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Rate of Return
Omnibus papers on 2022 RoRI
Response to draft working papers

Major Energy Users Inc (MEU) is pleased to provide its thoughts on the issues raised in the AER consultation paper relating to the three omnibus working papers on overall rate of return, debt and equity for the 2022 rate of return instrument (RoRI).

The MEU was established by very large energy using firms to represent their interests in the energy markets. With regard to all of the energy supplies they need to continue their operations and so supply to their customers, MEU members are vitally interested in four key aspects – the cost of the energy supplies, the reliability of delivery for those supplies, the quality of the delivered supplies and the long-term security for the continuation of those supplies.

Many of the MEU members, being regionally based, are heavily dependent on local staff, suppliers of hardware and services, and have an obligation to represent the views of these local suppliers. With this in mind, the members of the MEU require their views to not only represent the views of large energy users, but also those interests of smaller power and gas users, and even at the residences used by their workforces that live in the regions where the members operate.

It is on this basis the MEU and its regional affiliates have been advocating in the interests of energy consumers for over 20 years and it has a high recognition as providing informed comment on energy issues from a consumer viewpoint with various regulators (ACCC, AEMO, AEMC, AER and regional regulators) and with governments.

As a starting point, the MEU highlights that the cohort of stocks currently available from which to draw data to develop the 2022 RoRI is extremely limited and, further

compounding the concern the MEU has, is that each of the three stocks currently listed (APA, Ausnet and Spark) all have quite different characteristics, and each serves a different type of market. While all are involved with providing energy transfer services, each is quite different in how they operate:

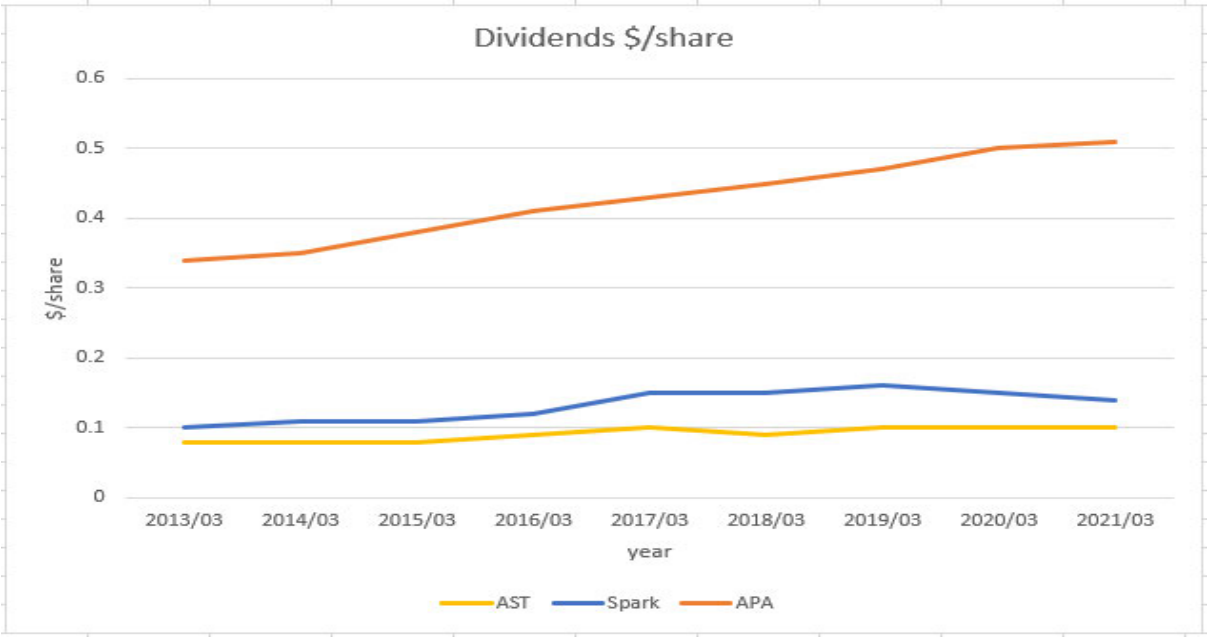
- APA is a company directly providing energy transport services and, while providing a very few regulated services, gains the vast bulk of its revenues from providing unregulated gas transport services which not only provide monopoly services but are underwritten by long term contracts with bankable counterparties.
- Ausnet Services is a company directly providing energy transport services but while providing some unregulated services, the bulk of its activities are providing regulated services.
- Spark Infrastructure is essentially an investment company (ie is not a services operator in its own right) but holds shares in companies providing energy transport services.

Of the three, Ausnet is probably the closest in comparison in what the Benchmark Efficient Entity (the BEE) is based on but is still not a perfect match.

As each of the firms are involved in the delivery of energy transport, their different involvements make it quite challenging to confidently draw conclusions from current financial information needed to populate the WACC models from the data that each provides. In particular, this applies to the ability to draw conclusions about the growth in dividends, but also gearing.

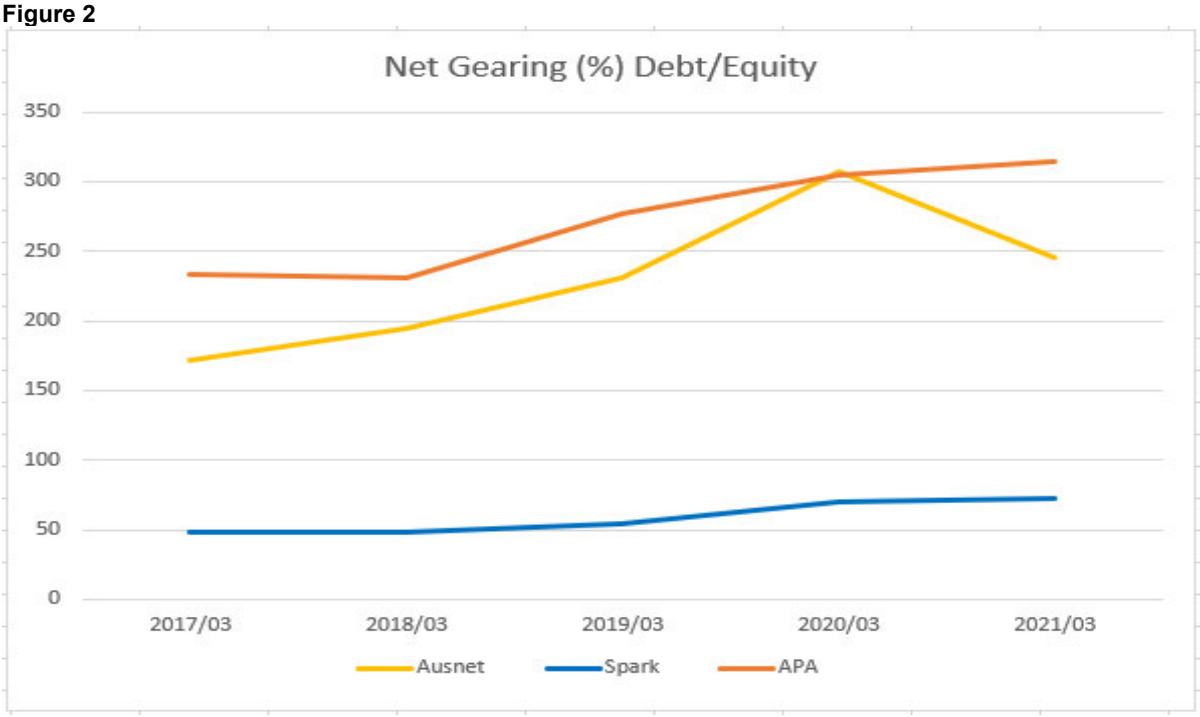
The recent performance of the three firms is shown in the following two charts (source of data is Commonwealth Securities Ltd)

