Consumer Reference Group

Presentation to Public Forum
Response to AER Working Paper on Return on Equity

16 September

Agenda

1. Context
2. Preliminary position on return on equity approaches
3. Preliminary assessment of models and parameters
4. Proposed consumer engagement

1. Context

Our Preliminary Position - An overview

The AER's challenge is to come to a decision that satisfies the NEO/NGO and the RRPs

- The AER's decision on the RoE requires the exercise of regulatory judgment
- This judgment must find a balance between efficient investment and efficient consumption – over time

How does the AER arrive at this balance?

- Decisions based on sound principles, and evidence-based
- Consumer preferences must play a central role in the AER's decisions.

At this stage the CRG considers:

- Changes proposed by Brattle to the 2018 RoR Instrument have not been adequately justified or terms of these principles and preferences
- Complex models and approaches that require multiple subjective assumptions are not in the long-term interests of consumer interests
- A reversion to 2013 RoR framework and approach (or similar) is not in the long-term interests of consumers

Consumerr will have trust and confidence in the AER's decision if the AER displays consistency in approach, recognises consumers' concerns and minimises opportunities for 'gaming'.

Plus a 'pub test' – does the total return on equity make sense for a low risk efficient network entity protected by monopoly and regulation?

The NEL and NGL

The 2018 changes to the regulatory framework placed a greater focus on regulatory judgment.

The trade-offs between investment efficiency and consumption efficiency are captured in the energy laws, eg:

The NEO/NGO:

*To promote **efficient investment in, and efficient operation and use of electricity** services in the LTIC…with respect to price, quality, safety and reliability*

The Revenue and Pricing Principles (RPP) at 7A(3):

…the economic efficiency that should be promoted includes:

a) Efficient investment in the distribution system or transmission system…

b) An efficient investment in the provision of electricity/gas network services

c) The efficient use of the distribution system or transmission system…

In the 2018 RoR Instrument, the AER acknowledges the twin objectives of economic efficiency and consumption efficiency, but its conclusion appears circular: *"An allowed rate of return that reflects the efficient cost of capital will promote investment and consumption efficiency" (Rate of Return Final Explanatory Statement, Dec 2018, p40)*

AER	Partington & Satchell (July 2020)	CRG
Reliability – free from bias	Model is implementable	A regulatory framework serving the LTIC must promote behaviours that engender consumer confidence in the framework
Relevance to the Australian Benchmark	Limited opportunities for gaming	Any change in the regulatory model must be tested against consumer impacts in relation to absolute prices& price standards
Suitability for use in a regulatory environment	Widely accepted & used	Any change to the regulatory model must be tested against acceptable consumer impacts in relation to service standards
Simplicity	Stood the test of time	Risks should be borne by the party best placed to manage them
	Least error/unbiased	There should be a high bar to change

Principles to guide the regulator's model selection & judgment

How have these principles informed our approach

All these principles are important.

Some are particularly relevant to our assessment of the return on equity:

- Relevance to an Australian benchmark entity
- Limited opportunities for gaming
- Least error/unbiased
- Consumer confidence & the LTIC
- Risk sharing
- High bar for change

Consumer preferences: how they link to the regulatory processes

There has been considerable useful work undertaken on consumer preferences and how consumers see investment in the network: Examples include:

- The networks consumer engagement programs
- ECA undertakes regular studies of consumer sentiment
- The CRG research –limited but more to come
- But little specific consumer research on the rate of return.

Direct assessment of consumer preferences regarding measurement of RoR parameters (such as beta) is problematic

But preferences are still relevant to the exercise of regulatory judgment, for example:

- How consumers view the trade-off between investment and price (& by extension – efficient utilisation of the network)
- Consumers (large & small) are indicating satisfaction with current network reliability but considerable concern with price
- "Affordability" is a national economic issue not just a low-income household issue
- What has been the impact of high prices on consumption efficiency? And what will be if prices rise again?

