AUSTRALIAN ENERGY REGULATOR

RATE OF RETURN INSTRUMENTS
CONCURRENT EVIDENCE SESSION 4 of 4

MATTERS DISCUSSED:
Cross-checks
Overall rate of return

FACILITATOR:
Ms Anna Brakey (Commissioner, ACCC)

AER STAFF PRESENT:
Mr Warwick Anderson (GM Network Pricing, AER)
Mr Jim Cox (Board Member, AER)
Mr Eric Groom (Board Member, AER)
Ms Catriona Lowe (Board Member, AER)
Mr Justin Oliver (Board Member, AER)
Ms Clare Savage (Board Member, AER)
Mr Jonathan Seymour (Assistant Director, AER)
Mr Esmond Smith (Senior Financial Advisor, AER)

EXPERTS PRESENT:
Dr Glenn Boyle
Dr Toby Brown
Mr Jim Hancock
Mr Dinesh Kumareswaran
Dr Jonathan Mirrlees-Black
Professor Graham Partington

RECORDED VIA VIDEOCONFERENCE

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 1    MS BRAKEY:   Welcome to everybody for the fourth and
 2          final instalment of the experts session for the
 3          2022 Rate of Return Instruments Concurrent
 4          Evidence Sessions, and welcome back to everybody
 5          who has been here before and welcome to anybody
 6          who is joining for the first time.  If you are
 7          joining for the first time, I might direct you
 8          back to previous transcripts when they come out
 9          for some of the preamble information about the
10          process.  But for those of you who don't know me,
11          I am Anna Brakey, one of the commissioners at the
12          ACCC and I am facilitating the session.
13              Again, I would like to acknowledge the
14          traditional owners of country throughout
15          Australia and recognise their continuing
16          connection to land, waters and community.  We pay
17          our respects to them and their cultures, elders
18          past, present and emerging, and I would extend
19          that respect to other Aboriginal and Torres
20          Strait Islander people who are present today.
21              This is the last session.  As I said,
22          I won't go through any of the preamble stuff
23          anymore, but this session is on the cross checks
24          and the overall rate of return.  The experts that
25          we've got discussing that today are Graham,
26          Jonathan, Dinesh, Jim, Toby and Glenn.
27              We will start the session with some short
28          presentations from Toby and Jim with their
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1   thoughts on cross checks and the overall rate of

2   return, and then we will call on the other

3   experts and on the board members. I would

4   imagine we will spend about two hours in general

5   discussion.

6   But we have five questions for this

7   discussion, which are: "What is the role of

8   cross checks?", "How can the AER use them

9   transparently and predictably to promote

10   confidence?", "What information can measures of

11   financeability play?", "What information can the

12   AER obtain from examining trading and acquisition

13   multiples of the RAB?", and, "The CRG has noted

14   that regulated businesses have consistently

15   outperformed the return on equity. How might

16   this be considered when setting the rate of

17   return?" So they are the questions. So I might

18   hand off to Toby to kick us on this afternoon.

19 DR BROWN: Thanks, Anna. What I thought I might do

20   is cover off some of the specific questions about

21   cross checks first and then come back to speak at

22   the end a bit more generally. And so, I'll just

23   run through the sort of suggestions for cross

24   checks in the questions.

25   So first, financeability. And I guess what

26   we mean there is that for any one of the networks

27   you can take the proposed parameters and sort of

28   forecast forward over the upcoming period what

1   the various different metrics of cash flow and

2   interest payments and ratios and so on, and you

3   can apply the sort of criteria that a credit

4   rating agency might apply.

5   I think it's probably fair to say that we

6   should expect that regulated businesses should be

7   able to support an investment-grade credit rating

8   and probably even that businesses or their owners

9   in fact should have such a rating.

10   And so I think that on the one hand they are

11   important, but on the other hand I don't think

12   it's got anything to do with the rate of return,

13   so I don't really think it's a cross check for

14   present purposes. And that is because even if

15   there may be circumstances in which a business

16   would struggle to meet those credit metrics, for

17   example, because there's a very large and rapid

18   CapEx program that basically means that cash

19   flows don't look right from a credit rating

20   agency perspective, the solution to that problem

21   is nothing to do with the rate of return.

22   You can, for example, adjust the

23   depreciation profile if you think it's important

24   to allow the business to maintain the credit

25   metrics. And doing that respects the NPV equals

26   zero criterion, another way of saying it's

27   NPV-neutral. So I don't think financeability is

28   really important for present purposes, even if it

1   is important more broadly.

2   And RAB multiples, so this is nice in

3   theory. All else equal, if the overall

4   regulatory determination was in some sense too

5   generous then we would expect to see that the

6   market values the business higher than the book

7   value of the regulated asset base. So you would

8   have a multiple greater than one. And

9   conversely, if the determination was not

10   sufficient, if the building blocks were set below

11   where they should be, then it would be below one.

12   But first of all RAB multiples, if they tell

13   you anything, they tell you something about the

14   determination as a whole, not specifically the

15   rate of return building block. And secondly,

16   unfortunately I don't think you really can

17   extract anything useful from RAB multiples

18   because there are very few clean firms that you

19   can look at. There basically aren't really any

20   single asset regulated utilities that are listed

21   and when there are takeovers, there are control

22   premiums and the bottom line, I don't think you

23   can get anything useful out of multiples,

24   unfortunately.

25   And then achieved returns, so assuming that

26   we're talking about a revenue cap rather than a

27   price cap, then there shouldn't be any difference

28   between the revenue that the business collects

1	and what the regulator thought it should be
2	getting when the determination was set.
3	Therefore, to the extent that what you might call
4	the achieved return on equity is different than
5	the rate of return that was set in the
6	determination, that means that one of the other
7	building blocks, the actual costs are different
8	than the building blocks. So for example a
9	business underspent on OpEx and that difference
10	is going to flow through to the achieved return
11	on equity after tax.
12	So looking at achieved returns tells you
13	something about whether the business has
14	"outperformed" the regulatory determination as a
15	whole. Again, it's really got nothing to do
16	with - I mean, in fact the last thing it has got
17	anything to do with is the return on equity. It
18	has to be one of the other building blocks
19	because the return on equity is just a residual.
20	And so, if it means anything, it might be a
21	signal that next time the regulator might want to
22	look more closely or apply some more tests on
23	whichever one of the building blocks seems to be
24	the source of the outperformance. But to do
25	anything with the rate of return or the basis of
26	the rate of return for the next period on the
27	basis of what happened in the period before seems
28	a very slippery slope and it would be

1   inconsistent with usually how we think about

2   regulation in an incentive context, because that

3   would look a lot like taking back past success on

4   the part of the business. So unfortunately, I

5   don't think this really tells you anything about

6   how to set the return on equity for the next

7   time.

8   Now, to come back to the broader point of

9   what kind of cross checks can we be doing, what's

10   the role, I think one potentially useful cross

11   check is to look at what the other regulators are

12   doing. Because I think that all the regulators

13   really are trying to do essentially the same

14   thing: Estimate the cost of equity and use that

15   to set the return as part of the authorised

16   revenues. Yes, there are differences between

17   different jurisdictions and not all businesses

18   are the same, but I think those differences are

19   in the scheme of things small and all the

20   regulators are really trying to do the same

21   thing.

22   And therefore, by looking at what other

23   regulators have done that could be a useful

24   source of evidence or it could throw up something

25   that you might have missed or you might not have

26   paid enough attention to. I mean, it's not

27   totally straightforward and you have to pay

28   attention to the "units" issue. You know, if the

1   AER is really working in terms of a real vanilla

2   WACC or real return on equity, when you look at

3   the decisions of the other regulators, you have

4   to make sure to line them up apples to apples as

5   best as you can. But I still think that that can

6   be a useful exercise

7   And then finally, to the extent that you

8   haven't already used alternative models, if you

9   have not used a DGM to set the MRP, if you've

10   just used a standard CAPM, then you can use

11   another model as a cross check. But actually

12   I think the best thing is to have used multiple

13   models in the first place.

14   And just finally, I would emphasise that

15   I think these cross checks can contribute to

16   greater transparency because it's another way of

17   sort of explaining and testing your thinking.

18   Thank you.

19   MS BRAKEY: Thanks, Toby. Jim?

20   MR HANCOCK: Thanks, Anna. Okay. So firstly, on the

21   role of cross checks, I see their role as being

22   to test the robustness of the ultimate WACC and

23   return on equity, but also to pick up on

24   mis-specification of other building blocks. And

25   they provide a high level counterpart to the

26   checks that are carried out at the level of

27   individual parameters.

28   And they provide the AER with a warning if

1   the WACC or return on equity values seem

2   anomalous from an overarching perspective. Also,

3   they would help to pick up situations when

4   measurement errors in CAPM are compounding and

5   reinforcing each other in one direction

6   particularly to produce an extreme value.

7   How can they be used? Firstly, it's

8   important to be clear about the logic of the

9   proposed cross check. You need to articulate how

10   the cross check identifies an anomaly, and you

11   also need to think carefully about whether a

12   possible anomaly can be rationalised on grounds

13   other than an error in what's in the regulatory

14   proposal for the return on equity.

15   You need to canvas the range of factors that

16   affect the cross check parameter. So you have to

17   think about whether all the confounders that

18   could affect your measurement of the cross check

19   have been identified and controlled for, and that

20   will be hard to do in many cases. And you have

21   to think about how reliable the estimate of the

22   cross check indicator is. You then need to

23   communicate the use of it clearly, and ultimately

24   broad judgement is going to be needed to support

25   the use of any cross check. So it's not

26   realistic to think that a cross check can be

27   translated into a predetermined mechanical

28   decision rule.

1   And then I think use of broad judgement and

2   changes in judgement needs to be explained.

3   So I think the AER should continue to

4   consider the use of cross checks that appear to

5   be informative. And it shouldn't let the perfect

6   an the enemy of the good. So it shouldn't

7   exclude a cross check because it's imperfect, but

8   also it shouldn't include a cross check just for

9   the sake of having it. The interpretation of the

10   cross check needs to be clear, and they can only

11   be used for sense check and not formulaically.

12   Coming to financeability, I think on this

13   issue the discussion in Frontier's piece gives an

14   interesting insight on the difficulties of using

15   financeability as a cross check. As we know,

16   over the last few years, the interest rate on

17   government bonds has fallen to historically low

18   levels. And as Frontier says:

19   *As a result, the nominal rate of*
             return on equity is lower than any
20   *previous AER allowance, lower than the*
             allowances of comparable regulators
21   *and lower than the allowances that*
             would otherwise have been in the
22   *absence of the RBA's unconventional*
             approach to monetary policy through
23   *the pandemic.*

24   And Frontier go on to cite some important

25   practical implications for networks from this.

26   They say that the current regulatory allowance

27   for the benchmark firm implies a negative cash

28   return to equity and that credit ratings are at

1   risk.

2   This may well be true for a firm that did

3   not hedge its exposure to the bond rate, but

4   firms know that the return on equity is

5   calculated with reference to the bond rate and

6   could hedge against their exposure to it and

7   against their exposure to very low bond rates.

8   In many cases, they may have chosen not to

9   do so. But if that's the case, and accepting

10   that that firm may have a financeability problem,

11   it's not clear to me that that should be

12   something that should be corrected through the

13   allowed rate of return.

14   So it's possible that the owners of that

15   business may have to wear a loss based on the

16   decision not to hedge and based on the market

17   having moved against them. It's possible that

18   they may have to recapitalise or in an extreme

19   situation it's possible even that the lenders to

20   that entity may have to take a clip on their

21   loans to that entity. But that doesn't mean

22   necessarily mean that the underlying assets are

23   nonviable. It simply means that the owners and

24   the lenders to the owners have taken a loss on a

25   particular position they took on not hedging.

26   And so, if we looked at a financeability

27   metric, we would see the problems that a firm

28   might be in. But what we don't know is whether

1   those problems are due to the rate of return

2   being set wrongly or if they are the outcome of

3   decisions that are discretionary to the firm.

