

## 9 WEIGHTED AVERAGE COST OF CAPITAL

The building block approach to determining the MARR (as discussed in Section 1.5.1 of this Final Report) requires a return on capital. As discussed in Chapter 10, the return on capital requires the WACC to be applied to capital invested in the regulated business.

The WACC is an expected benchmark cost of capital and represents the future returns for an efficiently managed business. The Economic Regulator uses a benchmark WACC rather than a WACC calculated using the regulated business' actual financial statements on the premise that a benchmark WACC incentivises the business to efficiently finance its operations.

The WACC is calculated as the cost of equity multiplied by the proportion of equity used to finance the business plus the cost of debt multiplied by the proportion of debt used to finance the business. Therefore the basic formula is as follows:

$$\frac{E}{D+E} * Re + \frac{D}{D+E} * Rd$$

Where:

- Re = Return on Equity (costs of equity) is conventionally quoted as a **post-tax** value
- Rd = Return on Debt (the cost of debt) is conventionally quoted as a **pre-tax** value.
- D = Proportion of business funded by debt
- E = Proportion of business funded by equity

The WACC can be calculated on a real or nominal, pre-tax or post-tax basis resulting in different WACC types and formulae.

As the WACC is a forward looking value it incorporates a degree of forecasting with the values and derivation of some of the components subject to ongoing vigorous debate between academics, regulators, economists and finance practitioners. Consequently, the appropriate value and or method to derive the WACC components may involve a degree of professional judgement on the part of the Economic Regulator.

### 9.1 Statutory requirements

Section 68(1A) of the Industry Act requires the rate of return, on assets transferred to the previous regulated entities before 1 July 2011, to incorporate a commercial rate of return on debt and a pre-tax rate of return of three percent on equity. For all other regulated assets, the rate of return must incorporate a commercial risk based rate of return on both debt and equity.

Therefore section 68(1A) effectively requires two separate WACCs, one for assets transferred to the previous regulated entities before 1 July 2011 (referred to as Existing Assets) and another for assets purchased or constructed by the previous regulated entities and now TasWater after 1 July 2009 (referred to as New Assets).

## 9.2 Type of WACC

The Economic Regulator used a real pre-tax WACC For the first and second water and sewerage price investigations. Prior to the commencement of this investigation, the Economic Regulator proposed in the PSP Guideline released in April 2016, to use a pre-tax real WACC for the third regulatory period.

A pre-tax WACC means that the post-tax return on equity is grossed up by an applicable tax rate to become a pre-tax return on equity. Therefore both the return on debt and the return on equity are pre-tax values. This results in a higher WACC, all other things being equal, which results in a regulated business receiving a higher maximum allowed regulated revenue which must be used to cover the businesses tax liabilities. A real WACC factors in inflation and is therefore lower, all other things being equal, than a nominal WACC which does not account for inflation.

TasWater proposed the use of a “post-tax nominal vanilla WACC” for the third regulatory period. TasWater made this proposal on the basis that the AER uses this type of WACC in its Post Tax Revenue Model. However, unlike the AER, which updates the WACC parameters annually, TasWater proposed that the WACC determined during the price investigation apply for the entire regulatory period and is not updated during the period.

TasWater’s post-tax nominal vanilla WACC is referred to by the AER as a “nominal vanilla WACC” and is also referred to as the vanilla WACC as it is the basic WACC formula without adjustments for either inflation or taxation. The formula includes a nominal post-tax return on equity and a nominal pre-tax return on debt and, therefore, necessitates the inclusion of separate tax allowance and inflation adjustments in the calculation of the MARR. A discussion of the required tax allowance and inflation adjustment is included in Chapter 11.

As the vanilla WACC is the most common form of WACC used by other Australian regulators, the Economic Regulator intends accepting TasWater’s proposal to use this form of WACC for the third regulatory period.