Figure 1



Source: CommSec

Figure 2



Source: CommSec

The prime purpose of providing the charts is to exemplify how the different activities of each of the firms has on the financials for each and there are observations drawn in later parts of this submission that draw on these.

The MEU addresses the various elements in the three omnibus papers under the following elements reflecting each of the three omnibus draft working papers.

1. Overall rate of return draft working paper

The overall rate of return draft working paper addresses a number of more general aspects of the rate of return – gearing, gamma and cross checks. Each of these is addressed below.

Gearing

There are two aspects of the review that the MEU has with regard to gearing.

Firstly, there needs to be consistency as to how debt is measured and this same measure needs to be the same across all other aspects, including financeability measures (eg FFO/netdebt), the calculation of EICSI and the amount of debt used in the calculation of gearing. Consistency in approach is a fundamental element of good regulation and its absence can lead to unintended and incorrect outcomes.

Of particular interest is how to calculate the debt where a network acquires funding through a hybrid security (eg convertible notes, non-convertible notes, etc). The MEU considers that the approach to these hybrids is they should be considered to be debt until they are converted to equity, noting that the decision to convert from debt to equity is the decision of the provider of the securities, and therefore the network firm has to assume that the funds provided will have to be repaid – a requirement to repay funds must be considered to be a feature of debt provision.

Additionally, the same approach to the allocation to debt or equity, must be consistent across all calculations for debt where a debt assessment is being used in the regulatory process.

Secondly, the MEU is concerned whether the approach to assessing gearing using net debt to RAB is sound. The MEU points out that the RAB is a replacement value of the assets rather than the actual costs depreciated under normal tax rules. If a network elects to sell an element of its assets (eg a transformer) it will not receive its RAB value but an amount much lower, reflecting the price another user might apply to a second-hand piece of equipment; potentially this price might be even lower than its written down (book) value. While it has been observed that acquisitions of networks have occurred at multiples of the RAB, this is due to the cash flow expected from the assets (driven by the regulatory approach, the underpinning rules, the incumbency held by the network and its right to easements) rather than the intrinsic value of the assets. Yet when the assets are initially acquired by a network, they are purchased as specific elements and the debt and equity shares are associated with each purchase is related to the purchase price.

For example, the new transmission line from Robertstown in SA to Wagga Wagga in NSW will be constructed from a range of products (concrete, steel, copper, aluminium, etc) at a cost paid for from both debt and equity funds. This acquisition will be entered into the books on this basis and depreciated over a time frame independent of the regulatory process. Separately in the books will be an allowance (eg an asset revaluation reserve) to reflect the difference between the “depreciated replacement allowance” provided by the AER in the valuing of the RAB and the holding value of the assets attributed by the network. The importance of the formal “written down” value of the assets cannot be overstated.

The MEU has sought advice from its members as to how they go about the acquisition of debt, either on a corporate debt raising basis or for a specific project (ie project debt). They advise that when a debt provider reviews an application from an owner, it assesses amongst other things, the current level of debt, the current written down asset values[1], the cashflows and the expectation of future cashflows. This means that the book “written down” value

[1] Noting that a non-regulated entity does not have its assets assessed on a RAB basis but on a conventional written down basis

of the assets is the prime source of information and not a notional (somewhat arbitrary) inflation adjusted value intended to replicate a depreciated replacement value that the RAB values.

The MEU members also advise that hybrid funding is considered debt and repayment takes priority over returns to shareholders. They highlight that even with convertible notes, there is a strong view that as the hybrid leaves the debt provider in the position to convert the debt to equity, this can be not assumed to be the case, although if the share price rises, the likelihood of the conversion does increase.

Based on this experience in a competitive environment, the MEU considers that:

- the AER approach to assessing gearing based on actual debt in relation to the inflation adjusted asset value (ie RAB) is flawed logic when identifying the level of gearing that a network has and which drives, amongst other things, the ratio of debt to total asset value level of a network.

- Hybrid securities should be treated as debt until any conversion might take place.

Value of imputation credits (gamma)

The MEU has consistently been of the view that gamma should reflect the reality of the Australian market that there is tax imputation. An acquirer of a network is fully cognisant that only taxpayers in Australia are able to benefit from imputation and they make their acquisition decision on this basis. The 2017 CRG agreed with this concept and proposed that gamma should be near unity. While we note that the AER has opted for a lower value for gamma in its 2018 RoRI, the MEU believes that the AER has not fully considered the implications of its decision, or all of the arguments provided by the 2017 CRG.

The MEU considers that:

- The AER decision to effectively increase funds to the regulated networks by reducing gamma below unity has the unintended outcome of overcompensating Australian investors who are able to benefit from imputation as the funds returned to all investors are greater than if the AER assumed that all investors were exposed to imputation (ie gamma = 1). As a dividend allocation does not differentiate between investors, all investors receive the same dividend, regardless of imputation status.

  Effectively, local shareholders will receive a better outcome than overseas investors who will not receive the full benefit of the AER decision to assume that those overseas investors need to be compensated for not being local.