4   So I think before you can use a

5   financeability metric, it's going to important to

6   really sort of get on top of sterilising the

7   metric to remove those factors and it may not be

8   possible to do that.

9   On the multiples of the regulatory asset

10   base, I think this is an approach that would work

11   in an idealised world where we can observe market

12   prices of the regulated networks in isolation

13   without any nonregulated parts stapled to it. We

14   would also need to be able to exclude the legacy

15   of past discretionary decisions by the network

16   owner, so decisions about dividend distribution

17   and capitalisation and so on.

18   In an ideal world, we could do that. In

19   practice, it's going to be very difficult to do

20   it in a robust way because of course firms that

21   don't, and the databases that we have about them

22   don't fit that.

23   Now, a possible alternative is calculating

24   the so-called enterprise value concept. But it

25   seems to me that that also is potentially

26   difficult to do. The enterprise value

27   calculation needs to exclude the value of

28   unregulated components, and if you have

1   unregulated parts of a business and regulated

2   parts of a business bundled in the same reporting

3   entity, it may be very difficult to actually get

4   a robust valuation of the unregulated parts to

5   strip them away from the regulated parts. This

6   is going to be challenging to do. If you can do

7   it properly then yes, it's useful.

8   Just as an aside, there seems to be some

9   concern about control premia. It's not clear to

10   me that control premia should be adjusted away.

11   To the extent that there are control synergies

12   then it would be efficient for firms to realise

13   the benefits of them and the efficient firm could

14   then pass them on to consumers via a lower rate

15   of return. So it's not clear to me that control

16   premia should be stripped out.

17   And finally on this, even if we become

18   confident from a multiple that the regulatory

19   allowance is excessive, it still doesn't

20   immediately follow that it relates to the rate of

21   return. It may be some other building block is

22   wrong, such as OpEx.

23   And so, I think RAB multiples may be useful

24   as a cross check if you can calculate them

25   properly. I suspect that subliminally they have

26   probably given the AER some reassurance over the

27   last decade or so as it has adjusted down

28   regulatory rates of return. I think what's

1	around on the RAB multiples has probably given
2	them some comfort over that. And really, I guess
3	that is sort of a de facto cross check, giving it
4	some reassurance about the direction it's taken.
5	But of course the decisions that it has taken
6	about the allowed rate of return on equity
7	ultimately come back to decisions about the CAPM
8	parameter values, and it looks at that RAB
9	argument and from that takes the comfort that
10	it's not wrong in reducing the regulatory rate of
11	return.
12	Finally, on persistent outperformance and
13	how it might be considered, persistent
14	outperformance is suggestive that the regulatory
15	allowance has been too generous. But before you
16	reach a conclusion, you need to think about
17	whether the performance that is there reflects
18	idiosyncratic return impacts. For example, if
19	we're thinking about the regulated entities
20	collectively then movements in interest rates
21	might be observed broadly across firms in the
22	sector to have a particular impact. So you would
23	need to think about how to allow for that.
24	For incentive compatibility reasons, any
25	assessment of outperformance should be done at a
26	whole sector level and not at the firm level.
27	And once again, outperformance, while it shows up
28	in the rate of return, it may come back to

1   another building block. And so really I'd say

2   that if you think there is outperformance, what

3   it does is sends a message to go back to the

4   building blocks and look at them and think about

5   whether one of them is excessively high or low.

6   Thank you, that's it.

7   MS BRAKEY: Thanks, Jim. Did any other experts want

8   to chip in at this point? Dinesh?

9   MR KUMARESWARAN: I'll chip in. I agree with almost

10   everything that Toby said. So I agree with him

11   that RAB multiples conceptually are a good idea

12   but in practice provide the AER with almost no

13   useful information. In fact, let me not say

14   "almost". No useful information in practice.

15   And that is just because for the reasons

16   that Toby and Jim have outlined. There are

17   things contained in the enterprise value

18   component of the RAB multiple that have nothing

19   to do with whether the allowed rate of return is

20   reasonable or not. So I don't think that the RAB

21   multiples are a useful cross check, and I can

22   explain that in a bit more detail if you like.

23   I also agree with what Toby said about

24   profitability. It seems to me that there are

25   lots of practical problems with using

26   profitability to inform the reasonableness of the

27   allowed return in future periods. First of all,

28   how confident are we that the profitability

1   information that we have on the business is

2   reliable? There are all sorts of practical

3   problems like cost allocation that go to

4   calculating a measure of profitability. So we

5   have to be confident that the information is

6   correct. But even if we had good historical

7   information about profitability, that doesn't

8   really tell us anything useful about expected

9   required returns, and that is essentially what

10   the AER requires or what the AER needs to know.

11   I also agree with Toby that other

12   regulators' decisions would be a useful cross

13   check, and for the reason that he said, that

14   other regulators are essentially engaged in the

15   same task as the AER. There is some discussion

16   in the omnibus paper that the regulatory task of

17   regulators around the world might be different.

18   But in my experience they are all engaged in

19   essentially the same task, which is to promote

20   economic efficiency. And how that translates

21   into setting of the allowed return is to estimate

22   the efficient market cost of capital.

23   So all regulators are essentially trying to

24   do the same thing. Now, I think one reason to

25   look at other regulators' decisions is because

26   they might be using different data and models and

27   methods to the AER. The AER goes through a

28   process of determining the data that it uses, the

1   models, the methods and so on. But it might make

2   a mistake. And to the extent that other

3   regulators are doing something different and

4   producing different results, that's useful

5   information for the AER. Particularly, if the

6   AER was in the middle of the pack I think that

7   should give the AER some comfort. But if it was

8   an outlier at either of the extremes, much lower

9   than other regulators or much higher than other

10   regulators, I think that should give the AER some

11   pause and say, "Well, let's revisit the methods

12   that we're using, the data and the models, to see

13   whether there's something about our method that's

14   producing outlying allowances."

15   Now, on financeability, I think I have a

16   slightly different take on what financeability

17   means, to both Toby and Jim. The concept of

18   financeability was first developed by credit

19   rating agencies. So they basically look at the

20   cash flows, the actual cash flows of a company,

21   and try to figure out whether there's enough cash

22   flow generated by these types of businesses to

23   meet the business's debt obligations with

24   sufficient headroom to maintain a certain credit

25   rating. That's how credit rating agencies and

26   debt investors will be thinking about it.

27   Regulators have taken that concept that was

28   developed by credit rating agencies and adapted

1   it to a regulatory setting. And it's quite

2   different to the way that Toby and Jim have

3   described it. The way I think about these

4   financeability tests in a regulatory setting is

5   essentially a check on the internal consistency

6   of the regulatory decision. So what do I mean by

7   that? When the regulator sets an allowed rate of

8   return, it makes a determination about a

9   benchmark credit rating, a benchmark cost of debt

10   and a benchmark level of gearing for the

11   business.

12   So what the regulatory financeability test

13   tries to do, it's all done on a benchmark basis.

14   The test is asking, are the regulated cash flows

15   sufficient for this benchmark business - not the

16   actual business being regulated, but the

17   benchmark business modelled in the post-tax

18   revenue model - to generate sufficient cash flows

19   to maintain the credit rating that was assumed

20   when setting the allowed rate of return?

21   If the allowed cash flows are too low to

22   maintain that benchmark credit rating that was

23   adopted when setting the allowance in the first

24   place then there's an internal inconsistency in

25   the regulatory decision that needs to be

26   addressed. That's the way these benchmark

27   regulatory financeability tests have been applied

28   by regulators in the UK, by IPART, the Essential

1   Services Commission, by ESCOSA and lots of other
2   regulators in Australia.
3   The key thing to understand is none of the
4   information that's used in the financeability
5   test actually comes from the actual business.
6   All of the information - revenues, cost,
7   gearing - all of the information that is relevant
8   to compute the metrics in these tests come
9   directly from the regulatory model. The
10   implication of that is that if there is a
11   financeability problem that's identified, the
12   cause of the problem must be the way the
13   regulatory allowances have been set.
14   And to the point that Toby and Jim made,
15   there are generally two reasons why a business
16   might fail the regulatory financeability test.
17   One is that the depreciation allowance is too
18   low. That is, the return on capital is just too
19   low; it's just not getting enough cash flow in
20   each regulatory period. The other possible
21   explanation is that the allowed return on equity
22   is set too low.
23   Those are the only two possible reasons why
24   a business may fail a regulatory financeability
25   test. There may be other reasons like financing
26   decisions that may cause an actual business to
27   fail the test run by a credit rating agency, but
28   a regulatory financeability test can only be

1   failed for those two reasons.

2   And so, what that means is if we find a

3   failure of such a test the solution must be to

4   change the regulatory allowance, either to change

5   the depreciation allowance or change the return

6   on equity allowance. There's no question that

7   the actual business changing its gearing

8   structure or adopting a different borrowing rate

9   or something like that could solve the problem.

10   The source of the problem is a regulatory

11   problem. I'll stop with that.

12   MS BRAKEY: Thanks, Dinesh. But that does apply to

13   the benchmark test only, not if you try to apply

14   it to an actual test?

15   MR KUMARESWARAN: That's right. The only regulator

16   that I've seen who has tried to apply the test to

17   the actual business is IPART. All other

18   regulators, as far as I'm aware, that run these

19   sorts of tests do it on a benchmark basis. And

20   that's been the proposal here, that the test be

21   conducted on a benchmark basis rather than for

22   the actual businesses.

23   MS BRAKEY: Yes. Jonathan?

24   MR MIRRLEES-BLACK: Thank you, Anna. I have got

25   comments both on the RAB multiple and also on

26   financeability. So dealing with RAB multiples

27   first, and I think the question around whether

28   they can be used, it might be an empty question

1   really to the extent that in future years we may

2   not have any data from which to draw any

3   inferences.

4   And so in which case, we don't want to spend

5   too much time on that. But I think it's fair to

6   say that, as with other measures we were talking

7   about, it can be hard to do the calculations to

8   get an appropriate RAB measure. But that doesn't

9   mean to say that we can't do that. We can do

10   that. We can make the adjustments to get an

11   appropriate EV [enterprise value] for an

12   appropriate RAB, and we can make the appropriate

13   adjustments to the RAB itself.

14   The second thing about that is we should be

15   totally unsurprised at the moment that RAB

16   multiples are in excess of one. And one of the

17   important reasons for that is that the AER uses a

18   trailing average cost of debt approach, which

19   effectively gives companies an asset which gives

20   them higher debt returns. Like, it gives -

21   interest costs allow for previously higher

22   interest rates than the current. And so

23   therefore the market value of that asset is

24   higher than the book value in the RAB. So that

25   asset value from the promise that the AER gives

26   with the trailing average cost of debt means that

27   at the moment when we have falling interest

28   rates, RAB multiples should be above one and we

1   should expect that. Likewise, we might expect

2   lower RAB multiples in an environment where

3   you've realised RAB multiples in an environment

4   where interest rates are beginning to rise over

5   time.

6   Given all these uncertainties, I think we

7   would say - let's suppose the EV to RAB multiple

8   was 0.5, I think we'd say that we had a problem.

9   We probably weren't giving the companies enough

10   money. If the EV to RAB multiple was above 2,

11   we'd say probably that there's a problem. Now,

12   it may not be an allowed return; it may be

13   allowances.

14   So at extremes I think we can say it

15   measures something, and then in the middle it

16   requires nuanced judgement and hard work to

17   assess it. But as a cross check, I think we can

18   say, "I think it's there's value in that." And

19   financial market practitioners use these

20   multiples all the time. They make judgements and

21   decisions on that basis. And you can look at in

22   opinions in terms of valuations, EV to RAB

23   multiples are used as terminal value assessments,

24   as judgments about where practitioners think that

25   returns will be in future, a combination of

26   returns and outperformance against regulatory

27   expectations.

28   So not a perfect measure, shades of grey in

1   interpretation. Is it useful as a guide to

2   something? For sure. Is it the sole guide? No.