*The Economic Regulator accepts TasWater’s proposal to apply a vanilla WACC for the third regulatory period.*

## 9.3 WACC formulae

### 9.3.1 WACC<sub>NEW</sub>

The post-tax nominal vanilla for New assets, WACC<sub>NEW</sub>, is calculated using the following formula:

$$WACC_{NEW} = R_d G + R_e (1-G)$$

Where:

$R_d$	=	Pre-tax cost of debt
	=	RFR + DRP + debt issuance costs
RFR	=	Risk free rate
DRP	=	Debt risk premium
G	=	Gearing ratio
$R_e$	=	Post-tax cost of equity
	=	RFR + $\beta_e$ MRP
$\beta_e$	=	Equity beta
MRP	=	Market risk premium

### 9.3.2 WACC<sub>EXISTING</sub>

The post-tax nominal vanilla WACC for Existing assets, WACC<sub>EXISTING</sub>, is calculated using the following formula:

$$WACC_{EXISTING} = R_dG + EXISTING R_e(1-G)$$

Where:

$$EXISTING R_e = Z[1-t(1-\gamma)]$$

$$Z = \text{Statutory nominal pre-tax return on equity} = 3\%$$

$$t = \text{Corporate tax rate} = 30\%$$

$$\gamma = \text{Gamma}$$

## 9.4 TasWater's proposed WACCs

TasWater's proposed WACC components and the resultant WACCs are included in Table 9.1.

Table 9.1 TasWater's proposed WACC components and WACCs

WACC component	Value
Gearing	60%
Risk free rate	3.50%
Debt risk premium	2.49%
Debt issuance	0.10%
Cost of debt (pre-tax)	6.09%
Market risk premium	6.50%
Equity beta	0.70
Statutory return on equity <sub>(Existing)</sub> (pre-tax nominal)	3.00%
Gamma	0
Cost of equity <sub>(New)</sub> (post-tax)	8.05%
<b>WACC<sub>EXISTING</sub></b>	<b>4.49%</b>
<b>WACC<sub>NEW</sub></b>	<b>6.87%</b>

The following sections outline TasWater's rationale for its proposed WACC components together with the Economic Regulator's assessment of those components and the Economic Regulator's WACC components and resultant WACCs.

### 9.4.1 Gearing

Gearing refers to the percentage of capital funded by debt. In determining the level of gearing (i.e. debt financing) regulators generally use a benchmark gearing ratio to ensure customers do not bear the cost associated with an inefficient financing structure.

TasWater has not proposed to change the gearing ratio of 60 per cent used for the second regulatory period. The Economic Regulator did not propose changing the gearing ratio in its Draft Report and has not changed that position for this Final Report. The Economic Regulator therefore accepts TasWater's proposed 60 per cent gearing ratio.

*The Economic Regulator accepts TasWater's proposed gearing ratio of 60 per cent in calculating the WACCs for the third regulatory period.*

## 9.4.2 Risk free rate

The risk free rate (RFR) refers to a theoretical rate of return of an investment with zero risk and it is used to calculate both the cost of debt and the cost of equity. It is generally accepted practice to use a government security as proxy for the risk free rate, with ten year Commonwealth Government bonds commonly used.

For the second regulatory period, the Economic Regulator calculated the risk free rate the midpoint of the 40 trading day average and a ten year weighted average of ten year Commonwealth Government bonds, with the weighting placing greater weight on more recent data.

TasWater proposed the risk free rate to be calculated as the mid-point of the ten year simple average and a 40 trading day average of ten year Commonwealth Government securities. Based on its preferred method, TasWater proposed a risk free rate of 3.5 per cent.

As discussed in section 9.4.4 of this Final Report, the Economic Regulator has applied a modified method to calculate the risk free rate. Based on that method, and using data as at 5 April 2018, the Economic Regulator has calculated a risk free rate of 2.88 per cent.

## 9.4.3 Cost of Debt

The cost of debt is the sum of the risk free rate, a debt risk premium (DRP) and debt issuance costs.

### 9.4.3.1 Debt Risk Premium

The Economic Regulator used the RBA's corporate credit spread data to calculate the DRP for the second regulatory period and TasWater proposed continuing to use the same data set to calculate the DRP for the third regulatory period. TasWater proposed to use the same approach for calculating the DRPs for the risk free rate namely: the mid-point of the ten year simple average and an average of the last two observations of the RBA's monthly corporate credit swap data in place of a 40 trading day average. Using this method, TasWater proposed a debt risk premium of 2.49 per cent.

The Economic Regulator accepts TasWater's proposal to use the RBA's corporate credit spread data to calculate the DRP but, as discussed in Section 9.4.4 of this Final Report, the Economic Regulator has applied a modified method to calculate the RFR. Based on that method, and using data up to 5 April 2018, the Economic Regulator has calculated a DRP of 1.98 per cent.

### 9.4.3.2 Debt issuance costs

The debt issuance costs compensate an entity for costs related to raising or refinancing debt.

TasWater proposed the inclusion of debt issuance costs since a benchmark efficient company would incur debt issuance costs to raise or refinance debt. TasWater proposed a debt issuance cost allowance of 0.1 per cent.