2. Return on equity

Our preliminary position on RoE approaches

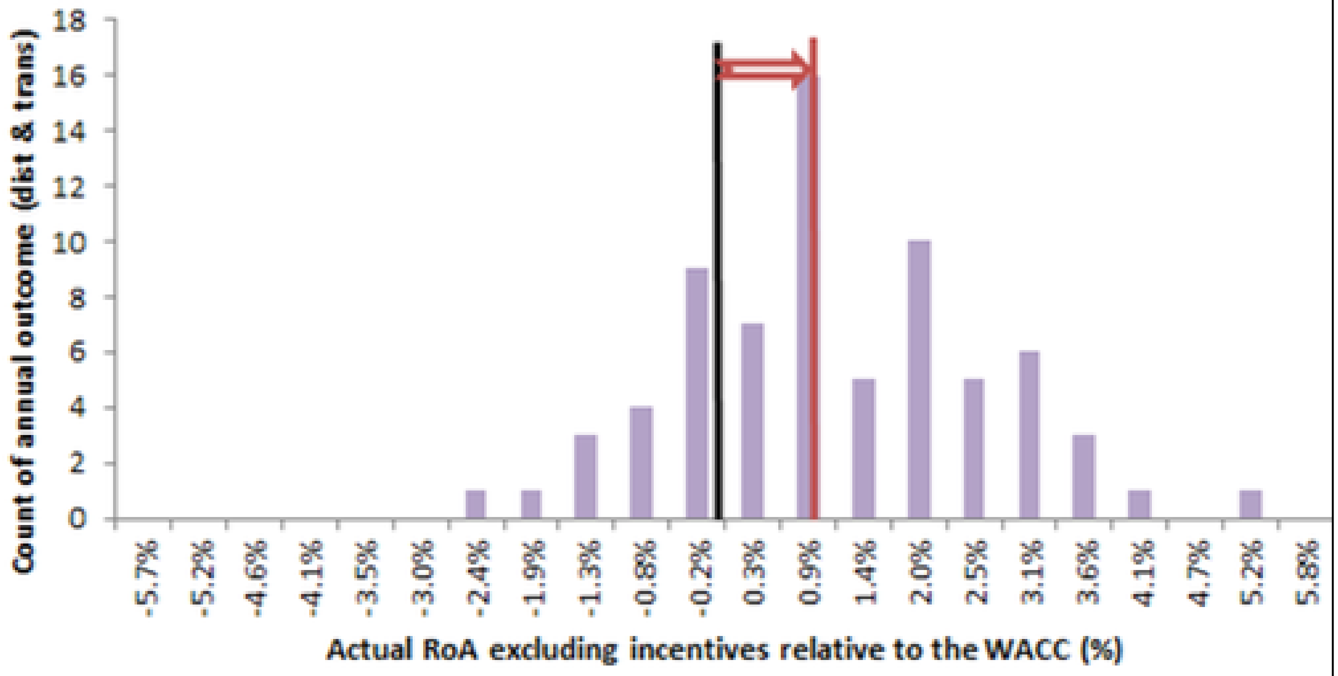
First – lets consider where we were before the 2018 Instrument:

- Extensive & expensive litigation
- Battle of the expert consultants
- Multiple arcane debates about econometric models, input assumptions & so on
- Dire claims about an investment crisis while overinvestment had already led to over capacity in many places on the network
- Presumptions about consumers long term interests (without talking to consumers)
- Bewildered and ultimately disengaged consumers
- Large & small customers facing closure or hardship

There was growing evidence that many networks were making excess returns, eg:

- AER profitability studies (ongoing)
- Evidence from the annual reports of listed networks
- Sapere research (Oct 2018):

Network economic profits (2013-14 to 2016-17)



Source: Sapere visualisation of raw AER data.