3   Will we have enough information in the future to

4   make use of it widely? Probably not in Australia

5   because of the absence of - the number of

6   companies. So that's what I would say on RAB

7   multiples.

8   Secondly, on financeability, I think it's

9   important with financeability to notice that the

10   notional gearing that Dinesh was referring to,

11   it's something which is used to measure the cost

12   of capital. And it's used as a - we measure, we

13   look at the gearing and we try and make sure that

14   we've got equity beta which is consistent with

15   the notional gearing that's set. And we

16   calculate a cost of capital based on a weighted

17   average assuming that notional gearing.

18   And that's it. There is no promise from the

19   regulator that that gearing - that you need to be

20   able to deliver your overall cost returns at that

21   gearing. That may not be appropriate. In a

22   normal, competitive business, gearing changes

23   dependent on appropriate capital. You know,

24   what's future capital spending plans? If capital

25   spending goes up, naturally gearing goes down

26   because companies' responsible management will

27   want to make sure that they can accommodate that,

28   and, as you suggest, maintain an investment grade

1   credit rating.

2   And this is natural. Dividend policy and

3   capital management balance depend on what you

4   expect future investment programs to be. And

5   that's not to do with the notional gearing. The

6   notional gearing is purely used to measure. And

7   that tells you what the cost of capital is.

8   And we also know that the approach that the

9   AER uses, the allowed return is not hugely

10   dependent on what the actual gearing, notional

11   gearing, is chosen to be. So companies can do

12   things to manage their debt and manage debt

13   costs, choose their level of gearing to do

14   something that's appropriate.

15   Dinesh said there's only two reasons why a

16   company might be breaching the debt ratios at the

17   notional gearing. It could be that the notional

18   gearing isn't appropriate for that company with

19   that particular capital program, because it's not

20   a benchmark entity.

21   MS BRAKEY: Thanks, Jonathan. Graham?

22   PROFESSOR PARTINGTON: I have to say, tour de force,

23   Jonathan. I agree with practically everything

24   you said. But I have a procedural question. And

25   that is, there's a list of questions here and I

26   had thought we would go through them seriatim,

27   rather than each of us give our views on all of

28   the questions all at once. And what would you

1   like us to do?

2   MS BRAKEY: Look, probably now that we're on this

3   path, go through all your answers, I think,

4   Graham.

5   PROFESSOR PARTINGTON: I could be going for some

6   time. Okay. Let's start with something that

7   Dinesh said about benchmark leverage. Now, if we

8   accepted most of Dinesh's argument, one could

9   just say, "Well, obviously the benchmark leverage

10   is set too high. It's not really the efficient

11   benchmark." That leverage number is really a

12   fairly arbitrary number, and as Jonathan has

13   pointed out, your weighted average cost of

14   capital with a plain vanilla WACC is going to be

15   insensitive to what value of leverage you choose.

16   The reason for choosing a benchmark leverage

17   is the problem that they have in the

18   United States in some jurisdictions where they

19   use the leverage that the company actually has.

20   And of course what does that lead to? That leads

21   to gaming. So companies game their leverage

22   ratios in order to increase their allowed rate of

23   return.

24   So the solution to that is you set a

25   benchmark leverage ratio and then you let the

26   companies do whatever they want to do that they

27   see in their best interest. So I just don't

28   accept Dinesh's characterisation that it must be

1   a problem with your allowances or your rate of

2   return.

3   While we're on financeability, I think -

4   consistent with Jonathan - the management of

5   solvency is a problem for the management of the

6   firm. It's not something that is the

7   responsibility of the AER. Also, this so-called

8   "solvency test" is a hypothetical. It's a

9   hypothetical based on, in most cases, less than

10   half of the information that the credit rating

11   agency would use in order to form its assessment

12   of the credit risk.

13   Firms can manage their solvency by changing

14   their capital structure and by changing their

15   dividend policy. Indeed, they can if they wish

16   have their dividend reinvestment plan

17   underwritten so they have a guaranteed sum coming

18   back into the company. They could have

19   precautionary holdings of listed assets. I could

20   go on and on. The point is it's up to firms to

21   manage their solvency, not the AER. I think

22   maybe it would be better if I reserve some of my

23   other comments until we have heard what other

24   people think on the issue of financeability and

25   then RABs and so on.

26   MS BRAKEY: Okay. Thanks, Graham. Glenn?

27   DR BOYLE: I'm immediately going to do not what

28   Graham suggested, but general comments really on

1   things that have already been said. And it could
2   be argued I shouldn't say anything at all
3   because, really, I'm just going to kind of repeat
4   in different ways, I think, the overall view
5   that's already come through that there's a fair
6   bit of scepticism about these cross checks.
7   I think of them this way. It's a bit like
8   paying an awful lot of money to buy a very
9   expensive supercomputer in order to answer a very
10   complex problem, and then finally having got an
11   answer to it, nipping down to the local museum to
12   check out the slide rule to check it. It's kind
13   of the opposite of superfluous precision; it's
14   more like superfluous un-precision. So that's
15   kind of my starting point.
16   I think Jim's comment that cross checks
17   should only be used for sense check and not
18   formulaically is pretty much right on the money.
19   It's very difficult for me to see how in almost
20   all cases any of these could be used in any way
21   formulaically. And how do they be used as sense
22   checks? Well, this has sort of been alluded to,
23   but what we have with each of these cross checks
24   is basically a range of allowable values.
25   Basically, there's a confidence interval. And
26   that confidence interval will reflect the
27   uncertainty and all of the other factors that
28   could potentially affect these cross check

1   variables that have nothing to do with the
2   allowed rate of return. So there will be an
3   upper bound and a lower bound.

4   Now, the trouble is in most cases even
5   though we know in principle how to quantify
6   these, we are not going to be able to quantify
7   them in principle. We don't know what they are,
8   but we do suspect that they are likely to be
9   wide. I think Jonathan mentioned 2 and 0.5.
10   Maybe that's right; I have no idea. But I think
11   the point is, whatever it is, we can only use
12   these things to identify extreme problems. There
13   is going to be a whole mass in the middle where I
14   think essentially just looking at it from a
15   hypothesis testing point of view, you really
16   can't say anything. You can't reject the null
17   that in fact there is no problem here. And so
18   that's a problem with even using them as sense
19   checkers.

20   One exception to this, and I think Dinesh
21   has alluded to it and he wrote about it in the
22   note that he circulated, is one sense check that
23   I think the AER has rejected. And that's the use
24   of other regulators. Now, I think there's two
25   roles here. And I'm sure the AER does the first
26   one anyway. It looks at the process followed by
27   other regulators and it adopts or rejects as the
28   case may be, depending to their own judgement.

1   So that probably already goes on.

2   But I think you can do a bit more than that,

3   at least with Australian regulators. Australian

4   regulators are all trying to do basically the

5   same thing. They estimate the allowed rate of

6   return, appropriate allowed rate of return for

7   Australian regulated networks. Now, this is

8   classic Bates and Granger: You've got a whole

9   bunch of different estimators, methods and data,

10   probably, all being chucked at what is

11   essentially the same problem. And what we know

12   from Bates and Granger, and this is kind of what

13   Martin and I were arguing about last week, is

14   that you can get a better quality estimator by

15   combining those.

16   Of course AER should, I think, have most

17   confidence in its own process, but that doesn't

18   mean it should give no weight at all to the

19   estimates arrived at by other Australian

20   regulators using their own estimators, that is,

21   their own models and data. And in a net way, as

22   I said, following (indistinct) Bates and Granger

23   and maybe get a better quality estimate of the

24   overall Australian allowed return. Where I

25   disagree with Dinesh is extending that to foreign

26   ones, in the Cocker Spaniel area. We're trying

27   to average basically different estimates and we

28   come up with an estimate of some kind of world

1   allowed rate of return, but that's not what we're

2   interested.

3   The only other thing I'll say is if the AER

4   is going to continue to calculate and analyse,

5   look at these cross checks, there needs to be a

6   limited number. If you keep expanding the number

7   then eventually you're going to get one that

8   shows up as a red flag purely by chance even when

9   in fact there is no issue at all. So keep the

10   number small and as I say, mainly to be used, as

11   Jim says, as sense checks rather than

12   formulaically. Thank you.

13 MS BRAKEY: Thanks, Glenn. I'm not sure how everyone

14   else went then, but I think that might have been

15   our first little experience of not great

16   connection. So I could hear what you said either

17   very slowly or very quickly. Anyway. Over to

18   Dinesh.

19 MR KUMARESWARAN: I was waiting for Glenn to bring up

20   Cocker Spaniels and he sure delivered. I think

21   one of the problems with using other Australian -

22   I'm not suggesting that the AER shouldn't look at

23   other Australian regulatory determinations.

24   I think that's a reasonable thing to do. But one

25   of the problems with restricting yourself to just

26   that cross check is the observations are not

27   really independent. There seems to be a tendency

28   for Australian regulators to refer to each

1   other's decisions and methods, and there are some

2   regulators who determine their parameter

3   estimates by simply averaging the estimates

4   produced by other regulators. So what you might

5   end up with is a set of circular references.

6   That's not really a proper cross check.

7   So I think a good circuit breaker would be

8   to consider truly independent estimates, and that

9   would be to look at what other regulators are

10 doing overseas. And I'm not suggesting that the

11 AER should give really material weight or throw

12 out its entire estimate just on the basis of what

13 other regulators are doing or indeed

14 formulaically try and match its regulatory

15 decisions to what other regulators are doing.

16   All I'm suggest something that if you look

17 at the array of estimates produced by other

18 regulators and then the AER's decisions look out

19 of line, either too high or too low compared to

20 those decisions, well, that is a red flag to just

21 pause and say, "Well, are our decisions

22 reasonable?"

23   And I guess one reason for that is because,

24 as Martin keeps saying, capital is

25 internationally mobile. And so investors can

26 look around all over the world and see where they

27 want to put their money. So it is a relevant

28 consideration if other regulators or other

1   jurisdictions offer much higher returns or much

2   lower returns than the AER's determinations

3   offer.

4   MS BRAKEY: Thanks, Dinesh. Graham, back to you.

5   PROFESSOR PARTINGTON: Just on regulators, there's a

6   whole raft of reasons: Assets, market, taxes,

7   objectives, methods, which would drive

8   differences. And, you know, I would expect

9   differences of 1 or 2 per cent would be

10   absolutely normal.

11   But there is something else that nobody's

12   talked about, and that is that differences across

13   regulators can be driven by the extent of

14   regulatory capture. All regulators are captured

15   to some extent. So, you know, if you

16   compare X and Y, it may be the difference is just

17   that Y has been more heavily captured by the

18   industry it regulates. So a little bit of

19   caution is required. I think the AER's

20   suggestion of what the AER does actually,

21   comparing methods, has merit. Comparing

22   magnitudes? Pretty dodgy.

23   Now, let me talk about profitability

24   measures, because that's something that hasn't

25   really got a lot of attention and I think I can

26   shed some light on that. So let me begin with a

27   story. Accountants in the game of business

28   aspire to be players or at least umpires. They

1   were, however, relegated to the humble office of

2   scorekeepers. Their revenge for this unmerited

3   ignominy was to keep the score in such a

4   mysterious way that no-one could determine the

5   true state of the game.

6   I have a serious point here, and that is

7   that economic and accounting concepts of income

8   are fundamentally different. So we don't

9   recommend you do regulation based on the

10   accounting return on equity or the accounting

11   return on assets. In finance, we advise

12   companies not to use the accounting return on

13   assets for investment decisions. And there's a

14   very good reason for that: It has nothing to do

15   with either the rate of return that investors

16   earn or the rate of return that they actually

17   require.

18   There is quite an extensive literature which

19   tries to get at investors' returns by computing

20   the internal rate of return implied by accounting

21   data. There is quite a lot of this literature.

22   I'm sorry to say, the results for extracting

23   investor rates of returns from accounting data

24   are not encouraging. I would also say one other

25   thing would happen if you started using

26   profitability as a measuring stick. You know,

27   you might actually manage to get to something

28   useful for a while, but very quickly it would

1   stop working. Why would it stop working?