TasWater noted that the Queensland Competition Authority (QCA), the Independent Pricing and Regulatory Tribunal (IPART) and the Economic Regulatory Authority of Western Australia (ERAWA) include a debt issuance cost allowance of between 0.108 per cent and 0.125 per cent in the cost of debt.

The Economic Regulator acknowledges that there are debt-raising transaction costs incurred in refinancing a businesses' debt portfolio and accepts the inclusion of debt issuance costs of 0.1 per cent in the cost of debt calculation.

*The Economic Regulator accepts TasWater including debt issuance costs of 0.1 per cent in calculating the WACCs for the third regulatory period.*

### 9.4.3.3 Method to calculate risk free rate and debt risk premium

For the second regulatory period, the Economic Regulator applied the same calculation method to determine the RFR and the DRP. The method used a 40 day trading average combined with a ten year weighted average which placed greater weight on more recent data.

TasWater accepts using a combination of a 40 day trading average and a ten year component, but proposed a simple average instead of the Economic Regulator's weighted average. TasWater described the effect of the Economic Regulator's method has a similar effect to a five to seven year average. TasWater contends that its debt maturity profile shows that approximately ten per cent of its debt is refinanced each year for the next ten years.

The cost of debt component of the WACC has been subject to considerable debate in recent years. A number of events have contributed to the debate including, changes in 2013 to the rate of return provisions of the National Electricity Rules and the National Gas Rules, and the post-GFC economy which has seen interest rates decrease significantly.

There is no consistent approach used by regulators to calculate the RFR or DRP. The QCA, ERA and the ACT Treasurer's Industry Panel<sup>69</sup> (Industry Panel) contend that finance theory dictates that the most current rate is most appropriate rate. IPART uses a combination of current and historical rates to calculate the risk free rate, specifically the mid-point of the 40 day average of the yields on ten year Commonwealth Government Securities and the ten year simple average of yields on ten year Commonwealth Government Securities.

The AER, ESC and ESCOSA use a trailing average portfolio approach to determine the cost of debt which replaces or will replace the risk free rate plus debt premium approach. The trailing average approach assumes that every year, one-tenth of the debt of a business is refinanced. As the return on debt is an average of the interest rates over a period of ten years, this approach leads to a relatively stable estimate of the RFR over time. The trailing average approach involves recalculating the cost of debt for each year of the regulatory period and, therefore, requires prices to be reviewed annually.

<sup>69</sup> Industry Panel (2015) *Draft Report: Review of the Independent Competition and Regulatory Commission's 2013 Price Direction for Regulated Water and Sewerage Services in the ACT*, Canberra.

The Economic Regulator agrees with the QCA, ERA and the Industry Panel that past interest rates are less relevant than current market rates and, consistent with efficient market theory, the most recent market prices incorporate all information available regarding future prices and, therefore, theoretically represent the most efficient expected cost of debt.

However, in its Draft Report the Economic Regulator considered that a cost of debt that incorporates a historical component is appropriate given that a benchmark firm would have an efficient debt financing and risk management policy and such a policy would be based on issuing debt at different points in time with a staggered maturity profile. In addition, businesses opportunistically restructure debt. It therefore seems unlikely an efficiently managed business will have a fixed maturity and/or refinancing profile, ie it will most likely have a mix of current and past interest rates and maturity profiles. The Economic Regulator considers that incorporating a historical component in the cost of debt is beneficial in that it may reduce the volatility in the WACC, which in turn may lead to less price volatility.

As the Economic Regulator did not propose recalculating the required revenue annually it did not consider the trailing average method appropriate. Further the Economic Regulator considered historical rates are over represented in IPART's approach.

For the second price investigation, the Economic Regulator developed a modified version of the IPART approach where the historical component is a time weighted average over ten years rather than a ten-year simple average. The Economic Regulator concluded that a cost of debt methodology that incorporates some degree of historical rates but is predominately weighted towards current market rates would provide regulated businesses with the appropriate signals regarding the need to make efficient investment decisions.

In its Draft Report the Economic Regulator noted that it did not intend accepting TasWater's proposal to use a simple ten year average in calculating either the RFR or DRP and proposed using a slightly modified version of the method that applied for the second regulatory period.