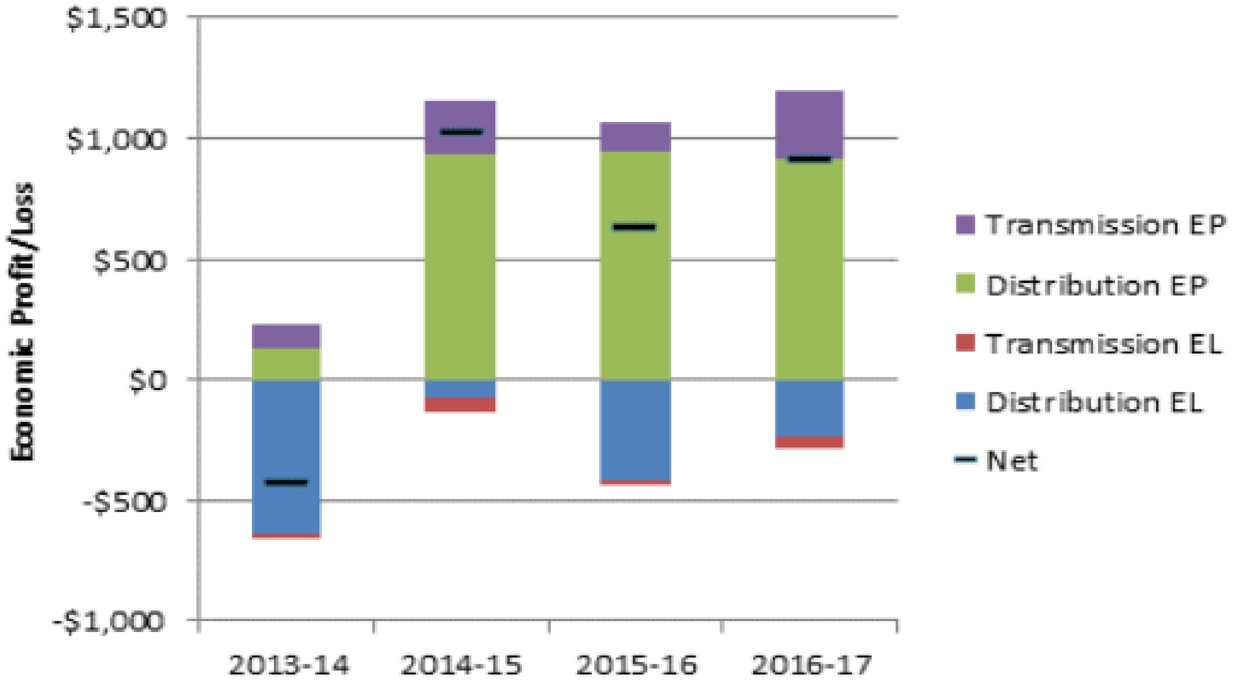
Average variance of 0.82%, but impact is *"material and structural relative to corresponding WACC values"*.

Sector	*Allowed return*	*Economic Profit*	*Ratio*
Combined	$21,420	$2,123	9.9%
ex Ausgrid	$18,071	$2,638	14.6%

Figures in $m, calculated over 4 years.

Source: Sapere, *Report on AER network profitability data,* 23 October 2018, figure 1 p 3; Table 1, p 6.. Profit ratios calculated as per the AER approach of EBIT/RAB

Economic profits 2013-14 to 2016-17 ($million)



Source: Sapere calculation from AER profitability and RAB data.

Source: Sapere*, Report on AER network profitability data,* p 23 October, 2018,Figure 2, p 5.

2018 Instrument – Comparison with 2013 Guideline

Area	2013	2018	CRG Preliminary assessment
Overall approach	CAPM foundation model, but use other models to select point estimate	Focus on CAPM	Agree with 2018. Use of other models is problematic given the subjective nature of the inputs and lack of agreement on how they should be implemented. Significant potential for 'gaming'.
Risk free rate	10-year CGS	10-year CGS	Agree, but note yield curve means 10-year yields are greater than 5 year yields.
Equity beta	0.7	0.6	2018 preferred: greater recognition of the systematic risk, closer to the central point of the empirical data, no adjustments for Black CAPM
MRP	6.5	6.1	Agree: 2018 better although conservative decision based on historical data analysis
Equity Risk premium (ERP)	4.55%	3.66%	2018 more consistent and realistic in reflecting the market and industry risks
Overall return on equity			2018 decision addressed some of the issues observed re excess profits. More data required to make further judgement on this

3. Models and parameters

Preliminary assessment of approach & parameters

Use of CAPM & other equity models

- Focus on role of SL-CAPM and DGM
- Review of beta
- Review of MRP
- Constant MRP or constant return on equity

Consider each of these in the context of the two consultant reports that differ:

- Value of using two (+) models to provide broader set of information on the equity market
- Historical analysis & forward looking (implied) values
- Estimation periods for parameter values
- Frequency of reviews (not considered here)

Brattle suggests the AER adopt the SL-CAPM but also consider using multiple models to provide additional information on investor expectations – in particular, the DGM.