- The approach provided by the AER to the assessment of both payout ratio and utilisation credits provides a range of views. While the AER has attempted to arrive at a figure that it considers is balanced, the MEU considers that this results in a conservative outcome which disadvantages consumers. Instead, the MEU considers the AER should apply an outcome that removes this conservatism and applies an outcome which more closely meets the intention of imputation in the tax laws.

- As noted above, the MEU considers that the AER should assume that any investor that does not enjoy the benefit of imputation, has made the decision to invest despite this and has made its investment decision in full knowledge of this and so the AER should assume that all investors accept that full imputation will be assumed by the AER in the regulatory process.

Cross checks on the rate of return

The MEU points out that because the allowance for debt is effectively adjusted annually through the trailing average approach, any cross check will be against the cost of equity. The risk inherent in this is that any cross checks that might indicate a financeability problem would lead to the potential to over-inflate the cost of equity element of the WACC calculation.

In this regard, the MEU points out that currently the allowance for debt overstates the current cost of debt due to the overhang of higher debt costs in past years. Conversely, as the overhang reduces and we enter in into a higher debt cost environment, the trailing average cost of debt will be lower than the then current cost of debt, leading to a concern that the networks will have insufficient free cashflow when compared to the amount of debt they consider they need.

This reality has an impact on a number of potential cross checks and care needs to be taken with the selection of cross checks to ensure that the RoE does not get over-stated and that networks, currently enjoying a higher allowance for debt, will not seek a reversal of the trailing average approach when they are exposed to higher debt costs in the future.

The MEU considers that, as a cross check, sales at RAB multiples is a useful check. RAB multiples greater than 1 imply that future revenues (including the WACC*RAB portion), based on the current AER approach to WACC, are acceptable and when much greater than 1 are likely to reflect that the AER approach to setting WACC for the risk involved is possibly too high.

Similarly, historic assessments using the current AER approach to setting the WACC show that there has been no reduction of investment allowances sought

by the regulated firms, implying that the outturn profitability of the investments are more than adequate.

The MEU notes that in the past, the ACCC (as the regulator for transmission network assets) did calculate a range of financial metrics to assess whether the regulated decision did provide confidence that the ACCC decision provided sufficient free cash flow to the firm. However, the MEU notes that the regulatory environment that now exists is significantly different, especially with implementation of incentives (on reliability, opex, capex and debt[2]) to encourage a more efficient approach to managing the networks. The impact of these incentives has, for the most part, delivered considerable commercial benefit to the network firms and needs to be recognised as a core element of the expected cashflow.

Also, as noted about, debt providers take in to account the certainty of future cashflow that the regulatory process delivers, as a key element of their assessment for provision and cost of debt instruments.

The impact of both of these benefits is not a feature of basic financial metrics that might be assessed at the time of the regulatory decision, but they are taken into account by potential debt providers when assessing the cost of debt and the amounts they might provide.

An issue that has arisen quite recently is that networks looking to make investments that significantly increase their RAB (eg TransGrid for Project EnergyConnect and HumeLink) have expressed concern that their free cashflow in the early years of the investment might be insufficient when assessed under some financial metrics. The MEU does not have access to TransGrid's financial records or its discussions with debt providers, but it is aware that TransGrid has assumed exclusivity for the construction of these assets as the monopoly service provider in its region. The MEU considers that if the projects were exposed to full commercial competition for provision and long-term ownership of the assets, perhaps another service provider could make the projects such that the financial metrics of concern to TransGrid, do not raise the concerns that TransGrid has. The MEU is also aware that the AEMC has implemented a review of how to better manage these large projects so it would be inappropriate for the AER to pre-empt any change the AEMC might make by using crosschecks (and adjustments to the WACC) before the AEMC has completed its review and implemented any actions it considers needed.

Overall, while the MEU agrees that some cross checks need to be implemented, care needs to be taken to ensure that the cross checks are appropriate and take into account all of the benefits that accrue to the networks

[2] The difference between the allowance for debt assumed by the AER and the actual costs for debt incurred have delivered considerable benefits to the networks over the years.

from the regulatory bargain. To be selective in the cross checks can lead to outcomes that do not meet the NEO and NGO.

2. Draft debt omnibus paper

The draft debt omnibus paper addresses the use of the Energy Infrastructure Credit Spread Index (EICSI) in setting the allowed cost of debt and if any weighting of the trailing average should be applied to reflect that there will be instances (few in the view of the MEU) where the amount of capex in a particular year might significantly bias the debt allowance.

The MEU is supportive of the trailing average approach to setting the cost of debt although it did not support the 10-year term set by the AER, considering that a tenor of debt is closer to eight years based on the actual practices of the networks. However, the MEU accepts that the trailing average based on 10 years has now been in operation to many years and unwinding it would be a challenging task and unnecessarily increase uncertainty in the market.

Incentive regulation and EICSI

The MEU recognises that the rules for network regulation are based on incentive regulation – regulation that provides a mechanism for the regulated firm to improve its efficiency in the provision of the services and by doing so share with consumers the benefits of this improved efficiency – equally falling efficiency results in detriments to the network firm. The target is, that by the incentives, to drive the network to the efficient frontier for the provision of the services.

While an incentive sharing scheme has been implemented for reliability (STPIS), opex (EBSS) and capex (CESS), there has been no equivalent incentive program where the benefits of better debt acquisition are shared with consumers – currently all the benefits of better debt acquisition remain with the network.

The MEU considers that the cost of debt is “just another cost” incurred by the networks – no different to opex and capex – and the benefits of better debt acquisition should also be shared with consumers. The AER currently uses the cost of debt provided by the 10-year trailing average of debt based on the credit rating of BBB+ and a 10-year tenor of corporate bonds as the basis for setting the cost of debt in the WACC. So, despite the networks being active in their debt acquisition by using different sources of debt and different tenors to improve the efficiency of debt acquisition, the AER assumes there is only one source of debt and one tenor, and that there is the same cost of debt to all debt acquirers of the same credit rating[3].

[3] In fact, it has been shown that there are different costs of debt for the same credit rating (eg even though Australian and the US have the same credit rating of AAA, the US gets a lower cost of debt

There is little in this process that enables consumers to share in the benefits generated by the networks as they strive to be more efficient in sourcing their debt.

The MEU sees the development and active use of the EICSI is a key part for consumers to be able to share in the better acquisition of debt by the networks, by comparing the outcome of the EICSI with the values used by the AER to set the cost of debt. By direct comparison with the EICSI, the AER could adjust the input values (eg source, credit rating and tenor) of its approach to the cost of debt, to mirror the observed data identified by the EICSI.

