available for use in future, including through the anticipated life of the 2022 Instrument.

This set of conditions has some key implications for the AER's previous conclusions that a constant MRP, added to a risk-free proxy, will result in a cost of equity reflecting market movements.

In particular, it suggests that:

- It would not be logically consistent for the AER to respond to the Treasury advice by omitting data (such as proposed in the December 2019 sample option) and *also* assume that the risk-free proxy selected by the AER can do the 'work' of reflecting changes in market conditions – as Treasury and RBA evidence suggests this has not been the case; and
- Any AER assessment of the Treasury advice should reflect holistically on the implications of the advice for the overall cost of equity approach – rather than elements of the advice being actioned which alter long-standing AER practice, while other elements are not further considered.

4.5 Implications of recent realised and excess returns for MRP estimates

In summary:

- The observations of total market return in 2020 and 2021 are entirely unremarkable; and
- The AER has already determined that government bond yields remain a valid proxy for the risk-free rate even in light of central bank intervention in that market.

As each component of the HER estimate remains appropriate, it follows that the difference between the two remains an appropriate estimate of the realised MRP – the extent to which the returns on a

[19] AER Draft Explanatory Statement, p.129 and p.162
[20] RBA (2022) Review of the Bond Purchase Program at <https://www.rba.gov.au/monetary-policy/reviews/bond-purchase-program/index.html>

broad market portfolio out-performed (or under-performed) the return available on a risk-free investment.

From an absence of references to work in this area, it appears possible that the Panel's considerations in these matters did not take into account the AER's consultations and addressing of this issue last year, as part of the preliminary engagement on the 2022 Instrument.

5 Selection of an unconditional vs. conditional MRP

5.1 The Panel's concerns and recommendations

As noted in Section 4.5 above that the Panel's concern appears to be that the MRP varies over time and that the variation may be linked to the level of interest rates (as affected by monetary policy).

The Panel questions whether the "forward-looking" MRP may differ from the recent historical average due to changes in monetary policy and hence interest rates.

It follows that the Panel appears to be considering a conditional MRP – where the MRP varies according to specific economic conditions – such as the level of interest rates, as affected by different monetary policies.

ENA also noted in Section 2.2 above that the AER has already rejected a conditional MRP in favour of its unconditional HER estimate. The AER has explained that it considers that an estimate of the unconditional MRP (i.e. averaged over all different market conditions) is most appropriate for its task:

> *In our view, the **unconditional MRP** is most relevant to our regulatory task as there is difficulty in estimating the conditional MRP. As seen in the expert session, there was no consensus among the experts on how to estimate the conditional MRP which captures variations in the MRP. Therefore, **we rely on the HER data for our estimate of the unconditional MRP**.* [21]

Thus, it appears that the Panel may have either been unaware that the AER has already rejected a conditional MRP in favour of its unconditional HER approach, or the Panel was seeking to question whether the AER should also have regard to estimates of the conditional (forward-looking) MRP.

5.2 The core issue – interest rates, monetary policies and the MRP

ENA's understanding is that the core of the issue at hand is as follows:

- The RBA adopted an historically accommodative monetary policy for a number of years. ENA notes that the RBA Cash Rate Target was at its then historical low from 6 February 2013 to 4 May 2022;[22]
- An accommodative monetary policy is implemented by taking measures to lower interest rates. This can be achieved by lowering the Cash Rate Target and by purchasing government bonds. The result is that government bond yields (among other rates) will be lower than they would otherwise have been;
- Such an accommodative monetary policy may cause the observed stock market excess return[23] to be higher than it would otherwise have been; and

[21] AER, June 2022, Draft Rate of Return Instrument: Explanatory Statement, p. 129, emphasis added.
[22] https://www.rba.gov.au/statistics/cash-rate/.
[23] The total return on the stock market minus the yield on the relevant government bond.

- Symmetrically, an increase in government bond yields (due to a reversal in monetary policy, or otherwise) may cause the future observed stock market excess return to be lower than it would otherwise have been.

Two key points are apparent from the logic set out above:

- Interest rates are the driver. The RBA influences interest rates, which may then have an impact on observed excess returns; and
- The posited effect, drawn from finance theory, is an inverse relationship between interest rates and the observed excess return:
  - When rates are low, the observed MRP may be high; and
  - Now that rates are higher and rising, the observed MRP may turn out to be lower.

5.3 Is there a relationship between interest rates and the MRP?

The June 2022 draft decision is clear about the fact that the AER does not consider there to be a sufficient theoretical[24] or empirical[25] basis to recognise any relationship between government bond yields and the MRP.

This led the AER to reject ENA's proposed approach under which the allowed MRP is linked to the level of interest rates. The AER preferred an estimate of the unconditional (average) MRP to an estimate that is conditional on the level of interest rates.

