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Rate of Return
CAPM and alternative RoE models
International regulatory approaches to RoR
Draft Working Papers

Major Energy Users Inc (MEU) is pleased to provide its thoughts on the issues raised in the AER Draft Working Papers relating to the Return on Equity (RoE) models and international regulatory approaches to setting Rate of Return (RoR).

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.

Overview of the market from a consumer viewpoint

The MEU considers that the AER Draft Working Papers on the use of the CAPM and other alternatives as models for setting the return on equity outlines the issues well but highlight a number of aspects that need to be addressed. Equally, the MEU notes that the working papers also cover a lot of "old ground" about the merits and detriments of the various models that are available to establish what might be an equitable rate of return on equity[1] to provide sufficient incentive to network owners to continue investing in the networks but not so high as to exceed the levels of risks that the network owners incur in providing these networks.

What is an important observation is that network owners have continued investing in their networks and are continuing to do so in the current financial environment, implying the current returns on equity set by the AER are sufficient and that investment by the networks should continue. With this in mind, the MEU is of the view that there is little reason for any increases to the current value for RoE that might come from alternative assessments.

The MEU also points to the 2018 CRG reports to the AER on its assessment of the models used and the derivation of the inputs that are used by the AER in developing the return on equity. Some of the critical observations that the 2018 CRG makes is that there needs to be:

- A separation between the drivers that apply to an investor in shares and an investor in network assets, reflecting that the current models for assessing a return on equity are based on share market price movements and assessment of these. An investor in shares focuses on generating its profitability based on movements in share prices whereas an investor in network assets uses its skills to maximise its profitability from better utilisation of the assets it owns and might provide from future investment in the network in order to provide better services for its customers. This means that the risk profile between the investor in network assets is markedly different to the risk profile that an investor in shares operates within.
- Recognition that an investor in network assets has a longer-term view of the time frame for generating its profits, such that it does not look to maximise its profitability immediately but sees that the investment will provide profitability over the long term, usually measured in many years and certainly longer than the one year period that the AER assumes applies when generating its average Market Risk Premium (MRP). In contrast, an investor in shares assesses its profitability over a very shirt time frame, typically over a period of a few months.
- An assessment of the risks that have been transferred by networks to consumers through the regulatory laws and rules so that there can be identification of the residual risks faced by networks in the provision of the

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[1] Noting that the return on debt is demonstrably sufficient to cover the cost of debt incurred by the networks in providing the services

services they provide. The MEU points out that these residual risks are different to those risks faced by investors in shares but the market data used by the regulator to set the input parameters for the RoE for networks is based on the risks faced by investors in shares rather than the residual risks faced by networks directly and which are recompensed by consumers.

The MEU therefore considers that these aspects must be addressed by the AER as it develops its approach to establishing the models for setting the return on equity and the gearing appropriate for the Benchmark Efficient Entity (BEE) for the provision of energy network services.

The AER consultation papers

The MEU notes that the AER approach outlined in the two draft working papers reflects the four recommendations of the Brattle report, viz:

1. Incorporate more forward-looking evidence in the determination of the return on equity (eg MRP from DGM, equity beta from shorter time series, data from international firms)
2. Use a multi-model approach for estimating the return on equity (eg DGM, Black, international, consumption CAPM, Fama French, fixed rate plus premium, etc).
3. Apply an estimation window of 2–5 years using daily or weekly return data to estimate the equity beta; and to use international firms in the beta comparator set.
4. Increase the frequency of rate of return reviews and apply outcomes immediately all businesses. In addition, update all return on equity parameters jointly (rather than one equity parameter in isolation) and apply this update immediately to all businesses.

The MEU provides its views on each of these aspects

More forward-looking inputs

The AER has expressed a preference for the use of market data where practicable to assess the rate of return. The bulk of the outcome for the rate of return from the AER calculations comes from the identification of the risk-free rate (used to base the return on equity) and the cost of debt.