Specifically, the Economic Regulator proposed using the annual averages for the past nine years plus the current point in time rate to make up the ten year refinancing profile. In maintaining the assumption of a ten year refinancing profile the changes reflect that rates ten years ago are irrelevant by the first year of the regulatory period. The changes place a greater weighting on the forward looking point in time rate.

In its Draft Report the Economic Regulator therefore applied the following approach to determine the RFR:

1. Calculate the 40 trading day average of ten year Commonwealth Government Securities.
2. Calculate the daily average of the last nine, eight, seven, six, five, four, three, two, one year of yields on the ten year Commonwealth Government Securities used in step 1.
3. Calculate the average of the value in step 1 and the values in step 2.
4. Calculate the midpoint of the values calculated in steps 1 and 3.

Similarly, the Economic Regulator proposed using the same approach to determine the DRP but with the RBA's monthly corporate credit swap data.

#### 9.4.3.4 Issues raised during consultation on the Economic Regulator's Draft Report

In its submission on the Economic Regulator's Draft Report, Taswater acknowledged that, while regulatory precedent is inconsistent for calculating the WACC, it argued the method proposed by the Economic Regulator was not used by any other regulator. TasWater also reiterated its support for its proposal to calculate the risk free rate and debt risk premium using the mid-point of the ten year and 40 trading day averages of Commonwealth Government bonds which is the current method used by IPART<sup>70</sup>.

The Economic Regulator considers the inconsistency in methods to calculate the WACC parameters reflects that it is a forward looking variable. Therefore, no one method can definitely predict future interest rates. This view is supported by the Australian Competition Tribunal, which in its decision in the Dampier to Bunbury Natural Gas Pipeline<sup>71</sup> case the Tribunal stated:

And, as is the case with the MRP, there is no one single empirical method that is universally accepted as providing the "right" value for the DRP at any point of time or for any specific regulated firm. Consistent with the use of an expected, not historical, cost of equity, the DRP is an estimate.

Furthermore, in February 2018, IPART published its Final Report on the review of its WACC method which includes a method for calculating the risk free rate and debt risk premium which differs from that it developed for the 2013 review of its WACC method and which is not used by any other regulator.

IPART no longer supports the use a simple average ten year average, which it considers is unrealistic as it implies that a business can issue new debt at the ten year simple average rate. In contrast, IPART will now use a ten year trailing average. In addition, IPART will replace the 40 day average with a trailing average that matches the regulatory period. IPART will also move to an annual price reset which incorporates the new cost of debt method.

In calculating the MARR components, the Economic Regulator uses the WACC and the CAPM in determining the cost of capital component. Theoretically, both the WACC and CAPM are forward looking parameters and are the return expected on an investment by the providers of equity and debt capital. The returns should reflect the opportunity cost for each type of financing with the opportunity cost equal to the prevailing market returns for each type of capital.

This concept is discussed in the *Industry Panel Review of the Independent Competition and Regulatory Commission's 2013 Price Direction for Regulated Water and Sewerage Services in the ACT Draft Report December 2014*<sup>72</sup>:

Current market prices incorporate all available information relevant to future prices. The most efficient cost of capital will be represented by prevailing rates as they reflect most accurately market's expectation on the cost of capital over the borrowing period.

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70 Independent Pricing and Regulatory Tribunal, *Final Report, Review of WACC methodology*, December 2013.

71 *Application by DBNGP (WA) Transmission Pty Ltd (No 3)* [2012] ACompT14 (26 July 2012)

72 Industry Panel, *Review of the Independent Competition and Regulatory Commission's 2013 Price Direction for Regulated Water and Sewerage Services in the ACT Draft Report*, December 2014, page 167.

Theoretically, the cost of debt should reflect the current costs of borrowing because it reflects prevailing financial market conditions and not historical, sunk costs. The cost of capital should mirror investors' expectation about the internal rate of return given future estimated cash flows associated with an investment. When existing firms raise additional capital to finance new investments or a new entrant firm enters into a market, they will be financed at the prevailing rates. A firm's decision regarding when to raise capital or when to enter into a market may be influenced by historical rates. However, ultimately debt and equity capital transactions will be carried out at the prevailing rates.

The QCA similarly states that the most relevant factor in determining the cost of debt is economic efficiency<sup>73</sup>.

The Economic Regulator concurs that using current market rates is the most theoretically sound approach to estimating the risk free rate and the debt risk premium. However, the Economic Regulator also considers that regulatory decisions involve an element of judgement as to whether to apply a purely theoretical approach to determining values or whether a combination of theoretical and practical considerations is more applicable to determining an appropriate WACC.