The MEU considers that the 10-year tenor should be retained, and other inputs varied (such as the mix of BBB and A corporate bonds) in order for the AER allowance for debt to match the EICSI.

The benefit of such an approach is that this provides a quite forward-looking outcome in that as other inputs vary (eg the cost relative to the credit rating) so too would the trailing average cost of debt allowance adjust with forecast changes in forward looking corporate bond rates.

The MEU therefore supports the use of option 3 detailed in the recent AER presentation on debt. Just as the AER uses the EBSS and the assumption that the 4th year opex is efficient, so too can the EICSI be used to adjust the proportions of the credit rating data (A and BBB) to match the historical EICSI. The MEU considers that while there are a number of different approaches that will be used by the networks (credit rating, tenor and source) to acquire their debt, rather than developing a tool that adjusts for all of the different elements, it is simpler to hold all inputs constant and vary just one; the MEU considers the easiest to vary is the credit rating mix. Being the simplest approach, this delivers greater certainty and understanding of the approach.

A key benefit of the option 3 is that the outcome can integrate a forward-looking value for the cost of debt rather than setting the cost of debt based on historical data only (option 6).

The MEU also notes that the development of the EICSI is very much a “black box” process where only the AER and its consultants will know the actual data that is input to generate the EICSI. The MEU notes that this is little different to the “black box” approaches used by other debt data providers (RBA, Bloomberg and Reuters) in the development of their costs of debt. The MEU considers that the EICSI falls into the same category and should be just as acceptable to all stakeholders.

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due to the expectation that its certainty of repaying its debt is higher than that of Australia). It has been observed that networks, with their guaranteed income streams, are able to acquire debt at a lower cost than is implied by the credit rating used by the AER

There has been discussion as to whether the EICSI should include hybrid debt as well as conventional debt sources. As noted above in the discussion on gearing, the MEU considers there has to be consistency in the assessment as to what is or is not debt. So, if the EICSI calculation includes hybrid debt, so too should the calculation of gearing.

This option 3 approach would still allow the networks to determine the lowest cost to acquire their debt with freedom to vary the different approaches available for debt acquisition (ie source, tenor, credit rating) to minimise their cost of debt and ultimately share the benefits with consumers. As such an approach would only be used ex ante, it would mean that the networks would benefit for the entire regulatory period to the next reset for any reductions they make to the cost of debt, but the benefit would then move to consumers for the ensuing period through the use of the EICSI.

Of the options proposed in the AER presentation for use of the EICSI, the MEU considers:

- Option 1 is not acceptable as the EICSI provides useful input data and addresses the MEU key concern that there is needed an incentive/sharing arrangement for the cost of debt.
- Option 2 does not use the resource sufficiently.
- Option 3 is the MEU preferred option, as explained above.
- Options 4 and 5 do not provide benefits to consumers of the better debt acquisition processes used by the networks.
- Option 6 does not provide a forward-looking value for the cost of debt.

Weighting of the trailing average

The draft working paper raises the issue as to whether the trailing average should be weighted to reflect the amounts of capex incurred in the past and planned for the future.

The first MEU observation is whether adjusting the weighting is a material issue, noting that debt covers only 60% (and potentially 55% based on the AER considerations) of the capital involved, and does the change reasonably overcome the loss of consistency in the current approach. While the AER does make reference to the need for NPV=0 in setting the weighting the trailing average cost of debt, the MEU points out there are many other instances in the AER regulatory approach where pragmatism and simplicity outweigh economic purity, and therefore the case has to be made that the loss of economic purity

is warranted over simplicity and consistency. The MEU does not consider that the AER has made the case for change.

The MEU points out that the current approach has been working well for the past ~10 years of network regulation and there is a logic inherent in the approach when the target of the WACC development is to manage the needs of the benchmark efficient entity (BEE). The MEU considers that the BEE would manage its capex program so there was a reasonably constant capex each year as this is the most efficient way to address capital works – having massive annual swings creates a "feast or famine" in the capex program which then results in unnecessary cost increases.

The MEU also points out that for most of the time, most of the networks do not have massive swings in their capex, such that their RABs are relatively constant. It needs to be remembered that the bulk of the debt acquired is applied to paying for past debt and only a small amount is attributable to future debt. When this reality is taken into account, along with the fact that debt reflects just 60% (55%) of the RAB, the issue of trying to weight the trailing average cost of debt for the BEE becomes a very complex issue, and even more so if the cost of debt is adjusted for each network. The MEU points out that one of the reasons for paying a higher cost for equity is to reflect that there is a risk in managing debt over time.

The MEU is concerned that the simplicity and replicability of the current approach is being put at risk for something that might only occur occasionally. Specifically, it would appear that the reason raising the issue is to address a very few instances in the transmission networks where the ISP, in particular, is forecasting a need for major new electricity transmission projects. Not all of the transmission networks are facing the same massive capex projects that TransGrid is with Project EnergyConnect and HumeLink. The MEU therefore considers than rather than changing the entire cost of debt process, the specific need should be addressed as a separate activity.

The MEU isa aware that the AEMC is currently reviewing the same issue (of the impact of very large projects on the existing networks with specific reference to the issues facing TransGrid) and its review has been established to find an alternative approach to managing this challenge, if it is indeed it is seen to be real.

With these thoughts in mind, the MEU does not support the AER making a change to the current workably efficient approach to calculating the trailing average cost of debt as:

- It has not been established that weighting the trailing average for capex annual variance is material
- It opens the potential for gaming in terms of actual capex and calculation of the trailing average

- The current approach is simple and replicable and delivers the same cost of debt to all networks
- The bulk of the networks for most of the time do not have the problem identified by the AER
- The bulk of debt applies to historic investment, not short-term future investment, for most networks
- The BEE would work to ensure that annual capex would reflect minimal annual movements
- There are a very few transmission networks that might have a problem that the AER seeks to address, but the AEMC is looking at this issue already so the AER should not look to change its sensible approach, to address a couple of outlier issues which might ultimately be managed differently.

3. Equity Omnibus draft working paper

The equity omnibus draft working paper addresses some issues to the setting the rate of return on equity, including assessment of the market risk premium, the use of the Dividend Growth Model and equity beta. The MEU also raises a few other issues that it considers impact the assessment of the return on equity.