As we understand it, the Panel's query, and Treasury's analysis, are both centred around a relationship between interest rates and observed excess returns – e.g. that variation in the level of interest rates (in accordance with RBA monetary policy) may impact observed excess returns.

The decision for the AER to make, therefore, is whether it will continue to use an unconditional (long-term average) MRP or change to a conditional MRP by adopting different estimation practices depending on information about the prevailing state of monetary policy (and possibly other things).

There would seem to be three options available to the AER:

1. If the AER **maintains its unconditional approach**, observations about conditional estimates and prevailing conditions would be irrelevant and the HER approach would be used, as proposed in the draft Instrument;
2. If the AER decides to **change to a conditional MRP**, it should use one or more of the approaches that are specifically designed to estimate the conditional MRP. The HER approach would be irrelevant in this case; and
3. If the AER decides to **give some weight to both approaches,** it would use conditional estimation methods to estimate the conditional MRP and the standard HER approach to estimate the unconditional MRP. ENA proposed a model to give weight to both approaches in previous submissions to the AER, including the use of both a HER MRP and a Calibrated DGM estimate to determine a final MRP value.

[24] AER, June 2022, Draft Rate of Return Instrument: Explanatory Statement, Section 7.2.3.1.
[25] AER, June 2022, Draft Rate of Return Instrument: Explanatory Statement, Section 7.2.3.2.

5.4 HER is an unconditional estimate – other methods must be used if a conditional estimate is required

In making the final Rate of Return Instrument it is important that the cost of equity be informed by a clear approach based on one of the options above, and explicitly described. Finance theory, and the AER's assessment criteria, provide no basis for an (unconditional) HER approach to be 'modified a bit' to give it some conditional characteristics.

For example, Treasury has observed that the future HER observations of MRP are "more likely than not" to be lower than the figure produced by the AER's longstanding HER approach (due to the rise in interest rates associated with the unwinding of the previous monetary policy) so the advice identifies two adjustments that are likely to produce lower estimates.

If a conditional MRP is to be estimated – because the MRP does vary according to the level of interest rates – the AER should use one of the estimation approaches that specifically accommodates such a relationship.

AER has concluded against setting a conditional MRP

ENA has consistently submitted that the first-best approach to estimating the MRP would be for the AER to have regard to all relevant evidence at the time of each determination. Network businesses have also recognised that such an approach is not permitted under the relevant legislation.[26]

Consequently, ENA has advocated that, as a second-best solution, the AER should adopt a formulaic approach that codifies a negative relationship between the risk-free rate and MRP. ENA has further submitted that the relationship should be quantified on the basis of empirical evidence from the DGM and Total Market Return (Wright) approaches – because those approaches accommodate a relationship between interest rates and the MRP.[27]

Under this proposed approach, as government bond yields increase (whether due to a tightening of monetary policy or otherwise) the allowed MRP would reduce to partially offset that change. ENA's September 2021 submission set out a series of concrete examples of how this approach would operate. It also explained how this approach would result, by construction, in a more stable return on equity allowance and how it would reduce the volatility of customer prices.

This prior submission noted that the AER's consultants (CEPA, Brattle, Dr Martin Lally) also recommended the inclusion of the DGM and Wright approaches to estimating the MRP, based on their assessment of the relevant evidence.

Network businesses (and Queensland Treasury Corporation) also provided a detailed theoretical basis for such a negative relationship between interest rates and the MRP.

The AER has, however, declined to recognise this relationship in the Instrument. As noted above, the AER does not consider there to be a sufficient theoretical[28] or empirical[29] basis to recognise any relationship between interest rates and the MRP. In ENA's view, a reversal of this position at this stage of the process would not be consistent with the principles of regulatory predictability, or the

[26] See, for example, our submission of March 2022 at p. 70, and our submission of September 2022 at p. 76.
[27] See, for example, our submission of March 2022 at p. 70, and our submission of September 2022 at p. 76. This approach dates back further to our submission of September 2021 at pp. 65-68.
[28] AER, June 2022, Draft Rate of Return Instrument: Explanatory Statement, Section 7.2.3.1.
[29] AER, June 2022, Draft Rate of Return Instrument: Explanatory Statement, Section 7.2.3.2.

intent of the early review process to enable issues to be resolved in a consistent and sequential manner.

5.5 An unconditional estimate requires a sufficient sample period

The instability in the AER's preferred estimate indicates that it is a poor estimate of the (constant) unconditional MRP. That instability results from the use of a very short sample period, consisting of only 30 or so observations.

