Explanatory note – Return on regulated equity

The Australian Energy Regulator (AER) reports four regulatory profitability measures for regulated networks and accompanying explanatory notes.

This note explains our approach to reporting the return on regulated equity (RoRE) for the network service providers (NSPs) we regulate. It also explains factors to consider when interpreting RoRE. This note discusses:

- What is RoRE
- How to interpret RoRE
- Confidentiality
- Factors causing differences between real and forecast RoRE
- How we calculate RoRE

What is RoRE

RoRE is a comprehensive measure of regulatory profitability. It is suited to capital intensive businesses and allows us to compare an NSP's profits against its allowed rate of return.

We calculate RoRE 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 regulatory asset base (RAB)

How to interpret RoRE

Our regulatory framework targets a real rate of return. NSPs are also compensated for actual inflation outcomes, preserving the purchasing power of NSPs and investors. To capture these components of our framework, we report the:

- Real RoRE, which excludes inflation and is compared against the real post-tax return on equity
- Nominal RoRE, which includes inflation and is compared against the nominal post-tax return on equity

An NSP's RoRE can be compared against:

- Its relevant rate of return
- The RoRE of other NSPs in the sector
- Australian and international regulated businesses where the RAB is valued on a similar basis to that of the NSP

It is difficult to compare an NSP's RoRE directly to those of unregulated businesses. This is 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.

Common EBIT

Calculating RoRE begins with calculating earnings before interest and tax (EBIT). EBIT is also used to calculate return on assets and EBIT per customer. All notes on interpreting the return on assets and EBIT per customer are therefore also relevant to this measure.

Confidentiality

Unlike the return on assets or EBIT per customer, we do not publish all RoRE calculations. Specifically, we do not publish interest and tax expense calculations used in moving from EBIT to regulatory NPAT. While the interest expense incurred in providing core

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regulated services may not be commercially sensitive, this information could be used to 'back-out' equivalent commercially sensitive information relating to unregulated business units.

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

- Engaged PwC to assist in reviewing the NSPs' information request responses, with a publishable summary on our website

- Published a full version of our RoRE model using illustrative data, allowing stakeholders to understand the calculation steps

Factors causing differences between real and forecast RoRE

Factors affecting return on assets and EBIT per customer also affect the RoRE. Since the RoRE is a more comprehensive measure, it is also affected by differences between:

- forecast and actual financing structure

- forecast and actual interest rates

- forecast and actual taxation

Differences in financing structure

To finance investments in the RAB, NSPs raise capital through a mix of equity and debt. We forecast the rate of return using a benchmark proportion of capital raised through debt—also known as the gearing level. In practice, NSPs can depart from the benchmark. Holding other things constant, raising a higher proportion of capital through debt:

- Increases interest expense, decreasing the RoRE

- Reduces the equity base over which profits are distributed, increasing the RoRE

The net impact of these two effects depends on whether the NSP 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 a higher RoRE. In effect, NSPs are taking on more risk to achieve higher returns on equity.

Differences in interest rates

Our rate of return instrument includes a methodology for calculating interest rates at which a benchmark efficient NSP would raise debt. In practice, NSPs may raise debt at rates above or below our benchmark.

We can calculate an effective portfolio interest rate using the interest expense and interest bearing liabilities allocated by the NSPs from company groups to provide core regulated services.

Differences in forecast and actual interest rates can have various drivers, including but not limited to NSPs:

- being perceived as having higher or lower default risk than our methodology implies

- raising debt at longer or shorter terms than our benchmark 10 year assumption

- raising debt in tranches departing from the assumed structure of debt raising under our trailing average portfolio return on debt

- accessing lower interest rates due to raising debt as part of a larger diversified ownership group

- raising debt over windows differing from our specified averaging periods over which forecast rates of return are calculated

Where NSPs raise debt at rates lower than our forecasts, this contributes to a higher RoRE. If NSPs raise debt at rates higher than our forecasts, it contributes to a lower RoRE.