What is important to note about the return on equity (RoE) is that the current approach to setting RoE has withstood the test of time, in that no network has been financially stressed, and all networks have continued to invest such that reliability of supply has improved. That reliability of supply has improved implies that if anything, the networks have tended to over-invest rather than under-invest and this implies that the RoE has, if anything, been higher than needed.

It also implies that there is little need to change the current approach and if change is needed, it should perhaps be to reduce RoE to find at what level of RoE under-investment occurs, as the point at which the network finds it only just able to secure investment funds is the point at which RoE is set at the most efficient level. Any value above this point is inefficient and more likely to result in over-investment.

The MEU considers that there are a few minor modifications that are need to the calculation of RoE to get it to the point of maximum efficiency. These aspects are addressed in the following sections.

Is network investment more debt driven?

With the very high amounts of debt used by the networks (see figure 2 above showing the level of gearing each network has), the clear import is that the risk profile of the energy transport networks is extremely low, due either to market concentration (in the case of APA) or the protections and certainty of cashflow provided by the incentive regulatory program provided by the rules (in the case of Ausnet), or both.

In the case of Spark Infrastructure, being effectively an investment vehicle, the regulatory model does not really impinge on is risk factors and so the market looks at it quite differently.

The BEE is assumed to be a direct operator and provider of the network services and so its risk profile reflects the benefits of the rules; on this basis, the BEE is closer to Ausnet than to the other two entities. As the BEE has its risks so tightly limited by the rules, there is an argument that, to all intents, the cost of equity should be very close to the cost of debt, noting that the risks for the debt providers to the BEE are much the same as the risks for the equity providers. In fact, as the debt providers have first call in any failure of a network, equity providers do have a slightly greater risk than debt providers, but only marginally so.

What is also important to note, is that each network is a monopoly in its own region so, in the unlikely event that the firm holding the assets does suffer financial disaster, it is highly likely that the assets (and the associated cashflow) would be acquired by another firm. This is exemplified in the acquisition of many energy networks that have been acquired on multiples of the RAB, demonstrating that equity providers in monopoly network assets have a very low risk, similar to the risks assessed by debt providers.

On balance, the MEU considers that the cost of equity should be little more than the cost of debt when assessed on a forward-looking basis, but not much more.

The inverse relationship between RFR and MRP

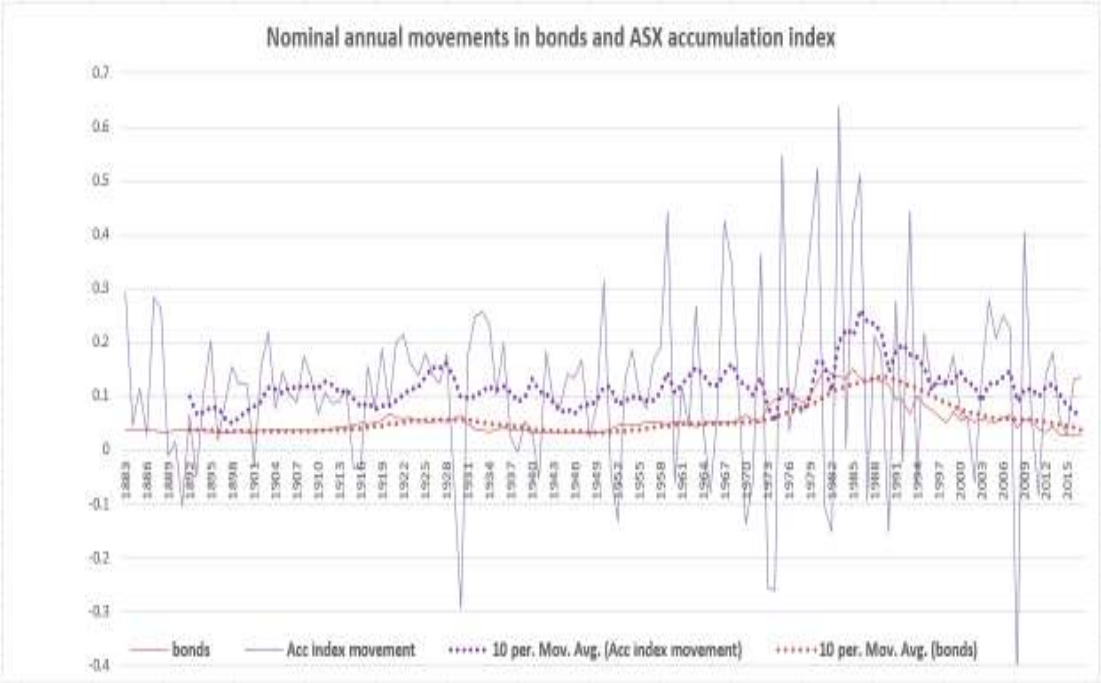
The MEU is very concerned about a view being expressed that there is an inverse relationship between the risk-free rate (RFR) and market risk premium (MRP). While the MEU notes that there are proponents identifying an empirical appearance of a relationship, the reality is that the MRP is the difference between the RFR and the wider market returns (calculated as the change in the accumulation index of stocks listed on the Australian Stock Exchange (ASX) and published as ASX index XAOA.

As the MRP is the difference of the RFR and XAOA, MRP does not exist in its own right, and there can be little theoretical relationship with just one of the two independent variables with the difference between them. In fact, the implication

that there is a relationship (specifically an inverse relationship) implies that the value of XAOA is relatively constant, with the MRP increasing as the RFR falls, and vice versa. However, the following chart highlights that this is not the case.

The chart shows the nominal annual change in XAOA and the 10-year bond rate as well as the 10 year moving averages of both (as shown by the dotted lines).

Figure 3



Source: AER data

For there to be an inverse relationship between MRP and RFR, as proposed, the value of XAOA needs to be effectively constant. On an annual basis this is clearly not the case and even when averaged as a moving average over a 10-year period (ie twice the normal regulatory period), this is still not the case.

The MEU accepts that the empirical assessment of an inverse relationship between RFR and MRP is averaged over much longer periods, but the relationship has to be much more demonstrably closer if the assumption is to be used as a forward-looking guide.