During the concurrent evidence session, the experts noted that the very short historical period beginning in 1988 produced imprecise estimates. For example, Dr Lally advised that:

> *It is useful to look at the confidence interval on the estimate. The AER uses numbers from 1988. They favour most strongly numbers from 1988 to 2020. So that's 40-odd years. The 95 per cent confidence interval on your estimate of around about 6 per cent runs from 0 to 12 per cent. Now, that's just huge.*[30]

Similarly, Dr Boyle advised that:

> *The law of large numbers basically tells us that the sample average over a long time series converges to the unconditional mean, in this case the unconditional risk premium.*
>
> *Martin points out quite rightly that there's a lot of noise associated with such an estimate and indeed over 30 years the confidence interval is from 0 to 12 per cent.*
>
> *Well, my response to that is that 30 years is far too short.*
>
> *The law of large numbers doesn't kick in over 30 years.*[31]

The AER recognised similar advice during the 2018 review. The Joint Report of Experts noted the agreement with the proposition that:

> *HER based estimates of the MRP should only employ periods of 50 years or more.*[32]

And the AER also recognised that:

> *In the expert statement from the concurrent evidence session there was a statement which suggested only periods of at least 50 years should be considered when using historical excess returns to estimate the MRP.*[33]

It is for these reasons that ENA has previously proposed using the longer historical period from 1958:

> *Our preference is to use the period from 1958 for the same reasons as the QCA adopts that period. This is a period that is long enough to provide statistical reliability, consists exclusively of reliable data that is not subject to alternative estimates, and for which does not vary materially with the introduction of each additional year of data.*[34]

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[30] AER, February 2022, *Transcript of Concurrent Evidence Session 3*, p. 64.
[31] AER, February 2022, *Transcript of Concurrent Evidence Session 3*, p. 69.
[32] CEPA, April 2018, *Expert Joint Report*, Item 6.05, p. 59.
[33] AER, July 2018, *Draft Rate of Return Guidelines, Explanatory Statement*, p. 213.
[34] ENA, September 2022, Response to AER's Draft Instrument and Explanatory Statement, p. 81.

That is, the current issue arises due to the AER's focus on an historical period that is simply too short to properly estimate an unconditional mean. As Dr Boyle recognises – the period from 1988 is simply not long enough for the law of large numbers to apply.

5.6 Summary

In ENA's view, the key question for the AER is this:

- Having spent two years considering an extensive body of evidence, submissions and expert advice on the relationship between interest rates and the MRP, and having set out a clear conclusion on this point, does Treasury's limited and highly caveated advice provide a reasonable basis for change at this stage of the process?

It is network businesses' perspective that the limited advice offered by Treasury provides no basis for any changed approach.

6 Symmetry of application

6.1 Symmetric application in 2018 and 2022

In its 2018 RoRI, the AER proposed a reduction in the MRP allowance from 6.5% to 6.1%, based on the evolution of the evidence over the intervening period.

Neither the Panel nor the AER considered this change to be extreme. The 2018 Consumer Reference Group supported this movement and considered further reductions should be pursued.[35]

There was no suggestion that any of the intervening data should be eliminated or adjusted. Reliance on part-year or fully updated annual data for 2018 would have resulted in a MRP that was higher than 6.1%.

In the 2022 RoRI, the AER has proposed an increase in the MRP allowance from 6.1% back to 6.5% (using a 10-year risk-free rate to obtain a like-with-like comparison), based on the evolution of the evidence over the intervening period.

A symmetric application of the evidence would suggest that the evidence that resulted in the MRP allowance reducing from 6.5% to 6.1% would be treated in the same way as the evidence that resulted in the MRP allowance increasing from 6.1% back to 6.5%.

6.2 Stock market returns during Rate of Return review years

In the same way that symmetry is required in the assessment of the cumulative evidence between instruments, symmetry is also required in the assessment of evidence that arises during the year of each instrument.

In **Figure 3** below, we show the evolution of the All Ordinaries Accumulation Index (which the AER uses to construct its HER estimates) over the year leading up to the publication of the RoRI (or Guideline as it was in 2013).

These figures show that:

- In 2013, the **market index rose materially through to the end of September**. There was no suggestion that the part year of data should be included, or that the instrument would be delayed.
- In 2018, the **market index rose materially through to the end of September**. There was no suggestion that the part year of data should be included, or that the instrument would be delayed.
- In 2022, the **market index fell materially through to the end of September**. This submission documents our views on the suggestion that the part year of data could be included.