2   Because accounting profits are quite easy to

3   manipulate. Therefore you would get gaming. And

4   indeed, you will find reports that suggest that

5   monopolists do adopt income reducing policies so

6   they appear to be less profitable than they

7   really are.

8   Now, in accounting they sometimes say you

9   can run but you can't hide. What that means is

10   so you use discretionary accruals to reduce your

11   profitability. They eventually flow back

12   through. Expenses are higher now, but they end

13   up being lower later. However, you can run for a

14   long time then take a big hit to your strategy,

15   and then start running again. So even if you

16   could do the job with profitability, it's not

17   going to work.

18   MS BRAKEY: Thanks, Graham. Clare, did you want to

19   change directions or should I go to James and let

20   him?

21   MS SAVAGE: No, I thought I had a question that was

22   bringing together Glenn and Dinesh's points, but

23   I'm happy for you to go to James and I'll come

24   back.

25   MS BRAKEY: Okay. James?

26   MR HANCOCK: I was continuing on from Glenn and

27   Dinesh's points as well, and particularly the use

28   of overseas decisions as a cross check. If we

1   look at the Brattle work, which compares across a

2   number of regulators around the world, and the

3   two in North America have a sort of - so the

4   Federal Energy Commission has a just and

5   reasonable rate and the Service Transportation

6   Board has reasonable maximum rates where no

7   competitive alternative exists.

8   Now, those are potentially a very different

9   objective from efficiency. And coming back to

10   Graham's comment with regulatory capture,

11   potentially what you have here is legislative

12   capture in the US that has set up a regulatory

13   regime that is highly protective of asset owners.

14   And so we see those very high rates of return in

15   the US. What do they tell us that's useful in

16   Australia? Probably nothing.

17 MS BRAKEY: Thanks, James. I guess one observation

18   is when I think about the regulatory regimes in

19   Australia, they do tend to have the long-term

20   interests of customers or end users in one way,

21   shape or form as a common objective. But I take

22   the point that there could be other legislative

23   constraints on those decision makers. Clare?

24 MS SAVAGE: Thanks, Anna. So my question was a

25   little bit just reflecting on Glenn's comment

26   about the supercomputer and the slide rule and

27   then Dinesh's suggestion about the information

28   content of cross checks. And I'm probably just

1   keen to understand, Dinesh, from you, if we got

2   to a place where we said this is telling us

3   something after we have independently estimated

4   each of the variables of the CAPM, what would we

5   do about it?

6   MR KUMARESWARAN: I think that's good question. It

7   sort of depends what the cross check is. So

8   I think take the financeability test or the

9   regulatory financeability test. I think earlier

10   there was a bit mixing up of the regulatory

11   financeability test and actions that an actual

12   business can do. That's not relevant.

13   If you run the regulatory financeability

14   test and there's a failure of that, then as a

15   said before, there's only two possible

16   explanations for that. One is that the

17   regulatory depreciation is too low and the other

18   is that the return on equity allowance is too

19   low.

20   If the AER is satisfied that the regulatory

21   depreciation allowance is fine, it is reasonable,

22   that zeroes down on the return on equity

23   allowance. And as Glenn quite rightly said,

24   there can be quite a wide range around the

25   possible estimates or the point estimate for the

26   return on equity. The AER doesn't typically set

27   that out quite explicitly, but other regulators

28   do. And so, one option would be to exercise some

1   judgement about where you go in that range.

2   Another option would be to re-weight your

3   estimates from different types of models in a way

4   that would address the problem. That's one

5   example from financeability.

6   I think there's a similar thing with

7   comparisons with other regulators. So you can

8   look at the regulatory determinations and ask,

9   "Are we out of line with the overall WACC or are

10   we out of line with the return on equity?" Then

11   look at those individual parameters and think

12   about the judgements that have been made to

13   estimate those individual parameters that go to

14   the return on equity or the return on debt.

15   So I think the way these cross checks

16   I think could be applied is to throw up some

17   questions and help the AER diagnose where there

18   might be a potential problem in the decision. At

19   the end of that process, the AER might conclude,

20   "Actually, we think the determination is fine."

21   But then there would be a task of explaining why

22   it's consistent with the cross checks.

23   MS SAVAGE: The financeability example that you raise

24   might suggest that it's a cross check on the rate

25   of the return on equity rather than the rate of

26   return.

27   MR KUMARESWARAN: Yes, yes, the reason for that is

28   because the way the regulatory financeability

1   test works is that there are some assumed -

2   there's a cost of debt allowance, so that's the

3   regulatory cost of debt allowance. And then

4   there are also some interest costs. And those

5   interest costs and the regulatory financeability

6   tests are assumed to be equal to the return on

7   debt allowance. So those two things just wash

8   out and that can't possibly be an explanation for

9   the failure of the test. So the only thing that

10   can drive the cash flows is the return on equity.

11   MS BRAKEY: Or depreciation?

12   MR KUMARESWARAN: That's right. So likewise, things

13   like OpEx, the OpEx allowance is assumed to be

14   equal to the OpEx incurred by this benchmark

15   efficient entity. That's the logic of the

16   post-tax revenue model. So those two things

17   cancel out. So it can't be differences in OpEx.

18   When you work through the algebra, it just boils

19   down to the depreciation allowance and the return

20   on equity. Those are the only two things left.

21   MS BRAKEY: Jonathan?

22   MR MIRRLEES-BLACK: I was going to say, first of all,

23   it's not the only two things. If you look on a

24   industry level, and I think Graham emphasised

25   this, the notional gearing may be wrong. It may

26   be wrong for the industry and may not be

27   depreciation. It could be the depreciation, it

28   could be the rate of return on equity, it could

1   be the notional gearing. It's not just those

2   two. So I think that's important because the

3   benchmark efficient entity, which is used to

4   measure the cost of capital, may not have the

5   capital investment depreciation of other profiles

6   that the actual industry has in terms of the way

7   that you're - because all you're doing is using

8   it to measure the cost of capital.

9   So let's set that aside for the question

10   that Clare made, which is what do you do about

11   it? What you do about it, if a cross check says

12   that you've got a possible problem and it looks

13   like your rate of return may be too high or too

14   low compared to the cross check, it comes to what

15   we were saying this morning. There's a huge

16   amount of uncertainty about the estimates for the

17   MRP and, from the previous sessions, for beta.

18   So there is other things.

19   This is a dangerous model to be applying and

20   to believe every parameter of, because there are

21   those levels of uncertainty. And so I think one

22   has to take the assumption that if a number of

23   different cross checks point you to the fact that

24   your cost of equity assessment is too high or too

25   low, you have to look very hard about your

26   estimation.

27   And also I'd say, think about what's going

28   on in the market now? So look at what

1   expectations investors have from what other

2   things are going on. Are investors keen on

3   investing in safe assets? Has that attitude

4   changed and is it likely to change? What are the

5   expectations about inflation and other variables

6   and think about what those mean. That's what

7   others in the market would be doing.

8   MS BRAKEY: Dinesh, did you want to respond to

9   something that Jonathan just said?

10   MR KUMARESWARAN: Yes. I just wanted to make the

11   point that in the regulatory benchmark

12   financeability test, gearing does not affect the

13   outcome. So Jonathan's right that the gearing is

14   used to set the return on capital allowance, but

15   all of the debt obligations of the benchmark firm

16   are also based on the assumed level of notional

17   gearing. So the interest costs faced by the

18   benchmark business are based on the level of

19   gearing and so are the principal repayments for

20   debt. So these two things just cancel out. So

21   it doesn't matter if you change the benchmark

22   level of gearing. You can you crank that up to

23   80 per cent, you can crank that down to

24   40 per cent. It won't change the outcome of the

25   test, because those two things just cancel out.

26   MS BRAKEY: Thanks, Dinesh. Jim. I note Graham has

27   got his hand up, so it might be - were you going

28   to change topics, Jim?

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 1    MR COX:   I want to take it to a slightly different

 2         direction, so maybe Graham.

 3    MS BRAKEY:   Maybe I'll go to Graham and then I'll

 4         come back to you.

 5    MR COX:   Thank you.

 6    MS BRAKEY:   So, Graham?

 7    PROFESSOR PARTINGTON:   Right.  Well, I pretty much

 8         agree with what Jonathan just said.  But I was

 9         just going to make some comments about the RAB

10         multiples.  The AER says it is open to trying to

11         decompose the RAB multiples and I think that is

12         probably a worthwhile activity.  It will be a

13         difficult thing to do, but it's not necessarily

14         impossible and I think it's worth doing even if

15         there is only a low probability of complete

16         success.

17              Now, this issue of while some of this value

18         is created by outperformance and expected

19         outperformance, well, it's entirely possible that

20         could be a driver of additional value, but then

21         these RABs greater than one are pervasive.  So

22         are they saying that outperformance and expected

23         outperformance are pervasive across all these

24         networks?  And if that's the case, then might it

25         not be that maybe the efficiency criteria are a

26         bit soft?  That's one point.

27              There's another point, which is something

28         that nobody's mentioned, and that's the role of
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1   real options. It seems to me quite likely that

2   networks have substantial real options, and those

3   real options are not captured within the

4   framework of traditional NPV analysis. The

5   valuation of real options, well, that is very

6   challenging. And possibly they could be

7   estimated as a residual after you've controlled

8   for everything else. But if in fact there are

9   substantial real options and they have

10   substantial value and those options arise from

11   being a regulated network, the question that then

12   arises is whether consumers should share in that

13   value via price reductions. That's an open

14   question, but I think it's quite an important

15   one.

16   MS BRAKEY: Thanks, Graham.

17   PROFESSOR PARTINGTON: Sorry, can I just say

18   something else about control premiums, which I

19   have studied? The reasons for control premiums

20   are synergy, hubris and agency costs. And does

21   everybody know what those things mean? Synergy,

22   I think we know. Hubris is managers think

23   they're going to get synergy but they

24   overestimate their capacity to do it so that they

25   bid too much, basically. And agency costs are,

26   well, the managers don't care about value

27   creation; they're just building an empire and

28   they don't care what it costs the shareholders to

1	build that empire.
2	Now, it actually turns out from data that
3	I've looked at that mainly it's synergy that
4	drives the premium. Although there is some
5	evidence of hubris and very little evidence of
6	agency. So yes, we can do something about
7	explaining those control premiums. They're not
8	just a black box, "This is a control premium",
9	and therefore there's something magic going on
10	that we can't decompose. Okay, I am done now.
11	Thank you.
12	MS BRAKEY: Thanks, Graham. Jim?
13	MR COX: Thank you, Anna, I was just reflecting on
14	what I'm hearing, really. I just want to confirm
15	I'm understanding it correctly. The first line
16	of argument is what might we use cross checks
17	for. And I think the general agreement is a
18	sense check and not more than that. And I'm sure
19	the AER would agree with that. So that's one
20	line of argument.
21	The second line of argument is if it's going
22	to be a sense check, what cross check should we
23	use? And Dinesh would say financeability, but
24	I'm sort of guessing that most other people are a
25	bit sceptical about that. I think there are
26	divided views on RAB multiples. I think some
27	people think it's useful to pursue that even
28	though it might be difficult, but useful to

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 1          pursue.  Others don't.  Financial returns,

 2          I think limited appeal.  Other regulators,

 3          possibly with lots of difficulties.

 4               So we have the sort of sense that there's

 5          something here that's useful to have as a sense

 6          check, but it's really very, very difficult.  So

 7          where should the AER go, I guess, is what I'm

 8          thinking.  Anyone wants to respond to that,

 9          I think that will be interesting to hear.

10     MS BRAKEY:   I think that's a summary of the

11          positions.  Did anybody want to add anything to

12          that?  No?  Okay.  I'll move on to Eric.

