



AER Inflation Review 2020 Stakeholder Forum

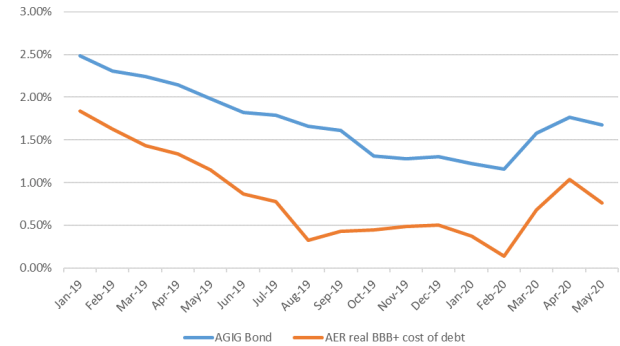
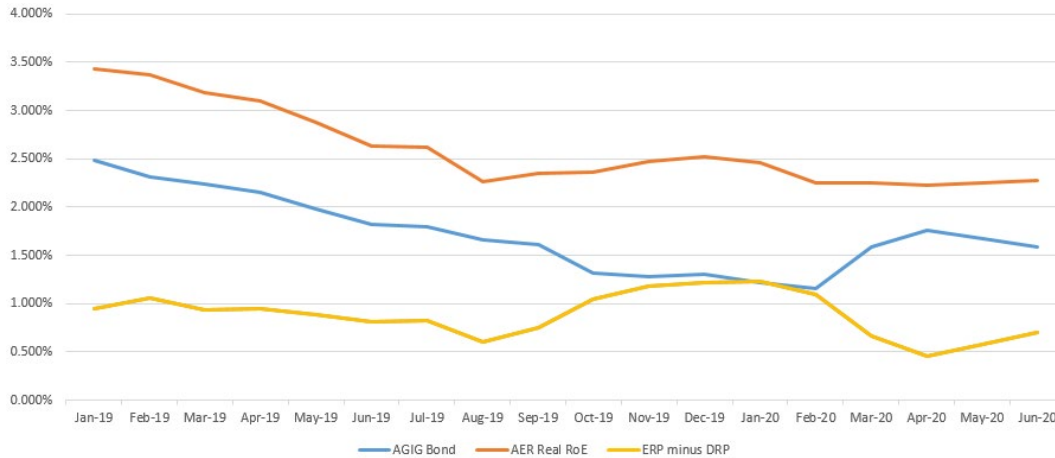
APGA Presentation
2 July 2020



What investors want

- AER targets a real return for debt and equity, but:
- Equity investors look for a stable real return from infrastructure assets
- The real cost of debt targeted in the PTRM does not reflect the trailing average cost of real (inflation indexed) debt
 - This is because the PTRM deducts a prevailing 10 year inflation estimate while the nominal trailing average cost of debt has embedded in it historical average inflation expectations over the preceding decade.
- In any event, debt investors, in Australia, look for nominal returns
 - Very small corporate indexed debt market in Australia
 - Debt is a contract – we need to earn enough to meet the actual nominal debt obligation in our trailing average
 - Focus on debt through equity and not directly – equity signs contract with debt, so does the AER help or hinder equity in meeting contractual terms?
 - Note “double penalty” if debt has expectations of inflation different from AER