[35] AER Consumer Reference Group *Submission to the Australian Energy Regulator - Response to the Rate of Return Draft Decision*, 25 September 2018, p.25

Figure 3 – Comparing All Ordinaries accumulation index in the year to scheduled guideline or Instrument – 2013, 2018 and 2022

6.3 Stock market returns during 2022

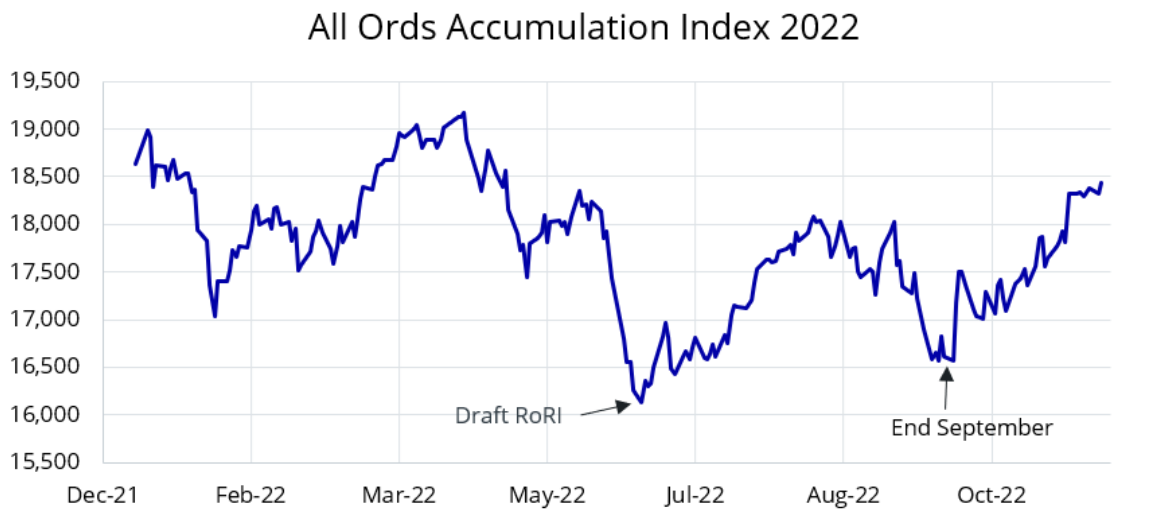
Figure 4 below shows the level of the All Ordinaries Accumulation Index over 2022. It shows that the end of September is a local minimum.

Indeed, but for a brief excursion near the end of June, the end of September represents the minimum value of the index over the entire course of the year.

In addition to there being no logical reason for ending the data period at the end of September, there is a significant risk (in light of **Figure 4** below) that the selection of that data period could be seen as arbitrary and unrepresentative of an unbiased estimate by some stakeholders.

It is critical that options are evaluated in a manner which demonstrably gives weight to maintaining both the perception and reality of avoiding data filtering.

Figure 4 – All Ordinaries accumulation - year to date



Source: Bloomberg.

7 Assessment of options and way forward

7.1 ENA views about potential options

This section sets out ENA's views about a range of potential options that have been advanced in this brief further consultation.

Option 1 - No change to current approach

Our view is that a major change to a long-standing regulatory practice should only be contemplated late within a review process if significant and compelling new evidence requires it.

The 'bar for change' should be raised higher as the time and avenues for appropriate consultation on the impact on the overall decision diminish.

In the case at hand, the only new evidence is limited and equivocal advice which is inconclusive in respect of the core issues. The only firm conclusions in the letter are that Treasury has not conducted any analysis of the MRP (at least since 2018) and that Treasury has no additional information of significant relevance to contribute.

The other conclusions are heavily modified by words such as "may," "limited" and "more likely than not". These appear to be based on finance principles which are axiomatic, and were therefore considered by the AER through the process, or a review of academic literature relating to different monetary policies by different central banks over different periods in a range of other developed country economies.

By contrast, the AER itself has, as part of the review process, spent considerable time and resources collecting and weighing expert and other evidence relating to the estimation of the MRP.

On this basis, the caveated and tentative Treasury advice does not meet the required bar for change at this stage of the process.

ENA understand that the AER is required to consider points raised by the Panel. In this case, however, the appropriate response to these issues would be to note that:

- The AER uses the HER approach to estimate the unconditional MRP. This is the long-run average MRP over all market conditions;
- It is not appropriate to seek to modify the HER estimate by adding or removing certain data points in order to make that estimate more reflective of current (or assumed future) monetary policy conditions. The purpose of the HER approach is to provide an estimate of the long-run average MRP over all monetary policy conditions; and
- The purpose, interpretation, and estimation of the HER approach was the subject of detailed discussions in the Concurrent Evidence sessions and in stakeholder submissions prior to the Draft Decision.

ENA supports this option.

Option 2 - Use data only to the end of 2019

Our view is that there is no basis for removing data from the HER estimate.

The 2020 and 2021 observations are entirely unremarkable – within the middle 50% of observations in the AER's sample period. It would appear infeasible to design a coherent and reasonable filter which could be applied in a clear and replicable manner that would exclude the 2020 and 2021 observations, while maintaining the GFC observation from 2008.