13     MR GROOM:    Thanks, Anna. I guess I'd like to just

14          come back for a second to the practicality of

15          looking at RAB multiples.  And I think Dinesh

16          really handily provided a little equation in

17          there, although it's much the same as other

18          speakers were talking about, that value of the

19          enterprise can be decomposed, or underneath that

20          value is a number of streams.  Existing revenues,

21          future revenues, outperformance, unregulated

22          revenues.

23               And I guess Dinesh is throwing out the

24          challenge, how would we value those streams?  I

25          guess my response would be, what if we were to

26          look at the way in which practitioners did that?

27          And I'm thinking about the expert reports on the

28          valuation of, say, Spark or other takeover
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1   targets where essentially the valuer is trying to

2   value those streams, and they look pretty much

3   like the ones you've listed there, Dinesh. The

4   one that perhaps is not there is the

5   outperformance, because it's embedded in the

6   revenue forecast that they make, and the other

7   one that's probably not there is to Jonathan's

8   point, it's the difference between the book value

9   of the debt.

10   I haven't seen that in those valuation

11   reports. But if I go to the KPMG reports for

12   Spark or the - I've forgotten the name of the

13   valuation company that did the other one

14   recently - I can find estimates of those

15   different income streams. So that suggests

16   there's some hope for us, at least at the time of

17   transactions, in trying to decompose a

18   substantial component of that equation you've put

19   for us, Dinesh.

20   MR KUMARESWARAN: Would you like me to respond to

21   that, Anna?

22   MS BRAKEY: Yes, please.

23   MR KUMARESWARAN: My main criticism of the RAB

24   multiples is that typically the AER doesn't have

25   access to that decomposition. If the AER did

26   have access to that decomposition, then fine.

27   But you have to be clear that the numerator is

28   just the expected present value of the revenues

1   that relate to the existing RAB and nothing else.

 2   So no outperformance, no recovery of future

 3   investments, no outperformance, no unregulated

 4   assets and so on. That's the first point.

 5   But the second point is if you did have

 6   access to that decomposition then in those

 7   valuation reports the valuer will tell you what

 8   discount rate they have used. So you don't even

 9   need to look at the RAB multiple. All you need

10   to do is compare that rate of return or that

11   discount rate, which is their estimate of the

12   required return for the investor, with the return

13   that the AER is allowing. That's the direct

14   comparison. You don't need to look at the RAB

15   multiple.

16   MR GROOM: I guess their report is giving us a

17   methodology. At least I hope we can do it for

18   other regulated businesses as well.

19   MR KUMARESWARAN: If you're going to look at RAB

20   multiples, I think you should look at the

21   valuation provided by the asset owner through

22   some transaction or, you know, some valuer who is

23   assisting in the transaction. Something like

24   that. I'm a bit sceptical about the AER doing

25   the decomposition, because that introduces some

26   scope for error about the discount rate that's

27   used for the discounting of the cash flows or

28   indeed what those cash flows are.

1   I mean, if you had that information then
2   sure, you could just take those things away and
3   be left with the ratio that you're interested in.
4   But typically, you don't have that information.
5   So the only other alternative is to do the
6   decomposition yourself. But that, I think,
7   introduces all sorts of scope for error and it's
8   not a proper cross check.
9   MS BRAKEY: Eric, did you want to ask any follow-on
10   questions?
11   MR GROOM: No. I'd be interested in, I guess, the
12   views of the other experts on that problem
13   because I think it's a real problem for us in
14   terms of searching for what information content
15   is there in the RAB multiples and how can we best
16   uncover and use it?
17   MS BRAKEY: Anyone else? Graham?
18   PROFESSOR PARTINGTON: Obviously, there's merit in
19   attempting to do it. It may be hard. It may be
20   error-prone. You won't really know until you've
21   tried. And you have a model, as Eric said. It's
22   not as if you're wandering out into the
23   wilderness and there's no guidance about what you
24   might do. I think the real options bit could be
25   quite difficult. But then, you know, you could
26   just take that to be the residual.
27   In any event, I think you'd be satisfying a
28   few consumers if you looked at this. They

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 1          clearly think it is a real issue.  So it would be

 2          good to see whether you can determine whether

 3          it's a real issue or not.

 4     MS BRAKEY:   Thanks.  James?

 5     MR HANCOCK:   If you're adjusting to get to an

 6          enterprise value concept itself, I'd say that the

 7          prospects of doing that with a lower level of

 8          error will be better when there's a relatively

 9          small nonregulated component bundled with the

10          regulated component.  The larger the nonregulated

11          component, the more exposed the calculation is

12          going to be to any error on removing the

13          nonregulated component from a calculation.

14     MS BRAKEY:   Anyone else?  Glenn?

15     DR BOYLE:   Yeah.  Absolute valuation is hard.  Very

16          hard.  And it's even harder when you're applying

17          it to subsets of an entity, particularly when

18          those subsets aren't publicly traded or publicly

19          observable.  Like Graham, though, I think it's

20          worth doing, worth trying.  But my strong

21          suspicion, 99 per cent confidence, is that at the

22          end of the day having stripped everything else

23          out as best you can, you'll get a RAB multiple

24          of - I don't know, pick a number.  Say 1.05 or

25          1.1 - and then you'll say, "What's my standard

26          error on that?"  Well, you may not be able to

27          quantify it exactly, but it will be big.  And so

28          you'll still end up with a wide range in which
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1   the true RAB could actually be sitting and you're

2   left in a position, "Well, you know, what do we

3   do here? I don't know whether there's an issue

4   here or not."

5   MS BRAKEY: Dinesh?

6   MR KUMARESWARAN: If I could ask Glenn just to

7   clarify, so the standard error around that RAB

8   multiple, where does that come from? Is that the

9   error that might be introduced through the

10   process of the decomposition?

11   DR BOYLE: Yes.

12   MR KUMARESWARAN: Yes, I agree with that.

13   MS BRAKEY: Catriona?

14   MS LOWE: Thanks, Anna. I supposed just before we

15   leave the issue of RAB multiples, I was

16   interested to know if any of the other experts

17   had comments around this real options issue that

18   Graham Partington has raised?

19   MS BRAKEY: Glenn?

20   DR BOYLE: Yeah, I've done a lot of work on real

21   options over the years. I find they tend to be

22   ubiquitous - people see everything as a real

23   option - and that the actual total value of real

24   options is probably a lot less than the

25   impression you would get from reading about them.

26   But it's certainly possible that network

27   industries have growth opportunities, real

28   options, whatever you want to call them, and

1   these are things that essentially would be part

2   of the stripping out. In some ways, it may be

3   easier. There is reasonably well-established

4   methodologies for valuing real options if you can

5   model the cash flows. Graham's right. It's just

6   another one of the list of things that can drive

7   a wedge between RAB, actual RAB, and its

8   benchmark value of 1.

9   MS BRAKEY: Thanks. What I might do is I might just

10   go to Dinesh if it's on this topic and then I'm

11   going to go to Clare because I think Clare needs

12   to leave early. So whatever she wants to talk

13   about next, I think we'll put that on our list of

14   where to go next. So Dinesh?

15   MR KUMARESWARAN: Just very quickly, yes, real

16   options valuation is hard. Glenn has taught me

17   that. And the other thing is that it seems that

18   what Graham's saying is that there's just one

19   additional thing that might be in the numerator

20   of that ratio that needs to be stripped out, and

21   so we'd need to value that.

22   And that's a difficult exercise. But it

23   could be that a lot of those real options are

24   captured in the value attributed to the

25   unregulated activities, because that's where the

26   growth opportunities will tend to be.

27   MS BRAKEY: Thanks, Dinesh. Clare?

28   MS SAVAGE: I mean, it would depend on the rate of

1   return, though, as well. The growth

2   opportunities might be huge if we've got the rate

3   of return wrong. But I'll put that to the side.

4   Two things: I don't have to leave, Anna,

5   until 4.15, so there's still quite a bit of time.

6   And it's not exactly a plane. But I am

7   fortunately being shadowed this week by one of

8   our very talented network staff. So she's

9   sitting in the room with me.

10   She's a little bit dismayed about the lack

11   of agreement, it would be fair to say, amongst

12   the experts on most things. But she would be

13   keen to understand if there is any agreement on

14   what would actually constitute a comparable

15   regulator. So even if you disagree with whether

16   or not we should be looking at what other

17   regulators do, whether you have some agreement on

18   who might be in that set, that comparator set of

19   regulators. And then separately, I'm quite keen,

20   Anna, to get to the topic of scenarios.

21   MS BRAKEY: Right, okay. Yep, sure. So shall we

22   deal with the comparator set question first?

23   Does anybody have a view on that? Graham?

24   PROFESSOR PARTINGTON: The obvious comparator in

25   Australia would be the ERA in Western Australia

26   doing much the same job. And I think what you

27   would find is yeah, there's a difference, but

28   it's something so do with the methodology that

1   they've adopted. And whether that's helpful is

2   an entirely different question.

3   MS BRAKEY: Thanks, Graham. Does anybody - Dinesh?

4   MR KUMARESWARAN: Well, I guess for overseas

5   regulators I would start with ones that have

6   similar systems of incentive regulation. So the

7   obvious ones would be New Zealand and the UK, but

8   there are other regulators in Europe that

9   regulate in very similar ways. Incentive-based,

10   RAB-based systems of regulation. I'd start with

11   those.

12   MS BRAKEY: Thanks, Dinesh. Anyone else? Glenn?

13   DR BOYLE: Apologies to your network colleague,

14   Clare, because we are about to disagree again.

15   Those are the last ones I'd start with, Dinesh,

16   the overseas ones. I'd start with the domestic

17   ones; I think they are relevant ones.

18   But having said that - I meant to say this

19   before - I totally agree with Dinesh's point

20   before that using domestic regulators is only a

21   useful thing if the AER is the only one doing it.

22   Otherwise, you get locked into this circular loop

23   and so there is no new information being provided

24   to anybody by anybody else's decision. I just

25   thought I'd point that out.

26   MS BRAKEY: Thanks. Toby?

27   DR BROWN: Thanks. Yeah, I guess I'd just say that

28   when we've looked at this, and having been

1   involved in quite a wide range of jurisdictions,

2   you can certainly point to the rules and the

3   legislation being different. I mean, the words

4   are different but it's quite hard to draw a line

5   between those differences and anything that the

6   regulators explicitly say that they are doing

7   differently, in terms of objective, than

8   regulators here would do.

9   And so I think you can cast the net fairly

10   widely. And it's not necessarily bad to look at

11   regulators that have different methods and that

12   will reach different conclusions. I mean, in

13   some ways that's a good cross check because then

14   you can understand the different methods and the

15   results they give. So I'd draw the net fairly

16   widely.

17 MS BRAKEY: Thanks. James?

18 MR HANCOCK: I think when selecting comparators, you

19   want to start at a high level and check some

20   things for comparability. I have already

21   mentioned that I think the two US regulators in

22   Brattle, which use a fair and reasonable or a

23   reasonable test are eliminated for that reason.

24   It's not clear to me that they are pursuing

25   efficiency or community interests as an

26   overarching goal. They may be compromised more

27   towards existing interests of the network owners.

28   And then if you look at New Zealand, my

1   understanding is that New Zealand pitches at a

2   higher percentile. And so again, taking a value

3   from New Zealand, you would need to be wary

4   because they are not actually pitching at a mean

5   best estimate of the rate of return.

6   So I think you would want to look at those

7   sorts of things first of all and exclude people

8   who are inconsistent on that basis. Even though

9   you might still take useful methodological

10   lessons from them in terms of taking their

11   numbers, they have to be excluded on that basis.

12   Then perhaps there are some regulators like,

13   say, the UK that use the Wright approach. And so

14   you might say with the UK, well, okay, at least

15   we think the UK is trying to do something that is

16   pretty much the same as what we're doing, and so

17   we're more willing to think about the UK as a

18   comparator. But the others, I don't know enough

19   of the detail of what they seek to do. But

20   I think in selecting them you actually do have to

21   make judgments and exclude some on the basis of

22   they're not aimed at a long-term interest of

23   consumers/an efficiency objective, as is the case

24   in Australia and is required under the

25   legislation and objective.