The real return earned by equity holders #1



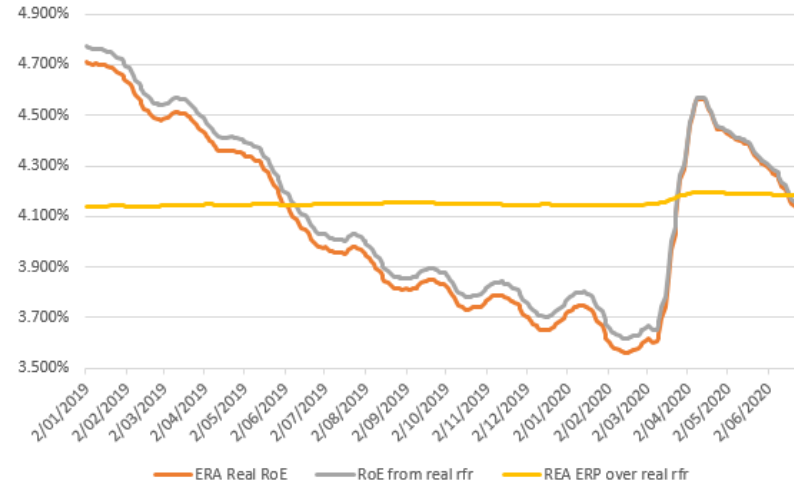
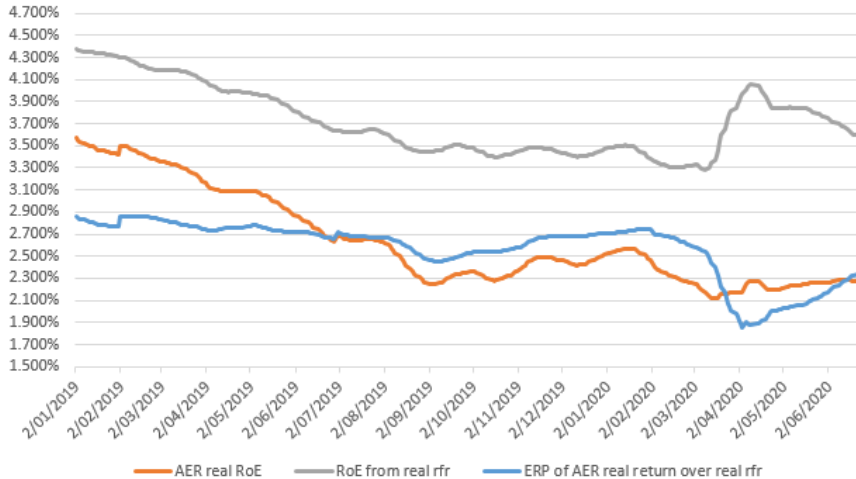
Comparison against debt allowance

A selection of indexed bonds (mid June) – AGIG not an outlier

- AGIG has one indexed bond, maturing in 2025 (shorter tenor and higher credit rating than BEE)
- AER nominal allowed RoE minus AER inflation (orange line) is the real return the AER suggests equity holders require
- AER suggests ERP-DRP of 185 bps is reasonable (2018 Guideline)
- Here ERP-DRP= 88bps on average and 58bps over last quarter
- Is the real allowed return a reasonable premium over the real return investors can obtain in for debt?

	Ticker	Maturity	Rating (S&P)	Maturity Type	Yield (mid)
Sydney Airport Finance Co Pty Ltd	SYDAU	20/11/2020	BBB+	Capital Indexed Bond	2.86
ALE Finance Co Pty Ltd	ALEFC	20/11/2023	AAA	Capital Indexed Bond	1.32
Australian Gas Networks Ltd	ENVAU	20/08/2025	A+	Capital Indexed Bond	1.52
Plenary Health Casey Finance Pty Ltd	PHF	15/09/2029	A2	Indexed Annuity	1.73
Australian National University	ANU	7/10/2029	AA+	Indexed Annuity	1.33
Sydney Airport Finance Co Pty Ltd	SYDAU	20/11/2030	BBB+	Capital Indexed Bond	1.48
JEM NSW Schools II Pty Ltd	JEMNSW	28/02/2031	A1	Indexed Annuity	1.64
Western Liberty Group Finance Pty Ltd	WESL	15/06/2031	Baa1	Indexed Annuity	2.26
Axiom Education Pty Ltd	AXIOM	30/12/2032	A2	Indexed Annuity	1.64
Ancora OAHs Pty Ltd	ANCORA	27/06/2035	A+	Indexed Annuity	2.01
JEM NSW Schools II Pty Ltd	JEMNSW	28/11/2035	A1	Indexed Annuity	1.69
University of Wollongong/The	UOW	23/12/2035	Not Rated	Indexed Annuity	1.41

The real return earned by equity holders #2



- AER suggests an equity risk premium of 3.66% is reasonable.
- Regardless of issues AER has with indexed CGS in inflation, if you want a real risk free return, they provide it
- Compare AER real allowed RoE(nominal RoE minus AER inflation) with indexed CGS and real ERP is 2.6% on avg or 2.15% last qtr
- Is it reasonable to target a real ERP of 2.6% given Instrument concludes that 3.66% is reasonable?