Differences in tax expense

Under our post-tax framework, revenue forecasts include an amount for expected tax payments. NSPs may pay a different amount of tax than what we forecast in practice.

Because we calculate actual tax paid at the NSP level within our model, tax expense varies in response to other changes in revenue or expenses. We also 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

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actual tax expense. We describe these in greater detail in the next section.

How we calculate RoRE

This section sets out our approach and data sources for calculating RoRE. This approach aims to facilitate the best possible comparison between RoRE and allowed returns on equity.

Data for calculating an NSP's RoRE comes 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 the NSP reported to the AER.

- The NSP's response to an AER information request, which will ultimately be included in a future Regulatory Information Notice.

Illustrative model

Alongside this note, we publish 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

Calculating the RoRE begins with EBIT as calculated for the return on assets and EBIT per customer measure. We then:

- Deduct interest expense arising from providing core regulated services—allocated by NSPs as part of their responses to our tax and interest information request

- Deduct tax expense—calculated within the model as described below

- Add returns arising from distributing 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

RoRE we then divide regulatory NPAT by the equity base.
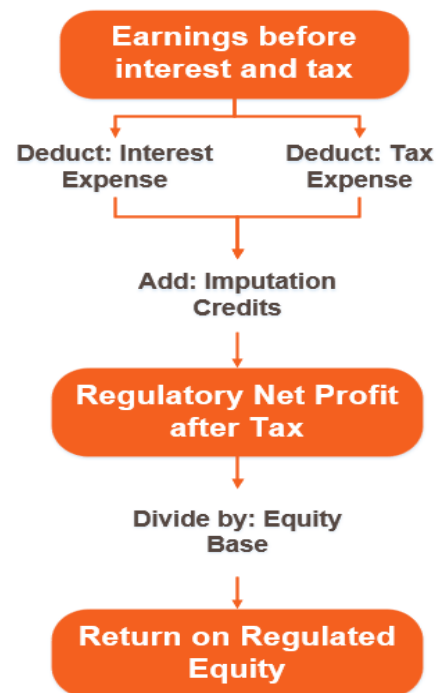
We calculate the equity base as the value of the opening RAB each year less the value of interest-bearing liabilities (debt) the NSP allocates as arising from providing core regulated services.

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

Interest expense

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

Estimating RoRE for an NSP requires an estimate of its interest expense in providing core regulated services at the network level. NSPs have allocated interest expense and the value of interest-bearing liabilities (i.e., how much debt gives rise to that interest expense) in providing core regulated services. In doing so, NSPs have used a top-down approach—that is, debt used in financing the RAB. NSPs have used several approaches to do this, which they have specified

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in their responses to our information request. To assist us in reviewing the first tranche of responses, we engaged accounting firm PwC. A summary of their 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, the tax structure an NSP is held under affects its tax expense. 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 tax at the level of the NSP. Rather, 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'.

To undertake a top-down approach to tax, we would need the individual tax expenses across all owners of an NSP and individual allocations of the expense for each owner. As such, we consider tax expense is better suited to a bottom-up approach. This 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. Our analysis has used the following tax rates in the relevant proportions:

- Entities taxed as companies—30%
- 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 NSPs advised they were unable to develop a more detailed weighted average rate.

To calculate tax expense, we start with EBIT and then:

- deduct interest expense
- add back nominal straight line depreciation
- deduct depreciation of the tax asset base, 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 reduce the tax allowance. This gives our estimate of raw NPAT.

Imputation credits

The building block revenue framework recognises that imputation credits are a value stream available to equity holders alongside dividends and capital gains. 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 the value of the imputation credits and forecast returns to equity.

We make this adjustment by adding to our estimate of raw NPAT:

- 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 NPAT.

Calculating real versus nominal RoRE

Our model allows users to calculate either real or nominal RoRE.

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

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