26 MS BRAKEY: Thanks, James. Dinesh?

27 MR KUMARESWARAN: A couple of the examples that Jim

28   gave, New Zealand and the UK, the differences

1   that Jim talked about were methodological choices

 2   that the regulator has made. I'm not sure what

 3   the value of a cross check would be if all of the

 4   method adopted by the regulators that you use as

 5   comparators just conformed to the AER's method.

 6   In fact, my point is that I think it's

 7   precisely because they use different methods, so

 8   the Commerce Commission in New Zealand chooses a

 9   different percentile, the regulators in the UK

10   have adopted a different methodology for

11   estimating the market risk premium. That's

12   precisely why they're useful comparators. It's

13   not because - they shouldn't be excluded because

14   they do something different or follow different

15   methodological approaches.

16   That's why they're useful as cross checks,

17   because the precise methods and choices that the

18   AER might have made may turn out to be wrong.

19   After all, if we agree that all of these

20   regulators are trying to come up with the best

21   estimate of the efficient cost of capital then we

22   should look at the methods that they're all

23   using.

24   MS BRAKEY: Thanks, Dinesh. Jonathan?

25   MR MIRRLEES-BLACK: Just one final thing, just as an

26   additional point which I think is important to

27   comparisons, I echo a lot of what everyone else

28   has said. I think it is important that the

1   regulator genuinely has a requirement to attract

2   capital. There are some regulators where a

3   number of the firms have ownership structures

4   which means that they are not really required to

5   attract capital. So I know with the UK and

6   Australia and others - partly New Zealand -

7   there's private capital, but I think it is that

8   which is important. But also I think it is

9   relevant to think how much capital is needed to

10   be attracted going forward, and so therefore what

11   are the medium term expectations of the need to

12   reward investors for the investment they make?

13   MS BRAKEY: Thanks, Jonathan. I'll go to Glenn and

14   then I'll come back to Clare for part two of her

15   second question. So, Glenn?

16   DR BOYLE: Dinesh, putting your Bayesian hat on, is

17   your prior that the efficient cost of capital is

18   the same in all countries?

19   MR KUMARESWARAN: I think my point is that the

20   investors who are - like, one of the rationales

21   for looking overseas is because investors in

22   these types of assets are global investors.

23   DR BOYLE: So is that a yes?

24   MR KUMARESWARAN: Well, I'm not suggesting that we

25   should use something like the international CAPM.

26   But I do think that, yeah, capital is mobile and

27   investors are looking at where they should park

28   their funds, and they look at the most attractive

1   jurisdictions to invest in. So yeah, I mean,

                2   I think the cost of capital is global.

                3   DR BOYLE: The point I'm making here is that if your

                4   prior is that the efficient cost of capital is in

                5   fact the same in all countries then I agree it

                6   makes sense to look at multiple countries.

                7   I guess my prior is that it's not, and

                8   therefore any combination estimate is a hybrid.

                9   It's not telling you anything about the

               10   Australian cost of efficient capital.

               11   MR KUMARESWARAN: Could you not have a situation -

               12   sorry.

               13   DR BOYLE: So it does depend on what one's prior is.

               14   You can look at other countries and look at their

               15   methodologies and perhaps be informed by that and

               16   say, "Hey, that's a good idea," or, "That's a

               17   really bad idea. We shouldn't do that," and

               18   build that or not build it into your own, be

               19   informed that way. But in terms of numbers,

               20   actually giving some weight to the numbers, that

               21   really only makes sense if your prior is that the

               22   efficient cost of capital is the same everywhere

               23   and the observed differences just reflect

               24   sampling and model variation. As soon as they

               25   start to include intrinsic variation then that's

               26   a different ball game.

               27   MR KUMARESWARAN: But even if you were dealing with

               28   some intrinsic variation between countries,

1   wouldn't there still be a case for giving some

2   weight to what other regulators do? And I'm not

3   talking about in a mechanistic way. So I'm not

4   suggesting that the AER comes up with its

5   estimate and then takes an average of what other

6   regulators are doing and then weights these two.

7   I'm not suggesting anything of the kind. I'm

8   just saying that if the AER's estimates look very

9   out of line with what other regulators are

10   producing, that should prompt the AER to ask some

11   questions about the methods that it's used to

12   estimate the allowed rate of return.

13   DR BOYLE: Then I agree. It's the mechanistic I was

14   objecting to.

15   MS SAVAGE: Dinesh (indistinct) Chihuahuas, I think

16   is the point. I think it's probably worth moving

17   on. And also Jim, Catriona, Justin and myself

18   are all being shadowed this week. So you've

19   probably not given them much hope in terms of

20   becoming AER board members. But perhaps the way

21   forward for us is to let them make the decision?

22   I'm joking; it won't be. It might make it easier

23   for us.

24   I'm really keen to explore the scenario

25   testing as well, because that's something that's

26   been put forward, and it is obviously another

27   form of cross check and I haven't heard much on

28   that today. So I was just interested in the

1   views of experts around the usefulness or

          2   otherwise of that and, you know, what scenarios

          3   is obviously a question. The ENA has put some

          4   forward to us. But just keen to hear you

          5   thoughts on that if possible.

          6   MS BRAKEY: Thanks, Clare. Who would like to go

          7   first on this? Dinesh, would you like to go

          8   first, because you're probably familiar with what

          9   the ENA has put forward?

         10   MR KUMARESWARAN: Well, I think the basic idea is

         11   that the AER is making a determination of the

         12   methodology for the rate of return and in some

         13   cases the parameters, and these might be in place

         14   for quite some time, or affect regulatory

         15   decisions for quite some time. And if there's no

         16   mechanistic way by which the allowed rate of

         17   return is updated over that period, then

         18   consumers and investors might be stuck with a

         19   particular methodology in very uncertain market

         20   conditions.

         21   So the idea would be to sort of test how

         22   different methodologies that the AER might be

         23   considering might perform under different

         24   plausible market conditions. So one plausible

         25   future scenario is that interest rates stay at

         26   current levels. Another one is that interest

         27   rates rise very significantly. Another one is

         28   that they fall even lower than they currently

1   are.

2   Under those three possible scenarios - these

3   are not forecasts, these are just possible

4   scenarios of what might happen in the future --

5   what does the allowed rate of return look like

6   under different methodologies? So it's just a

7   sort of a check on what consumers and investors

8   might face under future states of the world.

9   MS BRAKEY: Thanks, Dinesh. Does anybody else want

10   to comment anything on these scenarios? Glenn?

11   DR BOYLE: Somewhat reluctantly. I'm not a big

12   scenario analysis man, I have to say. I'm much

13   more a fan of simulation and tend to look down on

14   scenarios. So my bias is that when somebody

15   suggests scenario analysis, I always ask whose ox

16   is being gored here and which scenario is it that

17   they want to expose everybody to? So that is a

18   cynical expression of my concern about scenario

19   analysis. Who chooses the scenarios and why?

20   And on what basis? If you undertake a proper

21   simulation analysis, well, you can adjust the

22   parameters. You're not stuck with normality.

23   You can do all kinds of things, but it is more

24   complex, of course.

25   MS BRAKEY: Thanks, Glenn. James?

26   MR HANCOCK: I think scenario testing is potentially

27   informative, but it may actually simply redirect

28   us back to some of the more sort of fundamental

1   in principle questions that we've been asking.

2   So, for example, if one of the scenarios was

3   looking at sort of an extended period of very low

4   interest rates, we'd be left asking, well do we

5   think that the rate of return should be compiled

6   as the sum of the interest rate and the market

7   risk premium or do we want to adopt the point of

8   view that the rate of return on equity is in some

9   sense fixed? And that is something that's been

10   talked about before at an in principle level,

11   only scenario analysis would shine the light back

12   on that but it wouldn't actually answer it.

13   MS BRAKEY: Thanks, James. Dinesh?

14   MR KUMARESWARAN: Yes, I think that's right, Jim. It

15   would just show what the allowed return would

16   look like under different methods. So the

17   existing method of taking the prevailing

18   government bond yield and adding a fixed premium

19   to that, what would that look like under future

20   states of the world? What would the alternative

21   scenario be of combining, say, the historical

22   excess returns with DGM estimates? What result

23   might that produce?

24   And to Glenn's point about whose ox is being

25   gored, well, the scenario testing model that the

26   ENA has made available allows the user to put in

27   whatever scenarios they like. So they're not

28   hard-coded; they can put in whatever scenarios

1   they like and see what happens.

2   I mean, I tend to agree with Glenn that

3   simulation modelling is in some senses

4   preferable. The problem is it's a bit of a black

5   box and it's often very complicated for users.

6   So if we want this to be something that's

7   accessible to consumers and accessible to lots of

8   different stakeholders, we need to make it as

9   simple as possible while still reflecting reality

10   as well as we can.

11 MS BRAKEY: Thanks, Dinesh. Jonathan?

12 MR MIRRLEES-BLACK: Thank you. In principle, it can

13   be useful. And I think the question is what is

14   the purpose of it? What are we intending to get

15   out of it? Because what we'll show by doing

16   scenario analysis is that we end up with

17   different cash flow incomes depending on what we

18   assume. So then the question is, okay, what do

19   we do with that? And I think then it comes to

20   the prior question, which is, well, there are

21   some risks. Who should be bearing those risks?

22   Is that it that those risks are borne by

23   customers? Is it that companies can do things to

24   manage those risks? Or is it that the regulator

25   needs to change the structure around the cash

26   flow returns in order to better give the risk

27   return framework?

28   So it's not necessarily that these things

1   provide input into what the cost of capital is.

2   It's very much a design question as to who is

3   bearing what risk. And I think it applies not

4   just to this financial risk. I would also

5   suggest - and I think this is a valid use of

6   financeability models - is thinking through we

7   want to incentivise companies to do the right

8   thing by companies and investments in managing

9   operations. That means that you have to impose

10   risk on those companies as risk and return, and

11   the question is, well, how large is the variation

12   in cash flows in order to give the incentives

13   that you need to? So I think it's a more

14   complicated question than merely doing scenario

15   analysis. I think it comes to a design question.

16   MS BRAKEY: Thanks, Jonathan. Graham?

17   PROFESSOR PARTINGTON: I'm inclined to agree with

18   Jonathan and also with Glenn that actually

19   simulation does a much better job. Dinesh said

20   something that really worried me, and that is you

21   can put in any scenarios you like. Now, one of

22   the dangers with scenario analysis is you get

23   this explosion of scenarios. So all of a sudden

24   you completely lose focus in this never-ending

25   fog of alternatives. Like decision trees,

26   scenario analysis is best when it's well-pruned.

27   MS BRAKEY: Thanks, Graham. So Clare, I think we've

28   probably chatted through the scenario testing

1   now. I'll go to you first, Clare. Are there

2   other issues that you would like to chat through

3   today? And to the other board members. No?

4   In that case, we'll go to the experts. Are

5   there other issues that you would like to raise

6   today? Dinesh, yes?

7   MR KUMARESWARAN: Hi, Anna. There were a couple of

8   issues that Martin raised in his note, the first

9   note that he circulated. One of those was the

10   use of geometric versus arithmetic means for

11   measuring the historical excess returns market

12   risk premium. I wonder if it might be worth

13   talking about that briefly.

14   And I also had a couple of follow-up points

15   to some of the discussion on the term issue that

16   we talked about last week, but I guess it would

17   be unfair to have that conversation unless Martin

18   was here as well. So I don't know if there's

19   some way that we might be able to have him join

20   us?

21   MS BRAKEY: The answer to that is I don't know how

22   it's been set up technically, so I'm not

23   100 per cent sure about that. I do note that he

24   did send a paper through, and I presume that the

25   team will make that available more broadly, not

26   just to the experts. So lets go to the geometric

27   versus arithmetic mean issue then, Dinesh.

