

Explanatory note—Return on Regulated Equity

The Australian Energy Regulator (AER) reports four regulatory profitability measures for regulated networks. We publish explanatory notes to accompany each of these measures.

This note explains our approach to report on Return on Regulated Equity (RORE) for the network service providers (NSP or NSPs) we regulate as well as factors that should be taken into consideration when interpreting these ratios. This note discusses:

- What is the Return on Regulated Equity?
- Notes on interpreting ROA
- How we calculate ROA

What is the Return on Regulated Equity?

Return on Regulated Equity (RORE) is a comprehensive measure of regulatory profitability.

The RORE is suited to capital intensive businesses and allows us to compare NSP profits against their allowed rate of return.

We calculate it using the following formula:

$$\text{RORE} = \frac{\text{Regulatory NPAT}}{\text{Regulated Equity}}$$

Where:

- Regulatory NPAT is Regulatory net profit after tax
- Regulated equity is the implied value of equity in the networks' regulatory asset base

Notes on interpreting RORE

Our regulatory framework is designed to target a real rate of return. NSPs are also compensated for actual inflation outcomes, preserving the purchasing power of NSPs and investors.

To capture these two components of our framework we report both real and nominal returns, which are compared against different allowed rate of returns.

- Real return on regulated equity, which excludes returns from indexation of the RAB and can be compared against the Real post-tax return on equity
- Nominal return on regulated equity, which includes returns from indexation of the RAB and can be compared against the Nominal post-tax return on equity.

The RORE measure can be compared against:

- A NSPs relevant rate of return,
- Other NSPs in the sector, and
- Australian and international regulated businesses where the RAB is valued on a similar basis to that of the NSP.

It is difficult to compare a NSP's RORE measures directly to those of unregulated businesses due to the unique characteristics of the RAB under the regulatory framework, and the resulting rules for regulatory accounting, which differ to statutory accounting requirements.

Confidentiality

Unlike the return on assets or EBIT per customer, we do not publish all of the calculation steps involved in calculating return on regulated equity. Specifically, we do not publish the calculation steps relating to interest and tax expense involved in moving from EBIT to regulatory NPAT. While the interest expense of the core regulated service component of the network may not be commercially sensitive, this information could be used to 'back-out' equivalent information of unregulated business units where the information may be commercially sensitive.

To make the information and its outcomes as transparent as possible we have:

- Engaged PwC to assist in reviewing the networks' information request responses, including a publishable summary available on our website; and
- Published a full version of our return on regulated equity model using illustrative data, allowing stakeholders to understand the calculation steps

Factors causing differences between real and forecast RORE

All of the factors impacting the return on assets measure also impact the return on regulated equity. Because the return on regulated equity is a more comprehensive measure, it can also be impacted by:

- Differences between forecast and actual financing structure
- Differences between forecast and actual interest rates
- Differences between forecast and actual taxation

Differences between forecast and actual financing structure

To finance investments in the asset base, networks raise capital through a mix of equity and debt. We forecast the rate of return using a benchmark value for the proportion of capital raised through debt—also known as the gearing level. In practice, networks can raise capital using more or less debt than the benchmark. Holding other things constant, raising a higher proportion of capital through debt:

- Increases interest expense, decreasing the return on regulated equity
- Reduces the equity base over which profits are distributed, increasing the return on regulated equity

The interaction and impact of these two effects depends on whether the network raises debt at interest rates above or below our forecast return on debt. In general, we find that raising more capital through debt (higher gearing) results in higher returns on regulated equity. In effect, networks are taking on more risk in order to achieve higher returns on equity.

Differences between forecast and actual interest rates

In our rate of return instrument, we set out a methodology for calculating the interest rates at which a representative network would raise debt. In practice, networks may raise debt at rates above or below our benchmark.

Using the interest expense and interest bearing liabilities allocated by the networks from company group to the provision of core regulated services, we can calculate an effective portfolio interest rate.

There is a wide range of possible drivers for these differences, including but not limited to:

- Networks being perceived as having higher or lower default risk than our methodology implies
- Networks raising debt at longer or shorter terms than our benchmark 10 year assumption
- Networks raising debt in tranches departing from the assumed structure of debt-raising under our trailing average portfolio return on debt
- Networks having access to lower interest rates due to raising debt as part of a larger diversified ownership group
- Networks raising debt over windows differing from our specified averaging periods over which forecast rates of return are calculated

Where networks raise debt at rates lower than our forecasts, this contributes to higher returns on regulated equity. If networks raise debt at rates higher than our forecast, it contributes to lower returns on regulated equity.

Differences between forecast and actual tax expense

Under our post-tax framework, we include in our forecast of building block revenue an amount for expected tax payments. In practice, networks pay more or less tax than our forecast.

Because we calculate actual tax paid at network level within our model, tax expense varies in response to other changes in revenue or expenses. In addition, we adopt different tax rates based on the reported company structure for tax purposes. Differences in

this tax structure can contribute to differences between forecast and actual tax expense. We describe these in greater detail in the next section.

How we calculate RORE

This section sets out the approach and data sources we used to calculate RORE.

The methodology has been designed to allow for the best possible comparison of NSPs' actual returns against allowed returns on equity.