The MEU considers that the AER should not accept there is an inverse relationship between RFR and XAOA or use this in its assessment of the MRP

Market risk premium (MRP)

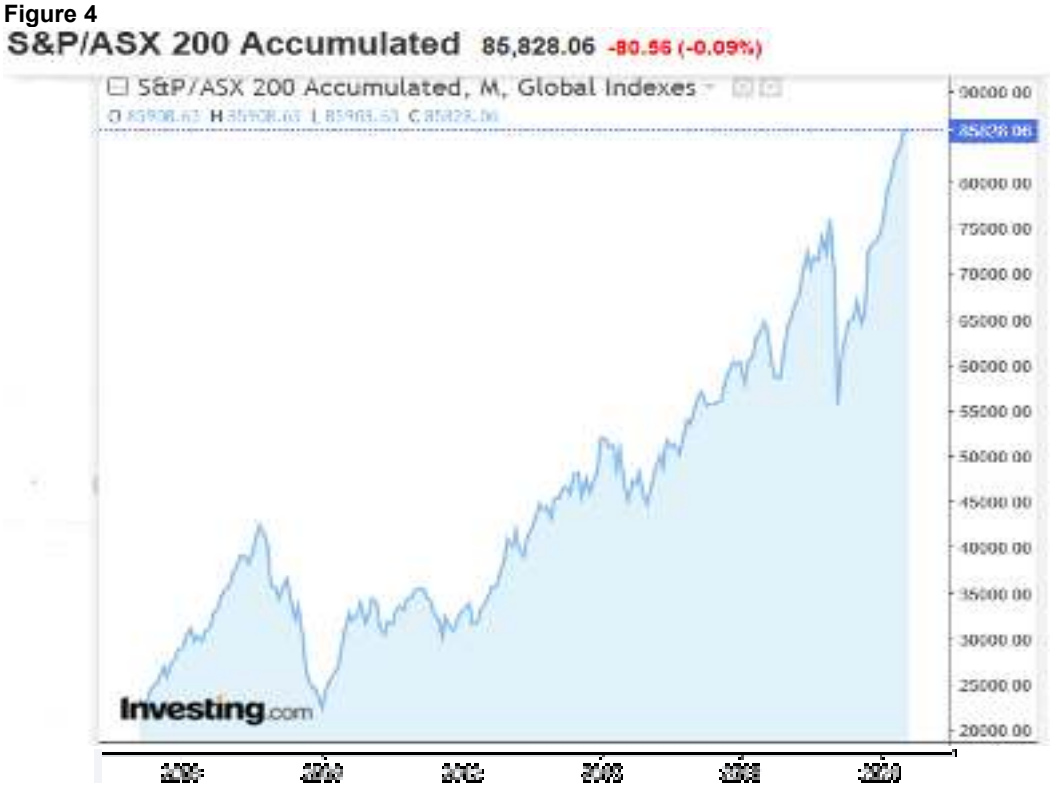
As shown in figure 3 above, because the AXOA is so very volatile, the annually calculated MRP also exhibits massive volatility, as the RFR remains exhibits much less volatility. In order to make some use of the data there has to be some averaging. To be useful, the MRP has to be a long-term average of the

difference between the considerable movements of XAOA and the much lower volatility movements in government issued bonds. Historically the AER has used arithmetic averages of the annual MRP to derive its MRP setting in establishing the WACC, with a bias for more recent data and "informed" by the Dividend Growth Model (DGM) applying to the listed entities.

While the recent past is perhaps a better indicator of the immediate future, excessive volatility tends to require longer term assessments to limit the impact of volatility. As can be seen from figure 3, the approach to averaging can have major impacts on the outcome, depending on what is the start point used and the end point used.

This can be more clearly exemplified in the following chart which tracks the S&P 200 accumulation index (AXJOA) for the past 16 years (source Investing.com). Depending on the starting and ending points, the return for an investment in the accumulation index can be negative or massively positive over relatively short periods, although over longer periods, the outcome is generally positive.

Figure 4



The import of the volatility means that the impact of start and end point selection must be "washed" out of the calculation of what can be expected by investing in very long-life assets. As the assets have a life of ~50-60 years (electricity) and 60-70 years for pipeline assets, this means the averaging period needs to reflect a similar time frame in order to replicate what an investor might expect

over the life of the assets that the investor has funded. With this in mind, the MEU considers that longer term averages are essential.

How is investment in networks considered?

While it is clear that investments in networks are long term to reflect the lives of the assets provided, the regulatory process imposes a different investment profile. In its discussion on which RFR to use for the regulatory process (ie 5-year CGS or 10-year CGS), the AER has posited that it considers that the 5-year bond rate should be use in lieu of the 10-year bond rate as the network notionally invests for the 5-year regulatory period and then has the WACC reset at the start of the next period. Effectively, this means that networks effectively invest at the start of a regulatory period and then reinvests the depreciated historic assets plus investments made within the period at the start of the next. Therefore, to match the long lives of the assets provided, the AER considers that the investment cycle for the entire life of the assets comprises a series of 5-year windows. The MEU considers this is a sound approach.

Taking this concept into the averaging of the MRP implies that the network invests for a regulatory period (ie has a 5-year investment window leading to the conclusion that over the 5-year regulatory period). This means that the return the network is expected to recover is the geometric average of the annual MRPs over this 5-year term window rather than the arithmetic average currently used. At the commencement of the next regulatory period, the RoE expectation is reset as the expectation of what the network will get over the new period, noting that the next 5-year window will have a different RoE expectation as the RFR will have varied.

However, historically, there are many 5-year periods over which to assess the geometric average investment return, and this results in the need to average these many 5-year periods. The MEU considers that these 5-year geometrically averaged periods should be arithmetically averaged to deliver a long time series of MRP to smooth out the volatility. The following table shows how this process would work

Table 1

Year	Bonds	Inflation	Stock accumulation index	Real Rm	Real Rm+1	MRP for GEOMEAN	5 year GEOMEAN
1990	0.121	0.069	-0.153	-0.208	0.792	0.726	
1991	0.094	0.015	0.275	0.256	1.256	1.181	
1992	0.089	0.003	-0.022	-0.025	0.975	0.889	
1993	0.067	0.019	0.442	0.415	1.415	1.375	
1994	0.100	0.025	-0.058	-0.081	0.919	0.842	-0.025
1995	0.082	0.051	0.215	0.156	1.156	1.133	0.066
1996	0.074	0.015	0.117	0.100	1.100	1.043	0.040
1997	0.061	-0.002	0.124	0.126	1.126	1.063	0.078
1998	0.050	0.016	0.119	0.101	1.101	1.069	0.025
1999	0.070	0.018	0.176	0.155	1.155	1.106	0.082
2000	0.055	0.058	0.065	0.007	1.007	1.010	0.058
2001	0.060	0.031	0.061	0.029	1.029	1.001	0.049
2002	0.052	0.030	-0.062	-0.089	0.911	0.886	0.012
2003	0.056	0.024	0.134	0.107	1.107	1.078	0.013
2004	0.053	0.026	0.278	0.246	1.246	1.225	0.034
2005	0.052	0.028	0.206	0.173	1.173	1.154	0.062
2006	0.059	0.033	0.249	0.209	1.209	1.190	0.099
2007	0.063	0.030	0.223	0.187	1.187	1.160	0.160
2008	0.040	0.037	-0.433	-0.453	0.547	0.527	0.006
2009	0.057	0.021	0.404	0.375	1.375	1.347	0.025
2010	0.055	0.027	0.064	0.036	1.036	1.009	-0.002
			arithmetic average of 5 year GEOMEAN				0.046