Moreover, the entire basis of the HER approach is to produce an estimate of the unconditional MRP that reflects the average outcome over a long period of time. That average outcome includes large positive observations, large negative observations, and it certainly includes unremarkable observations like the last three.

ENA does not support this option.

Option 3 - Include data up to September 2022

This option has been rendered unnecessary by the AER's announced decision to delay the Instrument, and also has the most complex and contentious implementation pathway.

It is not clear how a part-year market return would be converted into an annual figure, nor how the part-year figure might be weighted relative to the annual figures for every other year.

The use of an end-September period for 2022 would also have the serious disadvantage of being capable of being perceived by stakeholders as being selected ex post to artificially minimise the resulting HER estimate, in circumstances where a range of other more balanced options existed (such maintaining the approach in the draft or lengthening the sample window to include data from 1958 onwards).

There is no reason to consider a part-year figure now that the AER has delayed publication of the Instrument into 2023.

ENA does not support this option, which is now also unnecessary following the announced deferral.

Option 4 - Include data for 2022 – while fixing MRP allowance for duration of RoRI

Delaying the Instrument to enable the data for 2022 to be included, and then holding the MRP fixed for the duration of the Instrument, raises two critical problems.

First, it would raise questions of an asymmetrical application of discretion. The AER has never before contemplated either a late change in approach or delay to incorporate data from the RoRI year. In 2013 and 2018, inclusion of the RoRI year would have increased the HER estimate and there was no contemplation of any delay or change in approach to include that data.

By contrast, the inclusion of 2022 data seems likely to have the opposite effect. Such an approach would foster heightened risk perceptions on the part of current and potential investors in energy network infrastructure, by being a clear example of the asymmetrical shift in regulatory practice in circumstances where this is known, ex ante, to minimise the final estimate.

Second, it would be entirely inconsistent to include 2022 data – on the basis that it is imperative to include the most recently available data – and then to hold the resulting figure artificially fixed for four years, as a result only achieving this objective for a subset of AER decisions.

ENA does not support this option.

7.2 Implementation options

ENA supports Option 1, no change to the approach outlined in the draft 2022 Instrument.

If the AER is to consider implementation of other options – such as the use of full year 2022 data – there are be two implementation approaches which AER should adopt.

These two options flow from a final decision about whether the AER is seeking to address an issue of an undesirable year by year variation in the MRP estimate – which could be resolved by lengthening the data sample - or a preference for the MRP estimate to best reflect prevailing conditions in the market for funds in the current monetary policy context, in which case an annual updating approach logically follows.

Implementation Option 1: Update annually as new data becomes available

There would seem to be no logical basis for delaying the Instrument, including the 2022 data, but then not updating for new data that becomes available each year.

It cannot be simultaneously desirable to include the most recent 2022 data when it becomes available, but then counterproductive or unnecessary to include the 2023 (and further years) data when it becomes available.

Implementation Option 2: Extend the sample period back to 1958

ENA has noted above that the instability in the AER's preferred estimate indicates that it is a poor estimate of the (constant) unconditional MRP.

That instability results from the use of a very short sample period, consisting of only 30 or so observations.

It is for these reasons that ENA have previously indicated support for the MRP estimate to be derived from the period from 1958. The estimate from that period is not subject to material variation from year to year such that the question of whether or not an individual year is included becomes unimportant and uncontroversial.

8 Appendix A - ENA's previous submissions on this issue

This appendix sets out the recommendations that ENA made on this issue in our September 2022 submission.[36] It is included here for convenience so that all of our submissions and recommendations are contained in a single document.

The panel appointed by the AER to review the draft RoRI notes that the HER estimate has increased since the 2018 RoRI.[37] The panel notes that the AER has applied the same approach as the 2018 RoRI, updating to reflect more recent data. This has resulted in the HER estimate increasing from 6.1% to 6.5% (relative to a 10-year risk-free rate). The panel notes the materiality of that change due to the period from 1988 being relatively short by international standards:

> *Because the overall data period (1988 onwards) is relatively short compared to standard international practice when using the HER method, adding four years of data in this instance has a relatively large effect on the MRP estimate.*[38]

To put these estimates into perspective, Table 1 below summarises the HER estimates from the 2018 and draft 2022 RoRIs.

Table 1: AER HER estimates of MRP (10 years)

Start year	2018 RoRI (%)	2022 Draft RoRI (%)
1883	6.3	6.4
1937	6.0	6.2
1958	6.6	6.7
1980	6.5	6.8
1988	6.1	6.5

Table 1 shows that, in the 2018 RoRI, the allowed MRP was at the lower end of the HER estimates. Indeed, the 6.1% figure from the 1988 period was materially lower than the 6.5% and 6.6% figures from the 1980 and 1958 periods.