28   MR KUMARESWARAN: Okay. Well, I'll tell you my view

1   and others will chip in. There are two ways of

2   measuring historical excess returns or averages

3   or historical excess returns. There's the

4   geometric mean and there's the arithmetic mean of

5   historical excess returns. These two things have

6   quite different meanings and they should be used

7   for quite different purposes.

8   So the geometric mean tells you on average

9   what the compounded average returns over some

10   historical period of realised returns have been

11   achieved by an investor. So if you were looking

12   back over a period of history and you wanted to

13   know on average how have investors done, that

14   would be the metric that you look at. You look

15   at the historical geometric means of their

16   returns.

17   That is not appropriate if you are trying to

18   work out what an expected return is for the

19   future. So what's required for the application

20   in the CAPM is an estimate of the expected market

21   risk premium in the future. And the only measure

22   that gives you that is the arithmetic mean of

23   historical excess returns.

24   So the way to think about that is suppose I

25   have 50 years of historical excess returns and I

26   want to estimate what the market risk premium is

27   for the 51st year. So I could think about the

28   historical returns in this way: So there's a one

1   in 50 chance that the excess returns in the year

2   51 turn out the same as they are in year 1,

3   there's a one in 50 chance that they turn out to

4   be the same as they were in year 2, and so on.

5   And so the expected excess return in year 51

6   would be just of the arithmetic average of the

7   historical excess returns. So I think that's

8   the - in my view, only the arithmetic averages

9   should be used to estimate the historical excess

10   returns market risk premium.

11   MS BRAKEY: Thanks, Dinesh. James, did you want to

12   engage on this?

13   MR HANCOCK: I think there are a couple of issues

14   that come across here. One is what is an

15   appropriate estimator of an underlying mean, of

16   course, which we never observe. And so using

17   arithmetic averages is consistent for that

18   purpose.

19   But now let's think about a regulatory

20   decision and it's running for four years. And

21   so, I'm interested in a four-year rate of return,

22   so I propose to you that I'm going to take the

23   average of four-year rates of return that I see

24   over history. So I'm going to take an arithmetic

25   average of all the four-year rates of return so

26   I'll have a consistent unbiased estimate of the

27   four-year rates of return. It's appropriate

28   because it's a four-year regulatory period.

1   And if we do that, what we will actually
2   find, at least in the Australian empirical data,
3   is that we come up with a number that is smaller
4   than if we took four average one-year rate of
5   return. And if you sort of look into issues
6   around variability, they explain that difference.
7   And so it's not clear to me that using just the
8   one-year average rate of return - it's a good
9   estimator of the one-year rate of return, but
10   it's not necessarily the right thing for a
11   four-year regulatory decision.
12 MS BRAKEY: Thanks, James. Graham?
13 PROFESSOR PARTINGTON: There's a big literature on
14   this and there are arguments one way or another.
15   But perhaps I could just use a simple
16   illustration, and it illustrates the point James
17   made. You've got $100, you invest it in some
18   asset. By the end of the year, it's worth $200.
19   Right? 100 per cent return. Next year, the
20   price falls down to $100, minus 50 per cent. The
21   geometric return is zero, the arithmetic average
22   return is 50 per cent.
23   Now, you want to forecast the two-year
24   return. Are you going to say it's 50 per cent?
25   Are you going to say it's zero? Probably
26   neither. You're probably going to pick a number
27   somewhere between those two extremes. And that's
28   exactly what the literature tells you you should

1   do. You should take a weighted average of the

2   geometric and arithmetic return. And, you know,

3   there's an optimal weighting scheme. I can't

4   recall it off the top of my head, but it's to do

5   with the length of the period you're dealing

6   with.

7   Now, let's just consider using the

8   arithmetic return. In the scenario I just

9   suggested, I wonder how many of you would use

10   50 per cent of your estimate as your estimate of

11   next year's return? Statisticians would say

12   that's what you should use. Do investors think

13   like statisticians? An interesting question.

14   Okay, that's all.

15 MS BRAKEY: Thanks, Graham. Glenn?

16 DR BOYLE: Yeah, I'm going to agree with everybody.

17   The phenomenon described by Jim and Graham is

18   because of non-zero serial correlation in

19   returns. They're not IID [independent and

20   identically distributed]. Everything Dinesh said

21   is completely right if returns are IID. If they

22   are not, if they are serially correlated, then

23   yes, the true expected return will fall somewhere

24   between the average and geometric means, which

25   supports Graham's suggestion of a weighted

26   average of the two.

27 MS BRAKEY: All right. Thank you. Are there other

28   topics that the board members or experts want to

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 1        raise?  Jim?
 2   MR COX:   I hesitate to ask this question.  I mean,
 3        we've sort of discussed it parameter by
 4        parameter, so to speak, so we talked about the
 5        beta, we talked about the market risk premium.
 6            Are there interdependencies between the
 7        parameters that we should be aware of in making
 8        an overall consistent sensible decision?  I mean,
 9        can we just look at it one-by-one or should we do
10        something else to persuade ourselves we've made
11        the right decision for the rate of return as a
12        whole?  I'm interested in hearing some discussion
13        on that point.
14   MS BRAKEY:   Who wants to kick off with that?  I'll
15        come back to you, Catriona.  I presume that
16        you've got a different question.  Dinesh?
17   MR KUMARESWARAN:   My view is that the risk free rate
18        and the market risk premium shouldn't be
19        estimated independently.  You need to think about
20        the consistency in those two things.  Beta in
21        gearing, so the equity beta should be consistent
22        with the gearing that's used.  And I guess one
23        sense check that the AER has looked at in the
24        past is that you would expect the cost of equity
25        to be higher than the prevailing cost of debt.
26   MS BRAKEY:   Thanks, Dinesh.  Jonathan?
27   MS SAVAGE:   Sorry - but Dinesh, presumably not if
28        you're using a 10-year trailing average to debt?
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1   MR KUMARESWARAN: No, what I mean is the prevailing

    2   cost of debt in the market. The day rate. Yeah.

    3   MS BRAKEY: Jonathan?

    4   MR MIRRLEES-BLACK: Just very briefly, I think that

    5   we have said that there is uncertainty over all

    6   parameters, we have said that there might be

    7   uncertainty around them, but cross checks can

    8   provide a guide as to whether the overall number

    9   is within the bounds of reasonableness and you

   10   might need to go back and adjust. So yes, I

   11   think that one does have to look at the number in

   12   the round to check that it's consistent with

   13   cross checks and cross checks of the overall

   14   estimate.

   15   MS BRAKEY: Thanks, Jonathan. Graham?

   16   PROFESSOR PARTINGTON: Yes, Dinesh mentioned the

   17   leverage adjustment to beta. Now, it's true that

   18   you would expect that the higher the leverage,

   19   all things equal, there would be a higher beta.

   20   However, I have spent a lot of time with Steve

   21   Satchell in past reports explaining why this -

   22   I won't go into it all now, but I want to make

   23   the point that it is by no means clear what beta

   24   adjustment you should make. It is actually

   25   extremely difficult to get your measurement of

   26   leverage right.

   27   For example, what are we going to do now

   28   that operating leases are being capitalised,

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1       right?  Operating leases now turn up as an asset

2       and they turn off as a liability.  But that will

3       shift the leverage of just about every firm in

4       Australia.  Right?  What's the right debt

5       measurement.  And then there's the problem of

6       using book values of debt, which mainly should be

7       market value.  Then there's the problem of

8       whether you use net debt.  I could go on.

9            But, you know, even something as simple as

10      measuring leverage is not trivial.  And then

11      which one do you use?  And I've written an

12      analysis of that in a recent report.  But

13      something else has occurred to me recently, and

14      that is that the AER's procedure of allowing the

15      trailing average cost of debt actually insulates

16      equity holders against a substantial proportion

17      of the risk of leverage.  For example, it means

18      that wealth transfers only occur in one

19      direction.  It means that shareholders can only

20      benefit from interest rate changes.  They can't

21      lose.

22           So I haven't teased all this out yet, but it

23      seems to me given the situation in which

24      regulated networks find themselves, it's by no

25      means certain that the standard leverage

26      adjustments shouldn't be applied in estimating

27      beta.  In fact, in the past I've said just don't

28      bother doing it.  And in some recent work I've
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1   shown it doesn't actually matter very much and

2   the way the AER goes about it at the moment, you

3   actually get a slight upward drift in returns

4   with leverage because the adjustment's not quite

5   right.

6   MS BRAKEY: Thanks, Graham. Jim, does that satisfy

7   your question?

8   MR COX: If others have thoughts, I'd be interested

9   in hearing them, I guess, because it's a

10   significant issue for us.

11   MS BRAKEY: Dinesh?

12   MR KUMARESWARAN: Mine was just a quick response to

13   Graham. Is that okay?

14   MS BRAKEY: Yes.

15   MR KUMARESWARAN: Well, I think what Graham is

16   suggesting is that you can compare equity betas

17   of firms that have different levels of leverage.

18   And I think that it's basic standard finance that

19   you can't do that. These are not

20   apples-with-apples comparisons.

21   MS BRAKEY: Thanks, Dinesh. Toby?

22   DR BROWN: I think I'm just going to agree with

23   people - or Dinesh, at least, that the MRP has to

24   be consistent with the risk free rate, and I'm

25   going to repeat myself. Unfortunately that means

26   you can't update the risk free rate without

27   updating the MRP. And I don't think it's easy to

28   do. It's easy to update the risk free rate in a

1   mechanical way, but it's not easy to update the

2   MRP in a mechanical way, and so you shouldn't do

3   it.

4 MS BRAKEY: Thanks, Toby. Glenn?

5 DR BOYLE: I don't have very much useful to

6   contribute here. It's certainly true there are

7   all kinds of interdependencies in the estimation

8   of these parameters. And all that does is mean

9   that the true but unknown standard error of the

10   final allowed rate of return is pretty damn high.

11   I agree therefore with Jonathan, who

12   suggested that you need to stand back and have a

13   look at the allowed rate of return and see if all

14   these independent but not really independent

15   moving parts, when all put together, actually

16   look to make some sort of sense.

17   The tricky part is how you actually do that.

18   My warning would be you don't want to end up

19   second-guessing yourself. This is like my

20   analogy with the supercomputer and the slide rule

21   before. You know, you spend an awful lot of time

22   putting all of these individual inputs together,

23   get all kinds of advice and analysis and

24   feedback, and you put it all together and you get

25   a number, and then you are tempted to start

26   playing with. And I think that's dangerous. If

27   you've done the job properly to begin with then

28   that shouldn't be necessary.

1   MS BRAKEY: Thank you. Catriona, on to your

2   question?

3   MS LOWE: Thanks, Anna. I mean, mine's similarly a

4   bit of an in-the-round question, but possibly

5   coming from the opposite direction. We've spoken

6   a lot over all of the sessions about getting the

7   best estimate and the most accurate estimate, and

8   I think one thing that we've pretty clearly

9   established is that there's a wide range of views

10   about how we might do that.

11   Some of the other stakeholders have

12   expressed interest in not so much stability of

13   outcome, but stability of approach that we take.

14   So I guess I'm interested in the views of the

15   experts as to the materiality of the impact that

16   some of the proposed changes would make when we

17   are perhaps considering the benefits or so of

18   stability?

19   MS BRAKEY: Thanks, Catriona. Who would like to

20   address that opportunity? Dinesh, thank you.

21   MR KUMARESWARAN: I'll have a go. I'll make two

22   points. Firstly, on the conceptual point about

23   stability of method versus stability of outcome,

24   I think certainty and predictability are all very

25   laudable objectives to have, but I think that

26   also needs to be moderated with a willingness to

27   change the method if it becomes apparent that

28   there's a better approach out there.

1   A good example of that is until 2013 every

2   regulator used the on-the-day rate to set the

3   return on debt allowance. And then in 2013 the

4   AER looked at this issue and determined that the

5   on-the-day rate wasn't, in its view, the best way

6   to estimate the return on debt allowance. And so

7   it changed its method. And that was supported by

8   consumers and by other network businesses. So

9   there was a clear case for change and the

10   regulator did that, and I think the outcomes are

11   better for it.