Source: AER data, MEU computation

When averaged over various periods the data delivers the following MRP values

Table 2

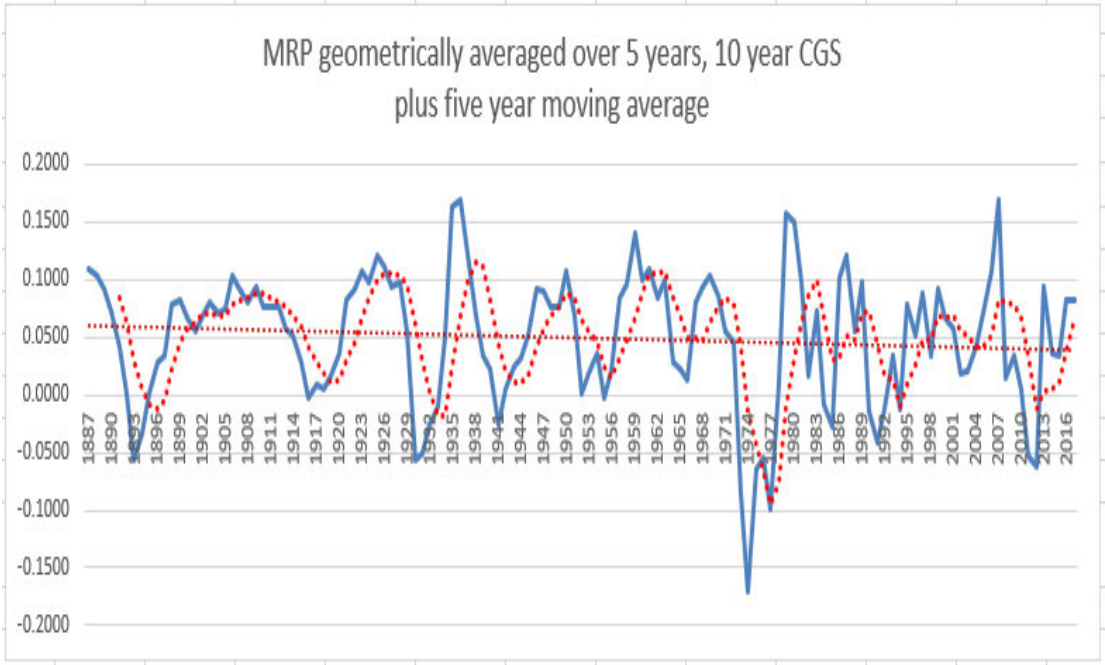
Period	1883-2017	1937-2017	1958-2017	1980-2017	1988-2017	2000-2017
Calculated MRP	0.0503	0.0450	0.0441	0.0472	0.0472	0.0453

Source: MEU computation from AER data

The data also demonstrates that the MRP is falling over time and as shorter-term data is possibly a better indicator of near-term future outcomes this implies that a forward looking MRP should be lower than the full historic data (ie back to 1883) and more in keeping with shorter term averages reflecting the life of these long-lived assets.

This approach to averaging of the data demonstrates a better smoothing of the volatile historic data shown in figure 3 above and is demonstrated in the following chart:

Figure 5



Source: MEU calculation from AER data

The MEU considers that to reflect the reality of the investment cycle coupled to the development of a longer-term average of MRP to reflect the long life of the assets, the historic annual MRP data needs to be geometrically averaged over each five-year period of data and these five-year geometric averages arithmetically averaged over the appropriate historic period. This approach significantly reduces volatility in the annual measures of MRP and therefore provides a better basis on which to extrapolate data to reflect the next five years of MRP values.

This more closely reflects the actuality of the investment cycle and how the regulatory process adjusts for the long life of the assets involved.

The use of the Dividend Growth Model

The MEU notes the continuing debate for using the Dividend Growth Model (DGM) as a better tool for setting a forward cost of equity; the MEU observes that the networks are the main proponents for this change. The MEU also recognises that the AER has used the DGM to "inform their decision" on the value of the MRP by using the DGM in the past.

The MEU sees the major drawback of DGM is its need to assess the forecast growth based on recent growth history. Such an outcome, to a degree, has some circularity as future historical growth is based on past regulatory decisions plus the effect of incentives that the AER provides, resulting in a growth pattern that is highly self-perpetuating.

Further, the growth of dividends in the existing cohort of relevant firms (see figure 1) is also impacted by exogenous elements not related to the inherent features of the how a BEE might operate, and the impact of these exogenous elements would have to be excised for the BEE if they are not applicable.

Rather than entering the debate and covering ground previously addressed by the AER, the MEU would make the following observations:

- The DGM still uses historic data to develop its forecasts for the inputs into the DGM and being developed from specific firms, these have less validity than the inputs to the CAPM as the inputs to the CAPM are derived from more independently sourced data.

- As can be seen from figure 1 above, dividends from individual firms can show some annual volatility, so longer-term data is needed to smooth out this volatility.

- Timing of the start and finish periods for assessing any change is quite critical.

- The actual operations of the firms in the cohort can lead to quite different outcomes and so impact the dividends, such as whether a specific firm is mainly unregulated, an investor in firms that provide regulated services or a firm that is an owner/operator of regulated assets itself.

Overall, the MEU considers that the cohort of firms that are ***only*** actual operators and owners of regulated assets is so small as to render any assessment possible, or even to "inform" the AER about the cost of equity, to draw any useful data from the use of the DGM.

Equity beta

The capital asset pricing model (CAPM) is a tool used by investors to describe:

> "…the relationship between systematic risk and expected return for assets, particularly stocks. [It] is widely used throughout finance for pricing risky securities and generating expected returns for assets given the risk of those assets and cost of capital"[4].