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[36] ENA, September 2022, *Rate of return instrument review: Response to AER's Draft Instrument and Explanatory Statement*, section 5.2.
[37] AER Panel, August 2022, *Independent panel report: AER draft Rate of Return Instrument*, pp. 26-28.
[38] AER Panel, August 2022, *Independent panel report: AER draft Rate of Return Instrument*, p. 27.

At present, the 1988 figure of 6.5% is the median among the estimates that the AER reports. It remains materially lower than the 6.8% and 6.7% figures from the other two most recent periods.

Thus, there is no evidence that the 1988 period might be currently producing estimates that are out of line with the estimates produced by longer periods.

When using HER estimates, there is a trade-off between having sufficient data for statistical reliability and having recent/representative data. This is an issue about which there is no guidance from theory, so judgment is required. The QCA has consistently adopted the period since 1958 on the basis that the quality of data improved at that point and it represents an appropriate balancing of statistical reliability and recency. The AER has adopted a different view, preferring the period since 1988. The 1958 period continues to produce a higher figure, although the gap between the two estimates has reduced since 2018.

In our view, the key message from Table 1 is that the AER's approach of using the period since 1988 remains conservative in that it continues to produce an estimate below that of the next two most recent periods.

As time passes, the relative influence of each additional year will decrease and the difference between the various estimates will also tend to decrease. The alternative is for the AER to adopt a longer historical period now to immediately increase the sample size – an approach that would currently produce a higher allowance.

The panel also contemplates the possibility that the four additional years since 2018 might be somehow special and less representative of future expectations.[39]

Our very strong submission is that it would not be appropriate for the AER to contemplate picking and choosing data points to omit from its HER calculations. The whole point of the HER approach is to obtain an estimate of the long-run average MRP that has occurred in the Australian market. Every data point contributes equally to that exercise.

Omitting data points that someone might consider to be unusual or anomalous is a slippery slope indeed. Who determines what is 'unusual'? If we remove any data that is considered to be 'unusual' the final estimate will obviously simply confirm whatever we considered to be 'usual.' In this case, why would there be any need to consider the data at all? We could just adopt the figure that we already knew to be 'usual.'

The panel also notes that, over the last few years, government bond yields have been affected by central bank quantitative easing programs.[40] However, the panel appears to be unaware that the AER has already considered that issue in some detail and concluded that:

> *We remain of the view that a nominal return for 10 years can still be achieved with a minimum amount of risk by buying and holding the 10 year Commonwealth Government Securities until maturity. The ability for investors to receive this return does not change if additional demand is introduced from the Central Bank, if there is additional supply produced by Federal Government to enable stimulus or from increased demand from Banks due to Basel III liquidity requirements.*[41]

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[39] AER Panel, August 2022, *Independent panel report: AER draft Rate of Return Instrument*, pp. 26-28.
[40] AER Panel, August 2022, *Independent panel report: AER draft Rate of Return Instrument*, pp. 26-28.
[41] AER, May 2021, *Rate of return and cashflows in a low interest rate environment*, p. 28.

Thus, if the government bond yield has remained an appropriate proxy for the risk-free rate, it cannot simultaneously be an inappropriate proxy when estimating historical excess returns.

Furthermore, to the extent that central bank interventions have created any distortions, those distortions would have occurred to the (estimates of) the risk-free rate—since the target of the RBA's were government bonds, not equity stocks. Hence, if the panel's concern is to be addressed, the key question is not whether the MRP observations over the recent historical period should be used and interpreted as usual, but whether the risk-free rate over the recent historical period should be used and interpreted as usual — and if not what might the implications be for MRP?

The AER has already considered this issue and concluded that, notwithstanding recent RBA interventions that affected the yields on Commonwealth Government Securities (CGS), observed CGS yields remain an appropriate proxy for the risk-free rate. For instance, the AER noted in its final working paper on *Term of the rate of return & Rate of return and cashflows in a low interest rate environment* that:

> *…almost all market practitioners use CGS as a proxy for the risk free rate, and that CGS can be bought on the open market and held to achieve the stated return to maturity. While, factors such as additional demand from the Central Bank or additional supply produced by the Federal Government to enable stimulus may affect the price, it does not change the underlying characteristics of the CGS as an effective proxy.*[42]

And that:

> *We do not consider that RBA interventions in the longer term CGS market affects the appropriateness of using the CGS as the proxy for the risk-free rate.*[43]

In other words, the AER appears to have already considered the matter of financial market distortions raised by the panel and concluded that no change of approach is required. The panel appears to have been unaware that the AER has already deliberated on this issue and reached a landing on it.