It is important to note that that the current approach to setting the rate of return does, in fact, reflect a forward-looking approach to the cost of capital. The decision to use an annually adjusted trailing average cost approach to the debt portion of the allowed rate of return[2] effectively means that 60%[3] of the rate of return not only reflects current costs of capital but is based on values where another party (a debt

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[2] The trailing average cost of debt is adjusted annually giving a regular updating of current conditions
[3] Based on an assumption of 60% gearing

provider) takes the risk on what future movements in debt might be over the term of the debt. Implicitly, as the debt acquirer (the network) knows what the rate of debt will be for a given period into the future, from the viewpoint of the networks (and the AER) the cost of debt is a forward looking assessment of what the costs of debt might be for periods of time into the future. The MEU notes that the current approach to setting the cost of debt is based on a trailing average approach but points out that at each annual reset in the process, the setting of the cost of debt for each annual increment is based on a forecast of what the cost of debt will be for the coming 10 years[4] _as seen by the networks_ so implicitly the networks do see a forward looking cost of debt over the regulatory period.

Further, the equity portion of the rate of return uses, as a key input, a risk free rate for capital in the form of 10 year government bonds which again have transferred the risk of future movement to another party so, again, effectively the networks are seeing this key input based on a forward looking assessment.

This means that a large proportion[5] of the rate of return is forward looking when assessed from the viewpoint of the networks and the AER.

The MEU acknowledges that the assessment of the MRP, equity beta and gearing are all based on backward looking assessments but the stability of the assessments for these inputs (other than MRP) over the years is such that using these backward looking assessments does not introduce significant risk of future movements. Further, the risk profile of the networks in providing their services has not significantly changed over the past 7-8 years[6], so that the impacts on the equity beta and gearing should not have changed, giving support to the historic stability of these parameters.

The MEU acknowledges that MRP can show significant variation year on year and because of this any forward-looking assessment is likely to wrong within a year or two. In this regard the MEU points to the volatility caused by the unexpected and unanticipated COVID 19 pandemic, where in the period between 20 February 2020 and 23 March 2020 the ASX S&P 200 index fell by 36%, delivering a large fall in the MRP as the risk free rate was not so impacted. As noted above, there is a difference between the expectations between investors in shares (who were hit hard by this massive fall) and by the investors in networks who were hardly affected by the fall, if at all.

As investors in networks have invested for the long term, it is more appropriate for their returns on equity to be moderated by long term assessments of MRP rather than the extremely volatile short-term observations and forecasts used in other models (eg Dividend Growth Model). The MEU therefore does not consider that

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[4] The current approach used by the AER for setting the cost of debt using the trailing average approach assumes that the trailing period is 10 years long
[5] Over 70% is forward looking even with the current very low risk-free rate and over 80% when the risk-free rate returns to more normal levels
[6] ie, since the rule changes in 2012 and the AER Better Regulation review in 2013

forward looking assessments of MRP are necessarily appropriate or even advisable for setting the returns on equity for long term investments like energy networks.

International comparisons

With regard to the international comparisons, while the Brattle report provides some very useful information, the MEU is very concerned that Brattle, in drawing the comparisons between the AER approaches and those approaches used by regulators overseas, there has not been sufficient analysis of the differences in the regulatory approaches used in each jurisdiction. A review such as this one by the AER needs to not only examine the different approaches used in establishing a model to set the RoE, but it should also compare the regulatory environments that the model used by other regulators operates within.

The MEU is of the view that the regulatory environment in Australia where much of the risk is transferred from network owners to consumers through the energy laws and energy rules that are in place and the approaches used by the AER to establish the rate of return parameters, so the extent of this transfer of risk to consumers in the Australian environment has a major impact on which models might be appropriate and the calculation of the parameters needed for each model than might apply in other jurisdictions and the outturn comparisons made. The MEU points out that specifically the assessment of equity beta and gearing falls very much into this category where the unique elements of the Australian regulatory environment have a very great impact and where the overseas regulatory approaches lead to very different assessments of inputs.

What is also very much overlooked when drawing international comparisons is that the Australian regulatory environment is very much based on incentive regulation where the establishment of the incentives and benefits they deliver, provide additional returns to the network over and above the "simple" calculation of the return on equity. Specifically, networks under the Australian regulatory approach are permitted to add to their regulated revenue the benefits they gain from:

- Reducing the cost of operating the network from that allowed and which is then reset every 5 years
- Reducing the amount of capital investment needed in the network in each regulatory period from that allowed, noting that the capex needed in the next regulatory period is then set independently of what has previously occurred and is based on new forecasts of need
- Providing better service to its customers, especially in terms of improved reliability of supply
- Using the network assets funded by its customers to provide services to third parties and retaining most of the additional revenue generated
- Accessing debt at a lower cost than that allowed by the regulator and retaining all of the benefits of the under-run
- Resetting the cost of debt each year to current costs.