We compiled data used to calculate RORE from the following sources:

- The latest approved or proposed roll-forward models (RFMs) for the NSP.
- The latest approved or proposed post-tax revenue models (PTRMs) for the NSP.
- Annual regulatory information notice (RIN) submissions reported by the NSPs to the AER.
- A template information request developed by the AER which all NSPs have responded to. This template information request will ultimately be included in future RINs.

Illustrative model

Alongside this note we have published a version of our full model using illustrative data. We encourage stakeholders to explore this model for greater detail on the calculation steps moving from EBIT to regulatory NPAT and the relationships between variables.

Overall methodology

Calculation of the RORE begins with earnings before interest and tax (EBIT) as calculated for the return on assets measure.

We then:

- Deduct interest expense arising from the provision of core regulated services—allocated by NSPs as part of the tax and interest information request
- Deduct tax expense—calculated within the model as described below
- Add returns arising from distribution of imputation credits—using the benchmark

value of imputation credits multiplied by tax expense

This gives us what we refer to as regulatory net profit after tax (regulatory NPAT). To calculate return on regulated equity we then divide regulatory NPAT by regulatory equity.

We calculate regulatory equity as the value of the opening RAB in a given year less the value of interest bearing liabilities (debt) the networks allocate as arising from the provision of core regulated services on their networks.

We also make a series of other adjustments depending on whether we are calculating real or nominal returns on regulated equity. These are described in our profitability measures review and set out in our illustrative model.

Interest expense

We regulate NSPs as individual networks. In practice, most NSPs are owned as part of larger ownership groups. Commonly, debt is raised and interest accounted for at the ownership group level.

In order to estimate the RORE for networks, we require interest expense arising from the provision of core regulated services at the network level. We have asked networks to allocate interest expense and the value of interest bearing liabilities (i.e. how much debt is giving rise to that interest expense) to the core regulated service part of the network using a top down approach—that is, debt used in financing the RAB.

Networks have done so using a variety of approaches, which they have specified in their responses to our information request. To assist us in reviewing the first tranche of responses, we engaged PricewaterhouseCoopers (PwC). A summary of PwC's review is available on our website.

Tax expense

Like interest expense, tax expense is typically incurred at the

ownership-group level. However, unlike interest expense, this is impacted by the different tax structures the networks are held under. This includes:

- Entities taxed as companies
- National tax equivalency regime (NTER) entities
- Government-owned non-NTER entities
- Flow-through entities

Flow-through ownership structures do not pay any tax at the level of the NSP as the tax obligation passes through the partnership or trust to the ultimate tax paying entity, who pays tax at their applicable statutory tax rate. As identified in our tax review, this is the relevant level of tax for consideration as 'actuals'.

In order to undertake a top-down approach to tax, we would need the individual tax expenses across all owners of a NSP and individual allocations of the expense for each owner.

For that reason, we consider tax expense is better suited to a bottom-up approach. It requires EBIT to be adjusted only for relevant differences for tax purposes, on which PwC has given us advice, and to multiply this by an applicable tax rate. For the purposes of our analysis, we have used the following tax rates in the relevant proportions:

- Entities taxed as companies—30%
- National tax equivalency regime (NTER) entities—30%
- Government-owned non-NTER entities—30%
- Flow-through entities—19.5%.

We requested where available a weighted-average of individual investors' tax rates. Where not available, we have applied an indicative rate of 19.5% based on advice from PwC. All networks advised they were unable to develop a more detailed weighted average rate.

To calculate tax expense we start with EBIT, then:

- deduct interest expense
- add back nominal-straight line depreciation
- deduct instead tax asset-base depreciation, sourced from our RFM where available
- adjust for customer contributions, gifted assets, adjustments to prior returns or disallowed interest expense

This provides an estimate of pre-tax income, which we then multiply by the tax rate described above. We then adjust for any tax-losses carried forward which are utilised to reduce the tax allowance. Combined, this gives our estimate of raw net profit after tax.

Imputation credits

The building block revenue framework recognises that imputation credits are a value stream available to equity holders alongside dividends and capital gains which an investor can receive. We adjust the estimated cost of tax allowance for the value of imputation credits which reduces the allowed revenue. By making an adjustment to the tax allowance, we avoid double counting of the defined value of the imputation credits and forecast returns to equity.

We make this adjustment by adding to our estimate of raw net profit after tax:

Returns from imputation credits = Benchmark value of imputation credits (i.e. gamma) x Tax expense after any utilisation of tax losses

This gives us our estimate of regulatory net profit after tax.

Calculating real vs nominal returns on regulated equity

Our model allows users to calculate either real or nominal returns on equity. It does so as follows:

To calculate nominal returns on regulated equity, we add indexation of the RAB to our calculation of EBIT. Nominal returns on regulated equity should be compared against the equivalent post-tax nominal return on equity.

To calculate real returns on regulated equity, we remove indexation on the equity component of the RAB from our estimate of NPAT, then we inflate the equity base of the RAB to be in common real dollar terms with our estimate of NPAT. In our calculation model, the real return on regulated equity flows on from calculation of the real return on assets, where we have already deducted indexation of both equity and debt. As a result, to work out the real return on equity we need to add back to our estimate of NPAT the indexation on the debt component of the RAB which we have previously deducted.