12   As to the question of materiality, I guess

13   that was the point of the scenario testing

14   suggestion. So the model that the ENA's made

15   available is precisely to help all stakeholders

16   do that. So you can test different approaches

17   that are being considered and see how material

18   the change would be relative to the status quo

19   under different scenarios of the world and the

20   future.

21   MS BRAKEY: Thanks, Dinesh. Toby?

22   DR BROWN: Thanks. Actually, I just want to

23   emphasise that I think this is a really long run

24   exercise. I'm not sure whether that's too

25   helpful directly to your question about whether

26   it's the method or the outcome, but I do think

27   it's worth thinking through that from the

28   perspective of a business, once they get the

1   determination, the revenues that the business is

2   going to collect and even sort of more narrowly

3   the return building block component, is fixed.

4   It's going to happen come what may and is

5   independent of the business's investment decision

6   for the five-year period. And so, really if the

7   businesses are thinking like this then the impact

8   of making a dollar of investment now is returns

9   that they're going to get in the next regulatory

10   period or at least they're going to get returns

11   on the depreciated amount of that dollar after

12   five years.

13   And so the connection between what we're

14   doing now in the rate of return instrument for

15   2022 and investment is really a very long run

16   connection because investors look at what you're

17   doing now and they use that as - that forms part

18   of their expectations about the very long run and

19   what's going to happen in future.

20   And so, I think consistency is really

21   important because these investment decisions are

22   actually - it's sort of based on the impression

23   that you give for what's going to happen over the

24   really long run. And what that means is a

25   mistake now doesn't just impact this regulatory

26   period; it potentially impacts on the future ones

27   as well.

28   MS BRAKEY: Thanks, Toby. Did anyone else want to

1   chip in on this? Glenn?

2 DR BOYLE: The question about material effects is

3   really interesting. And that's really the bottom

4   line, in a sense. But it's really hard to do

5   that mental arithmetic in one's head. You kind

6   of need to go away and have a crack at it.

7   But there are a couple of simple things.

8   The proposed change to a five-year term, that's

9   going to - you know, if there's an upward sloping

10   term structure, what's that going to do? That's

11   going to lower the cost of equity, isn't it? But

12   of course that's going to be somewhat offset by

13   the fact that interest rates now seem to be

14   rising. So the effect there may not be very

15   material. I mean, it will depend on what the

16   final numbers are, but there is at the moment a

17   kind of offsetting effect there.

18   Another change could be to give more weight

19   in the estimation of the market risk premium to

20   the DGM surveys, et cetera. I'm not sure if

21   that's proposed or not, but that's one possible

22   change that could occur. Well, in the past that

23   would have led to possibly a fairly material

24   increase in the estimated market risk premium,

25   but again the rise in interest rates will tend to

26   modify that a bit. Those estimates from the DGM

27   in particular could well come down a bit as the

28   risk free rate interest rate goes up.

1   So in other words, I don't really have any
2   idea but the kind of changes that are being
3   spoken about, there do seem to be some offsetting
4   effects so that the final overall change may not
5   be all that material.
6   MS BRAKEY: Thanks, Glenn. Jonathan?
7   MR MIRRLEES-BLACK: Thanks. I think there's just one
8   issue which we haven't touched on at all. And
9   that is we have been considering over these four
10   sessions that the cost of capital is something
11   which is out there and it's to be measured, but
12   it's not necessarily something on which there is
13   an influence, apart from perhaps some of the
14   comments that Toby's just made.
15   And I think perhaps there's also a question
16   around what it is that decisions around the RoRI
17   can do to put downward pressure on the cost of
18   capital which means that investment can occur at
19   lower cost. But there's also the question around
20   incentives in that it may well be that
21   maintaining some risk for the businesses which
22   allows the businesses to earn higher returns,
23   which might increase the cost of capital but
24   provide incentivisation to keep capital costs
25   down, is also important.
26   So I'm just thinking that we are taking it
27   as just a simple measurement approach here, but
28   I think thinking about incentives on businesses

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 1           in the round so that there's an overall
 2           minimisation of costs and maximisation of
 3           benefits to consumers is something with also is
 4           relevant here.  And that goes to the overall
 5           package of returns, the overall package of
 6           regulatory settlements.
 7    MS BRAKEY:   Thanks, Jonathan.  Clare?
 8    MS SAVAGE:   This is probably a provocative question,
 9           but you know I like provocative questions.  I'm
10           interested in the experts' views on how they
11           think the current instrument is performing.  And
12           so this is at a very high level.  Because if you
13           think about if we open one part, we'll open lots
14           of parts, I would suggest.  And so whilst you may
15           have varying views on the bits you would like us
16           to open and the bits you would like us to leave
17           closed, if you have to accept the risk that we
18           might open the bits you don't like as well the
19           bits you do like, what do you think about the
20           performance of this instrument at the highest
21           level?  Is there a case for change?
22    MS BRAKEY:   Thanks, Clare.  That is a provocative
23           question.  Who would like to tackle that one?
24           Graham, thank you.
25    PROFESSOR PARTINGTON:   My view is what you've been
26           doing seems to have been working reasonably well.
27           You know, you could change.  It might be better.
28           That's not at all clear to me.  What is clear,
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1   you are going to get a mountain of submissions.

2   MS BRAKEY: Thanks, Graham.

3   PROFESSOR PARTINGTON: And all of them will argue

4   that, "Yeah, this change is great," and the

5   underlying reason will be because it gives them

6   the rate of return they want. Higher for the

7   networks, lower for the consumers. Self-interest

8   will rule.

9   MS BRAKEY: Thanks, Graham. Jonathan?

10   MR MIRRLEES-BLACK: I think there's two big issues

11   which really have to be addressed, and are really

12   important to address through this process and

13   what needs to change. And it relates to what we

14   were talking about this morning with the MRP and

15   the relationship between the MRP and the risk

16   free rate. I think that's really important. I

17   think that needs to change. And the second thing

18   is how do you do beta with using international

19   evidence on beta for the next time around in

20   particular? And some visibility on that, I

21   think, and some early thinking around that is

22   really important.

23   MS BRAKEY: Thanks, Jonathan. James?

24   MR HANCOCK: I would agree that a question of how the

25   MRP is set and particularly whether it's assumed

26   to be negatively correlated with the risk free

27   rate is important. I'm not convinced that it

28   should be taken to be correlated, but it's

1   possible that, you know, that I might be

2   convinced with a sort of really sort of robust

3   econometric analysis of it. But at this point

4   I'm not, so that's my first. The second would be

5   that there is a possible issue coming down the

6   track to do with the trailing average as low

7   interest rates over recent years come into the

8   trailing average at a point a few years down the

9   track when financing costs are higher. And that

10   may be a bone of contention later on.

11 MS BRAKEY: Thanks, James. Dinesh?

12 MR KUMARESWARAN: I agree with Jonathan that I think

13   the two key areas that really require some

14   thinking is this issue about the relationship

15   between the risk free rate and the market risk

16   premium.

17   Sorry, let me characterise that differently.

18   How do we best estimate the most reliable market

19   risk premium? I think that's the way I would put

20   it. The relationship between the risk free rate

21   and the MRP does sort of come into that decision.

22   The other is beta estimations. I agree with

23   Jonathan, but I wouldn't wait until the next

24   RoRI. I would start thinking about that now, how

25   to implement that now. Jim's point about the

26   trailing average approach, I think if businesses

27   are managing their debt portfolios in the way

28   that the AER conceives the efficient debt

1   management approach, which is to roll over a

2   proportion of their debt every year, then there

3   isn't an issue.

4   And so, the prevailing cost of debt in the

5   market might go up or down, but that will just be

6   reflected in the cost of debt, the trailing

7   average cost of debt. So the businesses will

8   refinance at the prevailing rate and the whole

9   point of the trailing average is to get a good

10   match between the efficient cost of debt that the

11   business incurs using that efficient debt

12   management approach and the regulatory allowance.

13   So I don't really see that there is a problem on

14   the horizon.

15   MS BRAKEY: Thanks, Dinesh. Glenn?

16   DR BOYLE: I'm sorry. I can't really comment on this

17   issue, not living in Australia, and having only

18   come to this deliberation in the last few months,

19   so I'm not familiar with the history. I would

20   just apply a simple test that only all of you

21   living in Australia can answer. Do your toasters

22   continue to turn on every morning? If so, what's

23   the problem?

24   MS BRAKEY: Thanks. Anyone else?

25   PROFESSOR PARTINGTON: In response to Glenn's

26   observation, my power was cut off yesterday and I

27   wonder if I'm being singled out.

28   MS BRAKEY: Thanks. Any other views? Dinesh, is

1   that an old hand?

2   MR KUMARESWARAN: No, it's a new one. Slightly

3   tongue-in-cheek. The AER's job is to think about

4   the long term interests of consumers. And so we

5   should be worried about whether toasters will

6   turn on in 20 years. And that's about sending

7   the right investment signals.

8   MS SAVAGE: We are worried about that. Don't worry.

9   MS BRAKEY: Thank you. I think that was a really

10   good question, Clare, because it's given an idea

11   of what the experts think are the priorities for

12   change. Any other questions from you, Clare, for

13   a start?

14 MS SAVAGE: No. And I have to leave shortly. Thank

15   you to everyone.

16 MS BRAKEY: That's why I did want to give you that

17   opportunity. Any questions from other board

18   members? No? Any other points from any of the

19   experts? No?

20   In that case, we now are at the end of four

21   sections. They have all been interesting. I've

22   really enjoyed the discussion. It's been very

23   respectful and thoughtful and I hope useful to

24   the AER board members. I'd like to extend a

25   particular thanks to the experts for the nature

26   in which they have engaged with each other and

27   for the thoughtfulness of their responses and for

28   bringing their expertise to bear for us. Thank

1   you to everybody. And Clare, any closing

2   statements from you about process or anything

3   like that?

4   MS SAVAGE: Really just to express deep gratitude for

5   the time and attention and energy people have

6   brought. It's a lot to sit through, obviously,

7   and to participate and be on your game for all of

8   these sessions, but we've really appreciated the

9   input. I think it's very much highlighted for

10   us some of the challenges that, even if it hasn't

11   answered questions, it's highlighted for us some

12   of the challenges that are in front of us as we

13   move through this process.

14   We will be coming together as a board next

15   week with our shadows and the team to reflect on

16   some of the things we've heard and pick out what

17   we've heard from here. There will be still

18   opportunity to make submissions on the

19   information paper, so for anyone listening today,

20   if you have heard something through these

21   sessions that you want to reflect in your

22   submissions, we are keen to see that and hear

23   from that.

24   But I think process-wise, and correct me if

25   I'm wrong, Eric, I think we go from here to or

26   draft decision. We will then have an independent

27   panel review the draft decision, so the draft

28   decision will be around the middle of this year,

1   and we'll be heading towards a final decision at

2   the end of this year,.

3   But did you want to add anything, Eric,

4   because you are our networks committee chair? I

5   got that right? Always a risk that I've got that

6   wrong. Okay.

7   Well, thank you, everyone. And we look

8   forward to hearing and seeing from what people

9   are thinking as we progress, but very much

10   appreciate the time and energy that's gone into

11   this today and last week.

12   PROFESSOR PARTINGTON: Thank you very much and thank

13   you for the thoughtful questions. And particular

14   thanks to Anna, who I think has done a

15   magnificent job of facilitating in all the

16   sessions I've attended, and under difficult

17   circumstances.

18   MS SAVAGE: Yes. Particularly today, Anna, when

19   you've obviously had not much sleep and divided

20   loyalties.

21   MS BRAKEY: It's all good, but I will take these

22   extra 15 minutes and go sort some stuff out.

23   Thank you, everybody.

24   **THE SESSION CONCLUDED AT 4.14PM**

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compared [2] - 31:19, 39:14

compares [1] - 35:1

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comparisons [3] - 37:7, 55:27, 72:20

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