Finally, we note that the panel has suggested that the AER obtain expert advice in relation to central bank liquidity expansion and the potential future normalisation of central bank balance sheets.[44] In light of the above submissions, we see no utility in such an exercise for the narrow purpose of estimation of MRP or a narrow set of parameters. Any such advice should be holistic and consider in comprehensive detail potential and actual interlinkages between all elements of the AER's parameter considerations and cross checks. ENA considers that the examination of this issue and testing of conclusions prior to the final Instrument is unlikely to be feasible.

In our view, the options that are open in relation to HER estimates are:

- Maintain reliance on the period from 1988;
- Apply weight to different historical periods (noting that the two most recent periods currently produce higher estimates); or

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[42] AER, September 2021, *Term of the rate of return & Rate of return and cashflows in a low interest rate environment*, Final working paper, p. 76.
[43] AER, September 2021, *Term of the rate of return & Rate of return and cashflows in a low interest rate environment*, Final working paper, p. 77.
[44] AER, May 2021, *Rate of return and cashflows in a low interest rate environment*, p. 29.

- Adopt fundamental changes to the way the historical data is assessed. Because such changes have not been foreshadowed to any stakeholders, they would need to be considered via an appropriate consultation process.

Our preference is to use the period from 1958 for the same reasons as the QCA adopts that period. This is a period that is long enough to provide statistical reliability, consists exclusively of reliable data that is not subject to alternative estimates, and for which does not vary materially with the introduction of each additional year of data.

9 Appendix B – Assessing options against AER criteria

AER Assessment Criteria	No change	Adopt HER data up to December 2019	Adopt HER data up to September 2022	Adopt HER data up to December 2022 (set a single value)	Adopt HER data up to December 2022 (set a single value with formula – no updating)	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1
1. Where applicable, reflective of economic and finance principles and market information *(a) estimation methods and financial models are consistent with well-accepted economic and finance principles and are informed by sound empirical analysis and robust data.*	Determined to be consistent by AER in June 2022.	There is no well-accepted basis for exclusion of data points in out-turn market indices as not being informative of future expectations. Empirical analysis provides no clear basis that this would 'improve' a forward-looking MRP estimate.	No sound or robust basis for adopting part year basis as more recent data will be available at the time of the decision.	Not clearly consistent, as December 2021 estimate was proposed as an unconditional mean estimate. Adding a further year of data is not sufficient or appropriate to make the estimate conditional (if this is the intent).	Not clearly consistent, as December 2021 estimate was proposed as an unconditional mean estimate. Adding a further year of data is not sufficient or appropriate to make the estimate conditional (if this is the intent).	More reflective of well accepted economic and financial principles, because this approach enables: - Estimates made over time to better reflect market conditions - Estimates to be based on the fullest data set likely to be indicate the unbiased unconditional MRP.
2. Fit for purpose *(a) the use of estimation*	Determined to be consistent	Using a subset of 1988-2019 returns data to set a forward-	Part year market returns is not consistent with other data it	Inconsistent, as the original purpose of the December 2021 estimate was	Inconsistent, as the original purpose of the December 2021 estimate was to	Consistent, and also simple as the AER already produces and calculates an updated MRP consistent

AER Assessment Criteria	No change	Adopt HER data up to December 2019	Adopt HER data up to September 2022	Adopt HER data up to December 2022 (set a single value)	Adopt HER data up to December 2022 (set a single value with formula – no updating)	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1
methods, financial models, market data and other evidence should be consistent with the original purpose for which it was compiled and have regard to the limitations of that purpose *(b) promote simple over complex approaches where appropriate.*	by AER in June 2022.	looking estimate for 2023 – 2026 is not using the information in a manner consistent with the original purpose of collating the returns. This approach would promote complex decisions in every comparable circumstance going forward as to whether a specific event warranted an editing of the sample period - and the beginning and end point of such sample editing.	would be 'mixed' with to produce a point MRP estimate. Adoption of part year data would require complex treatment of incomplete data set (including risk free and excess returns), including implicit set of technical assumptions.	to provide an unconditional mean estimate. Adding a further year of data is not sufficient or appropriate to make the estimate conditional (if this is the altered intent).	provide an unconditional mean estimate. Adding a further year of data is not sufficient or appropriate to make the estimate conditional (if this is the altered intent).	with this approach each year, as part of its annual update on Rate of Return.
3. Implemented in accordance with good practice	Determined to be consistent	It is not good practice to set a forward-looking	Option of part year data would not promote	Consistent, but would exclude available data for	Consistent, but would exclude available data for network	Consistent and would fully utilise available data sets