- ERA uses bond break-even inflation.
- ERA reasonable ERP is 4.2% (NB – over five year rfr)
- Compare ERA real allowed RoE(nominal RoE minus BBE inflation) with indexed CGS - real ERP is 4.16%
- Appears ERA delivers its reasonable ERP – in fact, the mathematics of their approach guarantees it

Key issues for us in AER Review



- Major question – does the AER approach to inflation (PTRM, annual update and RFM) provide enough return for equity to meet the efficient contracts made with debt and have a reasonable opportunity to earn their expected real return?
- If yes – no problem.
- If no:
 - Are there structural/framework barriers?
 - Do particular problems arise when short and long run expectations differ? When rates are very low (negative returns to equity)?
 - Is it just that the AER is not measuring inflation expectations well?
 - All else being equal, go for structural solutions only when necessary
 - Issues of unintended consequences

Structural/framework issues



- Start by asking how an efficient firm might choose inflation framework to meet debt obligations and deliver expected real return absent of AER's current inflation approach.
- Ask what in the current approach prevents this
- Preliminary thoughts:
 - Nominal return provided = PTRM RoD – 10 yr E(infl) + actual infl (5yr)
 - If hedge to meet nominal obligations and maintain real equity return:
 - PTRM RoD – 10 yr E(infl) + actual infl (5yr) + fixed leg of 5 yr swap – pay floating leg of 5 yr swap
 - Swaps are out of market, and thus costly
 - AER expected inflation does not reflect the fixed leg of an in-market swap
 - Term of inflation in E(infl) is different to term on swap

These two cancel out

Structural/framework issues - solutions



- Hybrid debt model
 - Consider in the context of recovering nominal debt costs with stable real equity return
 - 60% of forecast out at PTRM start = 60% of annual price update = 60% of roll-forward of RFM – appears to meet debt/equity requirements.
 - “forecast out” could be AER forecast, or zero, or some number in between, so long as it is consistent
 - Conclusions: has merits, still working through consequences for gas, particularly in context of price vs revenue cap.
- Glide path
 - May have merits – but doesn’t solve the problem of expected real equity return and nominal contracted debt obligations
 - Similar for other similar options like mix of market and AER method
- Use of something other than CPI
 - See little merit in this
 - Concerned this might suck debate away from more important issues.

AER's measurement of inflation expectations



- As discussion paper makes clear – AER is not trying to forecast inflation, but trying to work out what market expectations are.
- AER summary very helpful (DP p13):

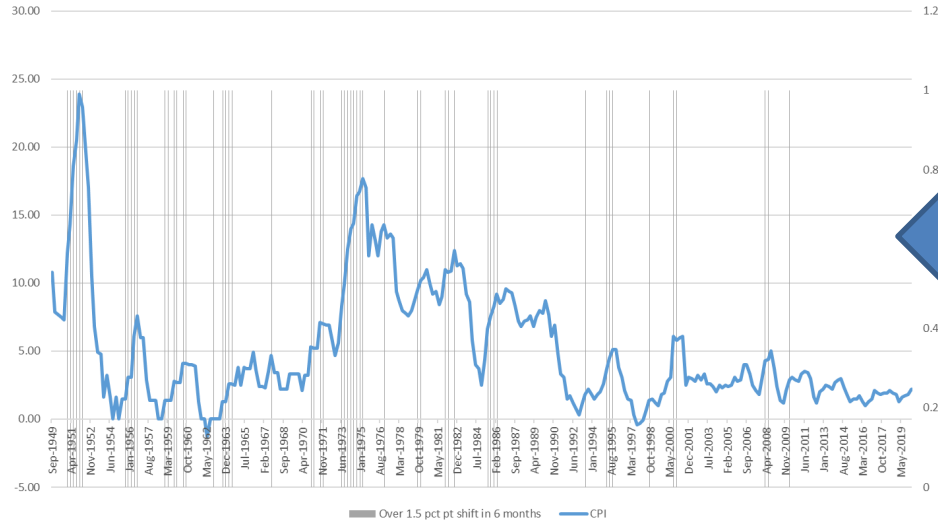
Currently, our estimate of expected inflation is calculated by using forecasts published by the Reserve Bank of Australia (RBA) for two years combined with the mid-point of the RBA's target band for inflation for the remainder of the ten years. When we conducted our review in 2017 we concluded that the RBA's short-term forecasts were the best available for the first two years.

Beyond two years, the RBA does not provide a forecast. However it has a mandate to target inflation in the range of 2 to 3 per cent and takes action to achieve this outcome. Our review of the data showed that the mid-point of the target band was the best estimate of inflation going forward. We concluded that long term expectations were most likely to be anchored around the mid-point of the target and that this was therefore the best available estimate of long term inflation expectations.

Issue is here – is “the long term” three years? Do investors expect inflation to go from 1.5% to 2.5% in 6 months? This is what the AER's approach means in practice, right now

No real problem with this – most market data and other analysts are fairly close to RBA forecast over short term.

Market expectations and the year 3 issue



Possible to see a 100bps upward movement in CPI in 6 months. Has happened in 20% of quarters since 1950, but only 6 times since RBA started inflation targeting and never in the past decade. Further.....