So, the MEU, while recognising that carrying out international comparisons is a useful exercise, it also points out that great care is needed when drawing conclusions as to whether the international practice is applicable when considering the differences in the regulatory approaches.

Multi-model assessments

Over the years the MEU has noted that consumers (directly through their responses and indirectly through the CCP and the CRG) have supported AER (and other regulators) examinations of the various models that could be used to establish the rate of return and, more specifically, the return on equity. Equally, these consumer representatives have supported the AER in the conclusions reached about the efficacy (or not) of the many models that have been proposed as potential options for this task. What is a standout from the many reviews of the various models, is that the only standout is the SL CAPM in both its efficacy and wide acceptance. This same conclusion is reached by the Brattle review although it does recommend that the other models have some features that other regulators use for adjusting their final decisions.

The MEU has noted that of the other models used there are very clear drawbacks in their application which has limited their use by other regulators. The only model, other than the SL CAPM, that seems to get some support from other regulators is the Dividend Growth Model (DGM).

A major issue in the use of any model is the ability to access the input data required for the models. The MEU points out that even the commonly used SL CAPM has drawbacks in this area, especially if the data set to draw conclusions on values is limited as it is in the Australian context. Data from publicly listed firms to provide assessments of equity beta and gearing specific to energy networks is quite scarce in Australia. However, in the case of the DGM (which does have some limited support from other regulators) this model suffers from the same limitations as the SL CAPM but also from the arbitrariness in the development of some other inputs and the selection of the various "factors" used to make the DGM more appropriate to the use that is proposed.

As noted above, the MEU is very concerned about the use of any inputs that are not effectively guaranteed by an unrelated counterparty (eg a bank which takes the risk of future movements in interest rates). In the case of the DGM, the MEU sees that if this model was to be used, then there should preferably be a counterparty that would take the risk (ie would guarantee) on the growth rate forecast used in the model, and if this proved incorrect, would reimburse consumers (if the forecast was overstated) or the network (if the forecast was understated) for the duration of the regulatory period. As noted above, with the risks involved in accommodating such volatility as seen in the current COVID climate, the MEU is not aware of any counterparty that would take the risk on such a volatile input as projected dividend growth. This adds

to the concern about the arbitrariness inherent is selecting the various adjustment factors used in the DGM.

In its analysis of the "best" model(s) to use for setting the return on equity, the MEU considers that the AER needs to assess not only which model might best provide an acceptable outcome but that it must also recognise that just as important is the ability to access and collate sufficient independent data in order to provide confidence that the data available for inputting to the model(s) is capable of providing confidence that the outturn values are reasonable and appropriate.

The drive for the AER to use a number of models to assess the return on equity presents a further complication in addition to the selection of the "best" model. Any decision to use more than one model to set the return on equity immediately results in a decision as to what weighting will be used to import the impacts of the different models. The setting of such a weighting must be quite arbitrary and this still leaves the question as to whether such arbitrary decisions will deliver a more "exact" answer. The MEU does not consider that such an approach will deliver a clearer outcome but will introduce further debate as to the weightings applied and therefore less confidence in the outcome.

The MEU considers that the current AER approach of using a single proven model (the SL CAPM) is sound and the MEU sees only one major drawback of continuing with this approach – that the market data available from publicly listed network firms to identify the equity beta and gearing is possibly too small for providing an accurate assessment of these inputs for the SL CAPM. To counter this limited data set, the MEU considers that longer time frames for data collection increases the confidence in the outcome, when recognising the relative long-term stability observed in these parameters.

Shorter window for data

Brattle suggests that rather than using a longer time series for data collection, the use of a shorter historical time frame (2-5 years before current time) might provide a more "up-to-date" valuation of the inputs and therefore provide more forward-looking data.

While such an approach might have some initial attraction, the MEU points out that network owners make their investment decisions over a much longer time frame than 2-5 years, recognising that the assets they invest in have physical lives well in excess of 40 years[7]. This contrasts with the time frames used by investors in the stock market where investment decisions are often measured in terms of a few months and unlikely to exceed 12 months.