Unresolved issues with this approach of combining models:

- Which models & which specifications of the models
- Who provides the forward projections of dividend growth, GDP growth etc.

How is the additional information included:

- Weighted averages – who decides on the weighting?
- Is the overall 'error' reduced/what biases are introduced?
- Does it make sense to 'average' information from two conceptually different approaches to estimating expected returns?
- How does it fit with the current regulatory framework that is focused on long term investment & *criteria?*

We do not see a clear way of addressing these issues with the DGM that would give consumers confidence that:

- The outcome is not biased or 'gameable'
- There will be regulatory consistency over multiple regulatory period : e.g. will networks accept the DGM if it is 2% (as it has been in the pas)

Models & parameters

Equity beta: Conceptual framework issues

Defining the systematic risks of a regulated network business – what does the current COVID19 crisis tell us?

Is the network beta relatively stable or does it change over time, and if so, why/when – how does this impact on the selection of data?

Daily, weekly, monthly data?

Does the Black CAPM add to the assessment of beta in the regulatory context? To what extent is this related to the length of the data set

Experience to date highlights that different approaches/data sets will lead to quite different outcomes.

How do we define the comparator set?

And then there were two!

Models & parameters

Equity Beta: Implementation Issues

- Statistical reliability of the beta calculations
- How representative are the two listed companies of non-listed network companies?
- What are the issues with using data from companies no longer listed?
- Relevance of non-network regulated businesses such as airports, transport?

Relevance of international data

- Can it be ‘corrected’ to adjusted for difference economic and structural differences?
- Can we disentangle the interdependence of the regulatory framework and the outcomes
- Can overseas data be combined with Australian data? Should it be weighted?

The important problem of defining a relevant comparator is unresolved

Models & parameters

MRP & the problem of measuring market expectations (1/2)

The use of historical data is a well-established approach to estimating expectations of the future, despite debates over:

- Length of the data set & whether there is substantive evidence of breaks (rather than trends) during the period?
- Geometric or arithmetic calculations?

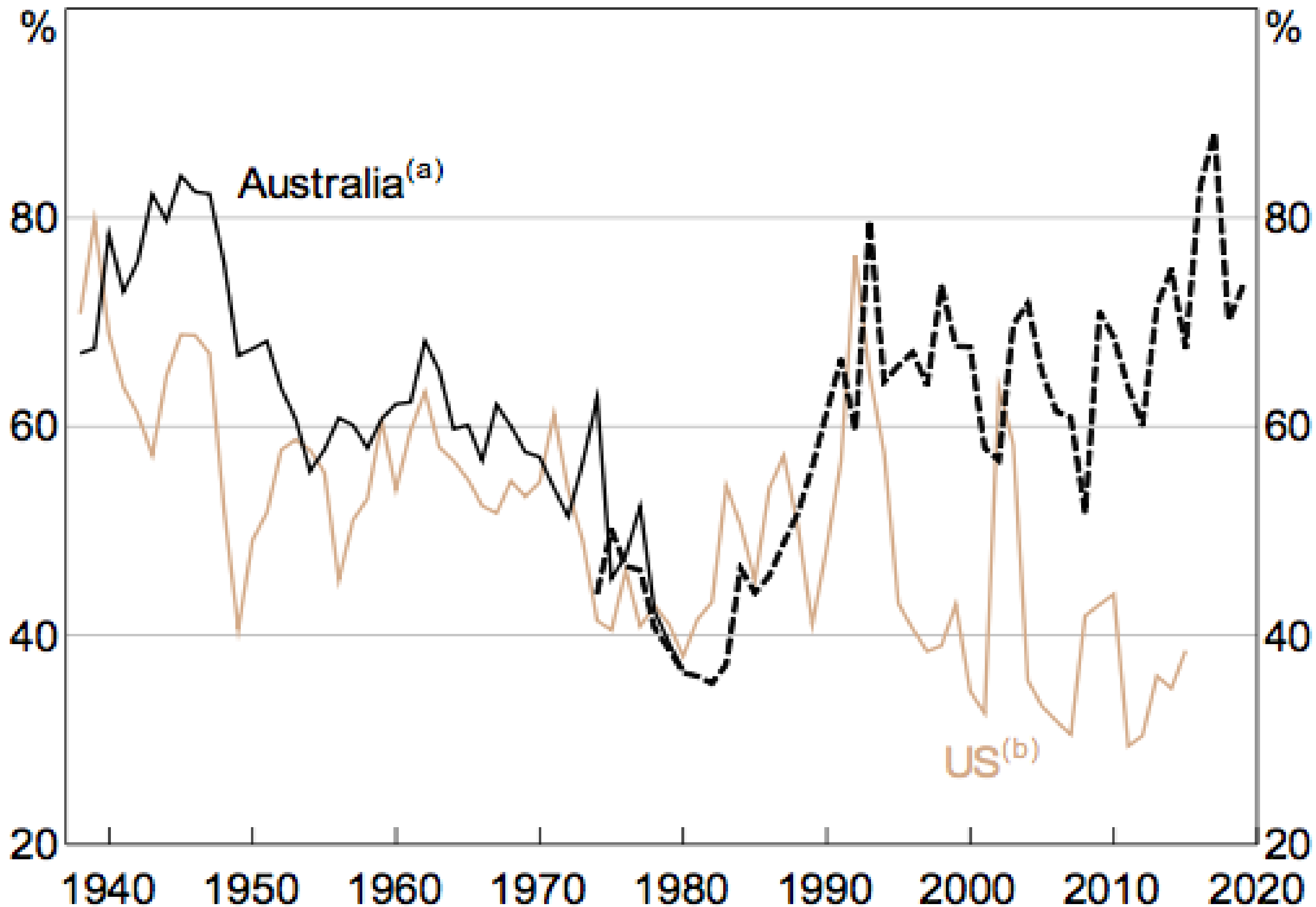
The DGM also estimates expectations, but lengthy debates over:

- 2 stage, 3 stage or multistage model construction?
- Input assumptions – how to forecast these
- The impact of buy-back, dividend payout decisions, etc. on the data analysis
- Forecasts may be biased by recent events and 'sticky dividends'?
- Given the AER's overall rate of return decision is designed to reflect long-term investment decisions, is this bias acceptable?

Does the MRP vary inversely with the risk-free rate (the Wright assumption)?

- This is based on the view that the overall return on equity is stable over time (ie the MRP varies but not the overall ROE
- The evidence is mixed and hardly convincing from a theoretical perspective
- An RBA 2019 report on return on equity in Australia raises further questions.

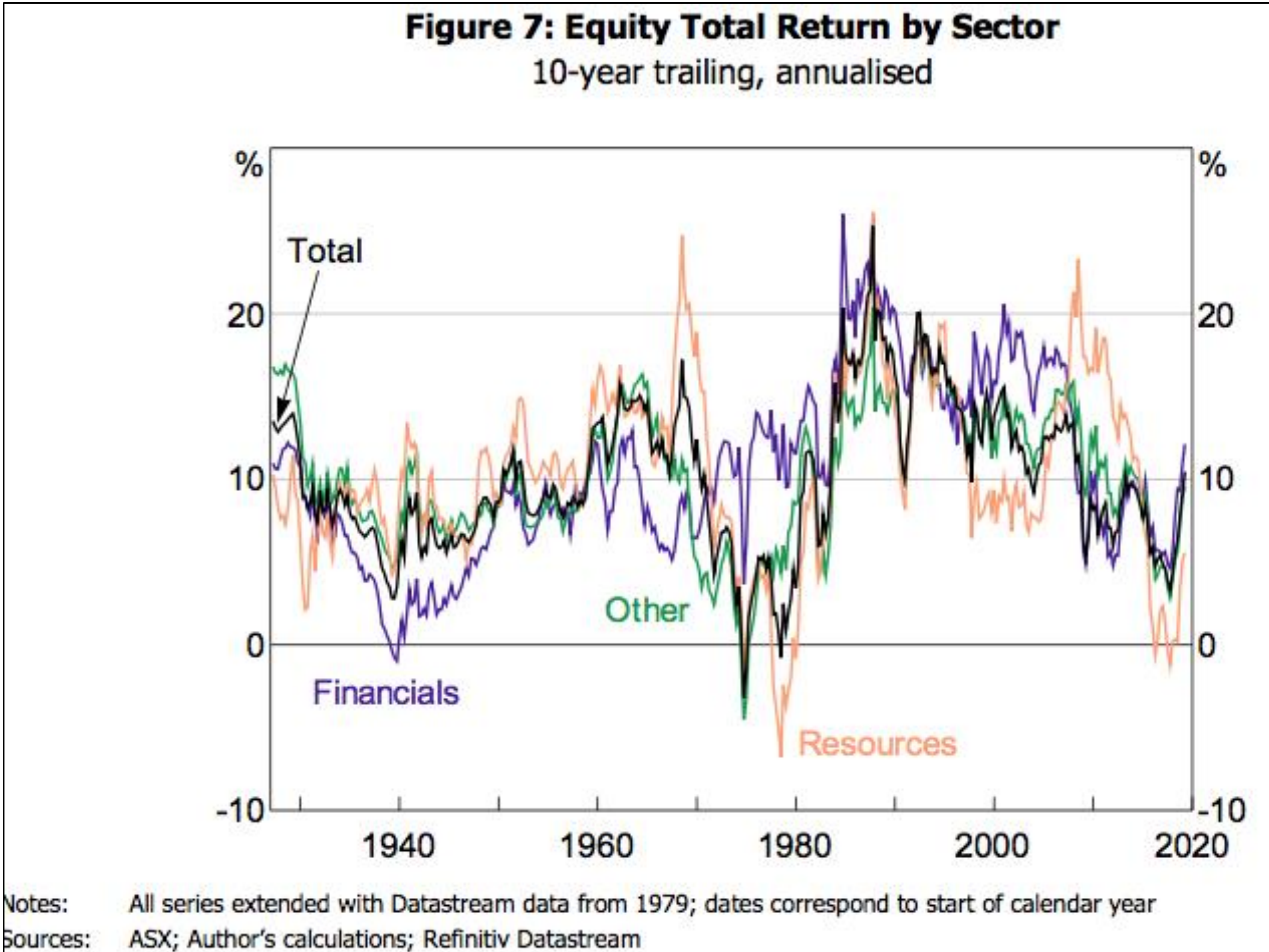
Figure 4: Dividend Payout Ratios



Notes: (a) Solid line shows series calculated from RBA dataset, dashed line shows implied ratio from Datastream data
(b) Excluding 2008

Sources: ASX; Author's calculations; http://www.econ.yale.edu/~shiller/data.htm; Refinitiv Datastream; Thomson Reuters

Source: RBA: *A History of Australian Equities, Research Discussion Paper* RDP 2019-04, p 8.



Source: RBA: *A History of Australian Equities, Research Discussion Paper* RDP 2019-04, p 12.

MRP & the problem of measuring market expectations (2/2)

In 2018, the AER decided not to include the DGM output in its determination

Our analysis demonstrates the risks in the use of the DGM with MRP estimates ranging from 3.6% to 11.56%:

- significant opportunities for gaming
- kicking the can down the road
- Pressure by networks for inclusion of DGM has become much stronger since 2008

Damadoran (2020) suggests that the decision on what to use depends on the purpose. He notes, for instance

- Different approaches yields a range of equity risk premiums of 3.2% to 5.58% (using US data)
- Long term averages may be preferable when determining the cost of capital for long-term investments
- Averaging a historical risk premium with an implied premium may give a false sense of security but it really makes no sense since they represent different views of the world and push in different directions.

Given these issues, it is reasonable for the AER to adopt a conservative approach by retaining its current methodology

4. Consumer engagement

How we propose to engage consumers?

Consistent with its role, the CRG will:

- Advise the AER on consumer engagement – we aim to ensure the consumers' voice is part of the debate on the rate of return
- Further enhance our engagement with consumers & other stakeholders
- Provide the AER with consumer insights
- Submit consumer perspectives including on technical & procedural issues during the RoR process
- On the return on equity: the CRG is assessing the AER's proposals against the 4 consumer principles it has established
- And we will further explore issues such as how consumers make trade-offs and the practical application of the consumption efficiency objective