....the RBA doesn't seem to think so

- Over the longer term, we may return to the mid-point of the RBA band.
- To the extent that the RBA says anything about its expectations beyond 2 years, these are not suggestive of a return to the mid-point in three years.
- At the very least, the move to 2.5 percent in year 3 is too aggressive

...inflation is expected to turn negative in the June quarter, for the first time since the early 1960s. Trimmed mean inflation is also expected to be lower (but still positive) in the June quarter, to be around 1½ per cent over the year. Declines (or delayed increases) in a number of administered prices will also contribute to inflation remaining low in the near term. From this low point, **inflation is likely to increase gradually, but in this baseline scenario it is likely to remain below 2 per cent for some time**, for a number of reasons.

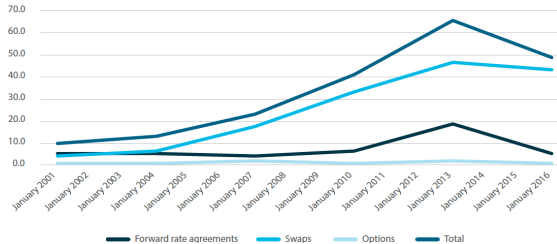
In the various scenarios considered by the Board, inflation remains below 2 per cent over the next few years. In the March quarter just passed, CPI inflation rose to 2.2 per cent, but it is expected to turn negative temporarily in the June quarter, due to falls in oil prices, the introduction of free child care and deferrals of various price increases. Further out, in the baseline scenario inflation is 1 to 1½ per cent in 2021 and gradually picks up further from there.

Before the coronavirus hit, we were expecting to make progress towards full employment and the inflation target, although that progress was expected to be only very gradual. **Recent events have obviously changed the situation and we are now likely to remain short of those objectives for somewhat longer.**

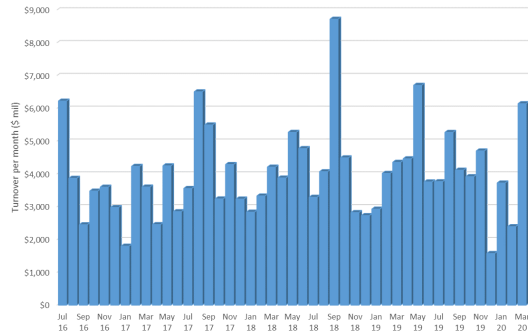
Source: Statement on Monetary Policy, May 2020

Source: Speech by RBA Governor, 19 March 2020

Whose expectations are we taking?



Swaps– USD\$40 bil per day in Australia



Secondary market for indexed CGS - around \$6 bil per month

ANZ (Aug 2019) talk market expectations in terms of swaps. Note that bias exists - upwards

- AER Uses RBA forecasts and mid-point
 - Assumes market players form expectations based on what the RBA forecasts
- AER uses Consensus Economics forecasts
 - Survey evidence from around 20 finance professionals and academics
 - Important people, but are they the market?
- Market actors act on their inflation expectations when committing funds to products like indexed bonds and swaps
- Their expectations should be considered (by Deloitte)
 - Look at what they buy and sell based on their expectations

Inflation expectations: anchoring at the wrong point

- Market-based inflation expectations, both short and long term, have fallen a lot over the last year.
- Worryingly for the RBA, the market now expects inflation to average around 1.5% over the next 10 years and to stay below 2% for around 25 years.
- Given the degree to which the inflation swaps curve has fallen and flattened, we think even a small positive headline CPI surprise for the September quarter could see front-end inflation swaps sell off somewhat. However, for longer-term swap rates to rise materially, we would need to see a number of quarters of annualised core inflation of around 2%. This looks unlikely anytime soon.

The problem of bias.....



	Inflation review 2017	Rate of return instrument 2018
Goal	Develop a measure of expected inflation	Develop a measure of expected equity returns
What evidence shows	BBE and swaps show bias when compared with survey results and actual inflation outcomes	CAPM shows bias when compared against actual equity returns and against analyst forecasts (surveys are not considered reliable)
AER conclusion	Reject BBE and swaps on basis of evidence of bias	Reject evidence of bias on grounds that it pertains to actual outcomes and not expectations

..... is one of consistency

The AER is starting its “Process to 2022”. There must be consistency between the way evidence is treated in this inflation review, and the way evidence is treated in rate of return. This means consistency in the weight given to things like surveys and consistent treatment of bias. Mixing and matching is logically inconsistent.