AER Assessment Criteria	No change	Adopt HER data up to December 2019	Adopt HER data up to September 2022	Adopt HER data up to December 2022 (set a single value)	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1
(a) supported by robust, transparent and replicable analysis that is derived from available credible datasets.	by AER in June 2022.	assessment of likely MRP, on an untested assumption that real world investors 'set aside' the three most recent years of realised market returns as unrepresentative.	transparent or replicable analysis.	network determinations in 2024, 2025, and 2026.	determinations in 2024, 2025, and 2026.	for each network determination.
4. Models are based on quantitative modelling that is sufficiently robust and avoids arbitrary filtering *(a) based on quantitative modelling that is sufficiently robust as to not be unduly sensitive to errors in inputs estimation* *(b) based on quantitative modelling which avoids arbitrary*	Determined to be consistent by AER in June 2022.	This option would arbitrarily filter out a large subset of available returns data (2020, 2021, 2022) for no purpose, and with no strong rationale. The Treasury letter notes a range of conflicting or inconclusive evidence which does not warrant elimination of	This option would arbitrarily filter out a subset of available returns data (October-December 2022) for no purpose, and with no supporting rationale.	Would arbitrarily filer out data beyond December 2022, despite this information providing insight into the long-term HER MRP and likely investor expectations.	Would arbitrarily filer out data beyond December 2022, despite this information providing insight into the long-term HER MRP and likely investor expectations	Uses all available data, avoiding future volatility in MRP estimates in 2026-2030 period, and avoids arbitrary filtering of all 2023, 2024, 2025 data in the case of future network determinations.

AER Assessment Criteria	No change	Adopt HER data up to December 2019	Adopt HER data up to September 2022	Adopt HER data up to December 2022 (set a single value)	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1
filtering or adjustment of data, which does not have a sound rationale.		nearly 10% of the data set proposed to be used.				
5. Where market data and other information is used, this information is *(a) credible and verifiable (b) comparable and timely (c) clearly sourced.*	Determined to be consistent by AER in June 2022.	Inconsistent as market data would not be timely for selected purpose.	Verification by third parties of an incomplete part year estimate likely to be less feasible than end calendar year values.	Consistent	Consistent.	Consistent.
6. Sufficiently flexible as to allow changing market conditions and new information to be reflected in regulatory outcomes, as appropriate.	Determined to be consistent by AER in June 2022, noting that a fixed MRP number does not permit the most up to date and complete data set to be used to inform an	This option would be inflexible and invariant to relevant information on market conditions across 2020-2022.	This option would be completely inflexible and invariant to relevant information on market conditions across Oct-Dec 2022.	Fails to allow further market information in period 2023-2025 to impact future regulatory outcomes.	Fails to allow further market information in period 2023-2025 to impact future regulatory outcomes.	Enables fullest set of most relevant recent market data to impact on regulatory determinations.

AER Assessment Criteria	No change	Adopt HER data up to December 2019	Adopt HER data up to September 2022	Adopt HER data up to December 2022 (set a single value)	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1
	unconditional MRP.					
7. The materiality of any proposed change.	N/A	Would be a relatively small change to the final outcome - inconsistent	Material change.	Materiality unable to be assessed as dependent on future market outcomes.	Materiality unable to be assessed as dependent on future market outcomes.	Materiality unable to be assessed as dependent on future market outcomes.
8. The longevity or sustainability of new arrangements.	The current AER approach has been in place since its establishment, and was consistently pursued by the ACCC and other regulators previously.	Low consistency – Movement to this approach would promote review parties and the regulator seeking on identify, verify, and quantify the implications of each unusual capital market event of condition for the MRP, and other parameters. This is likely to increase the instability of AER practice over time.	Low consistency – Movement to this approach would promote review parties and the regulator seeking on identify, verify, and quantify the implications of each unusual capital market event of condition for the MRP, and other parameters. This is likely to increase the instability of AER practice over time.	Consistent, provided AER makes clear that the new practice will be adopted consistently over time, e.g. that in the 2026 Instrument data up to 31 December 2026 will be used	Consistent, provided AER makes clear that the new practice will be adopted consistently over time, e.g. that in the 2026 Instrument data up to 31 December 2026 will be used.	Consistent, provided AER makes clear that the new practice will be adopted consistently over time, e.g. that in the 2026 Instrument data up to 31 December 2026 will be used.

AER Assessment Criteria	No change	Adopt HER data up to December 2019	Adopt HER data up to September 2022	Adopt HER data up to December 2022 (set a single value)	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1	Adopt HER data up to December 2022 (formula – annual updating of AER MRP estimate) – Implementation Option 1
Overall assessment	***Draft Instrument approach already assessed as consistent by AER***	**Inconsistent – fails most criteria**	**Inconsistent – fails most criteria**	**Inconsistent**	**Inconsistent**	**Most consistent of options outside of 'no change'**