The CAPM has three main elements – the risk-free rate, the market risk premium and equity beta.

- "Beta is a measure of the volatility – or systematic risk – of a security or portfolio compared to the market as a whole.

[4] Investopedia

- Beta data about an individual stock can only provide an investor with an approximation of how much risk the stock will add to a (presumably) diversified portfolio." [5]

Further,

> "Including beta in the [CAPM] formula assumes that risk can be measured by the network's stock price volatility. However, price movements in both directions are not equally risky. The look-back period to determine a stock's volatility is not standard because stock returns (and risk) are not normally distributed."[6]

In the CAPM, the AER uses equity beta as a surrogate for the risk profile of the monopoly network service provision. This is concerning as the volatility of shares is driven by many external forces (including the risk of acquisition as seen currently by Spark, and general market movements unrelated to the systematic risks faced by the firms) rather than the riskiness of the underlying cashflow. This volatility is demonstrated in the following chart by the share price movements of the three listed networks.

Figure 6

Source: CommSec

Despite having similar risk profiles in that they are all monopolies (or near monopolies), provide energy transport and have their revenues based on varying degrees of regulated returns, the volatility of the share prices of the three firms are quite different. This raises two fundamental questions:

[5] ibid
[6] ibid

- Does equity beta really provide a reasonable measure of the risks faced by each network firm?

- Does short term volatility in share price reflect the longer-term nature or risk profile of investments in Australian listed network service provider firms?

Clearly, short term share price volatility does not reflect the systematic risks faced by an investor in long lived assets with a secure cashflow and regulatory rules that provide protection and certainty. Further, if there is a need to use equity beta as a surrogate for the systematic risks faced by energy transport networks, then it is essential that longer term assessments of equity beta are needed.

Further, there is no doubt that that the systematic risks faced by regulated networks are relatively stable due to the certainty inherent in the rules. This means that the equity beta should also be stable over a longer timeframe as the residual risks outside the rules are relatively modest and the risks imposed by the rules are also stable over the long term. Therefore, it is expected that the equity beta should also be stable over the long term, implying that the estimate of equity beta would vary little over time, allowing the AER to use equity betas derived from regulated networks in the past, even though they are still no longer listed entities.

What is concerning is that each of the regulated listed networks (both past and present) include non-regulated activities in their scopes of work. This would impact their assessed equity betas as unregulated activities would tend to have a greater systematic risk than their regulated activities. As the BEE is considered to be a fully regulated entity, this would require the AER to strip out of the equity beta for each of the actual listed firms, the impact of the unregulated activities. This could be carried out by assessing an equity beta for the unregulated activities and developing an equity beta for just the regulated activities. The MEU notes that 2017 CRG attempted to do this in its response to the AER draft decision for the 2018 RoRI, suggesting that the equity beta for a fully regulated firm (ie the BEE) might be ~0.4. The MEU considers that the AER should investigate this aspect more fully and strip from the calculated equity betas of the different firms, the impact of unregulated activities so that the equity beta for the BEE reflects just regulated activities.

The MEU therefore considers that if the AER still considers that equity beta of listed energy network firms is still an acceptable surrogate for the systematic risk faced by the regulated BEE, then historic assessments of equity beta continue to have significant value, especially in the face of declining current samples from which to draw current equity betas.

Equally, when attempting to evaluate equity betas, any comparisons from other sources have to be made on the same basis. For example, the regulatory

process (eg incentive regulation vs determinative regulation) in other countries is quite different to that in Australia as can be the actual rules used for regulation. Even the share market rules (from which the value of equity beta is drawn) can be quite different. The MEU therefore agrees with the AER that to use international comparisons for equity beta can be quite fraught and could lead to significant biases. Further, the MEU points out that even within the cohort of regulated networks and the rules that define the regulative processes for the NEM can be quite different to regulation for other sectors of the Australian market.

Overall, the MEU considers:

- There are doubts as to whether equity beta provides a true reflection of the inherent systematic risk faced by regulated energy networks.
- Within the cohort of regulated listed energy networks, each provide different proportions of unregulated services. The AER needs to adjust the equity beta to reflect a firm providing only regulated services.
- As the systematic risk faced by regulated networks has remained stable due to the stability of the regulatory regime and the rules, historic data provides a valuable resource to establish what the equity beta might be.
- Sourcing equity betas from international firms should only be used where the financial environments, the regulatory processes and the underlying rules are identical.
- Drawing comparisons of equity beta from other regulated industries in the Australian environment, needs to ensure there are identical rules and processes to those used for energy networks for them to be possible comparators.

Financeability measures

The MEU notes the interest in the development of financeability measures to ensure that each regulated firm has sufficient cashflow to provide adequate security for potential lenders. This has been addressed in section 1 above in the section on cross checks.

However, the MEU is very concerned that, noting the return on debt is effectively fixed, the return on equity becomes the element of the rate of return that would be adjusted to provide an outcome that might be indicated by the cross check. This means that the RoE would be distorted by assessments of financeability when there are other tools available to address the issue, noting that RoE is only a part of the overall rate of return which in turn only drives a part of the cashflow.

With this in mind, the MEU is very concerned at the potential for cross checks to deliver an outcome for RoE that is totally inappropriate for the risk profile that the networks face.

The impact of negative interest rates

The MEU notes the concern raised by the 2021 CRG about the impact of negative interest rates on the calculation of the rate of return on equity. The MEU considers that, in theory, negative interest rates can and should be accommodated within the mathematics underlying the CAPM. The formula for RoE is:

$$RoE = RFR + \beta x(MRP - RFR)$$

If the RFR is negative, the sign inside the brackets becomes positive leading to an increase in the value within the brackets, resulting in a positive RoE unless the RFR becomes extremely negative. The MEU considers that an extremely negative RFR is most unlikely, especially as even during the most recent period where there have been negative interest rates, the size of negative interest rates has still remained quite small.

At worst, the MEU considers that, if the thought of negative interest rates does concern the AER, the MEU would support an approach where the RoE calculation would be carried out with a floor of zero for the RFR. Such an approach would retain the integrity of the development of the overall rate of return using the CAPM.

The MEU is happy to discuss the issues further with you if needed or if you feel that any expansion on the above comments is necessary. If so, please contact the undersigned at [redacted] or [redacted].

Yours faithfully

[redacted]

David Headberry
Public Officer