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[7] This is compounded by the fact that the Australian regulatory approach requires consumers, once an asset is provided by the network, to continue funding this asset for its forecast life, regardless as to whether it is used.

In contrast to the Brattle assessment, MEU members[8] advise that they look more to longer term trends when assessing their investments in new facilities and that a longer-term assessment (using both forecasts and historical realities) to inform on what the best approach for their investment is likely to be. In the case of networks, compared to capital intensive firms operating in the competitive market, networks have the security of knowing that their revenue into the future is secured through the Rules, increasing their reliance on the longer-term outcomes.

The market data gathered by the AER to generate its inputs to the models it uses, is gathered from firms listed on the ASX, so the data the AER collates is influenced by the decisions of investors in shares rather than investors in network assets. This creates a dichotomy in that the AER is looking to set a return on equity related to the decision processes used by an investor in network assets but based on data arising from decisions made by another cohort of investors with a different view on investments.

As network asset investment takes a longer term view, it is more appropriate to use data that has smoothed out the short term influences seen in the stock market (such as the COVID crash referred to above) to be more representative of the longer term view taken by investors in physical network assets. The MEU sees this approach of using longer term data sets is more consistent with the actuality of investments made by networks in physical assets compared to investment is shares.

International data

While there might be some benefit is using international data to expand the data set where such is limited in Australia, the MEU considers that there needs to be a very careful analysis to ensure that the international data acquired is really equivalent to the local environment. The MEU is aware that the regulatory approach, laws and rules used in Australia are significantly different to those applying in many other jurisdictions and the differences in risks faced by the international networks will result in considerable variation in the parameter inputs between the international and local networks.

The MEU considers that unless the regulatory environment in the overseas market is identical to that used in Australia, then the international data must be treated with extreme caution and that adjustments would have to be made to the overseas data in order to generate an equivalent data set that would reflect Australian conditions. The MEU sees that such adjustments would perforce include significant arbitrary assumptions that would lead to a lessening in confidence in the international data to reasonably inform the Australian data set. With this in mind, the MEU does not consider that international data should be used to generate inputs to the model used for assessing return on equity.

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[8] MEU members are all capital-intensive firms with long investment horizons, similar to the networks

Increase frequency of assessments

The MEU points out that currently 60% of the rate of return is updated annually through use of the trailing average approach to the cost of debt. This is appropriate because the cost of debt is, in reality, a cost of doing business but the return on equity is a return on a long-term investment.

Brattle suggests that the return on equity should updated more frequently and applied immediately to all network revenue when the update is completed – Brattle avers that this would make the value for the return on equity more contemporary with the current market conditions. Further, Brattle provides a view that return on equity parameter inputs should be assessed more frequently and immediately applied to all network revenues, following the approach used by the annual adjustment of debt costs.

The MEU notes that the AER is required to set the process for calculating the return on equity every four years, although the AER could modify the input parameters more frequently. The MEU notes that AER practice is to set the return on equity at the time of each revenue reset only adjusting the return on equity in relation to movements in the risk free rate, holding the gearing and equity beta constant until the next RoR review.

As the MEU notes above, while investors in shares might consider a need for a more contemporary return on equity, investors in network assets have made their decisions on investments based on a much longer time frame and this approach is reflected by MEU members who advise that they tend to use longer term estimates of the returns they expect from their equity injections (ie using benchmark internal rates of return as a measure) which do not reflect short term movements in the market. Effectively, forecasts of returns on equity expected should be more related to the expected life of the investment rather than short term market movements.

However, the MEU has observed that the values of gearing and equity beta show some level of constancy over time, but as the MRP does exhibit considerable volatility, the AER could use an updated MRP at each reset as an approach to provide a "more contemporary" RoE. However, the MEU considers that the outturn volatility in the MRP is inconsistent with the long-term investment profile of the network assets and therefore does not support such a process

Summary

Subject only to the availability of the data sets available to inform the parameters used in the \SL CAPM, the MEU considers that the SL CAPM is an appropriate tool to be used to set the return on equity for the networks and that current approach of fixing MRP, equity beta and gearing over each RoR review period used by the AER reflects the reality of the risk profile the networks have to manage.

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 ███████████████████████████ or ████████████████

Yours faithfully

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██████████████
Public Officer