Currently Australian regulator's, who have moved away from using a point in time/on the day approach to determining the cost of debt, calculate the cost of debt by reference to a notional efficient business that uses only ten year fixed term debt and refinances 10 per cent of its debt portfolio each year with no variations regardless of market conditions.

The move from away from a point in time approach was in response to concerns from regulated businesses that there were potential pricing mismatches between the regulated business's actual cost of debt and that allowed in the MARR due to regulated business's inability to replicate the regulatory cost of debt.

However, in attempting to mitigate against potential pricing mismatches created by the point in time approach, regulators potentially created pricing mismatches by using a generic benchmark debt profile for regulatory purposes.

As noted by the QCA<sup>74</sup> real world debt management takes into consideration many factors besides issuing long-term debt and staggering debt to smooth the refinancing task, such that only a proportion of debt matures each year.

Other factors include: obtaining debt from multiple sources in multiple markets using multiple types of debt instruments; varying maturity terms; unequal refinancing profiles; varying mixes of fixed and floating debt; varying issuing practices/debt management policies; and the prevailing market conditions.

While regulators employ simplifying assumptions about benchmarks for valid reasons, the Economic Regulator considers that the generic benchmark maturity profile significantly over simplifies real world debt management practises.

Consequently, businesses not subject to regulation are likely to have different debt funding costs compared to the notional benchmark efficient business<sup>75</sup> and regulated businesses are incentivised to have debt funding costs no higher than the regulatory cost of debt. Therefore, the use of historic rates may result in a business being over compensated for the cost of debt when prevailing market rates are below the regulated rate and undercompensated when prevailing market rates are above the regulated rates and producing a commensurate bias towards over investment and under investment respectively.

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73 Queensland Competition Authority, *Final decision - Cost of capital: market parameters*, August 2014, page 39.

74 Queensland Competition Authority, *Final decision - Trailing average cost of debt*, April 2015, page 16.

75 Ibid, page 14.

The Economic Regulator considers that a combination 'on-the-day' bond rates and historical bond rates is an appropriate approach to offset refinancing risk and any potential revenue/price volatility. The Economic Regulator does not dispute that infrastructure businesses use long term debt. However, the Economic Regulator considers that the historic ten year simple average proposed by TasWater does not realistically represent efficient debt management particularly in the current favourable market conditions. The Economic Regulator's approach is to determine a risk free rate and debt risk premium based predominantly on current market values with an additional historic rates component weighted towards current market values.

TasWater considers that the Economic Regulator's higher weighting on current rates will increase price volatility between regulatory periods due to the fluctuations in market conditions. The Economic Regulator acknowledges the potential for greater variability in the cost of debt between regulatory periods. However, it also considers that the cost of capital should reflect current market conditions. Businesses and customers accept that markets conditions are dynamic and consequently prices will vary. As the cost of debt is only one component of the MARR any change will only have a proportional impact on customer's prices.

As the Economic Regulator stated in the Draft Report one of the reasons for incorporating a historic component into the calculation of the cost of debt was to mitigate the risk of substantial changes in the risk free rate and debt risk premium in subsequent regulatory periods.

#### 9.4.3.5 Economic Regulator's decision

Given the lack of consistency or consensus among jurisdictional regulators regarding the calculation of the cost of debt, the Economic Regulator has decided to retain its proposal from its Draft Report as it considers its method is an appropriate compromise between the forward looking aspects of the point in time methodology and the actual borrowing costs aspect of incorporating a historical component.

***The Economic Regulator has decided to calculate the Risk Free Rate and Debt Risk Premium for the third regulatory period using the method specified in Section 9.4.3.3 of this Final Report.***

#### 9.4.4 Market risk premium

The market risk premium (MRP) is the additional return for investing in a risky market portfolio over the risk free rate. The Economic Regulator used a MRP of 6.0 per cent for the first and second regulatory periods.

TasWater proposed a MRP of 6.5 per cent based on the premise that state-owned regulated network monopolies should have the same MRP. The AER applied a MRP of 6.5 per cent for TasNetworks and other electricity network business.

##### 9.4.4.1 Economic Regulator's decision

The Economic Regulator accepts TasWater's proposed MRP of 6.5 per cent for the third regulatory period based on the AER's review of the MRP in its *Better Regulation Explanatory Statement, Rate of Return Guideline*.

***The Economic Regulator accepts TasWater's proposal to apply a Market Risk Premium of 6.5 per cent in calculating the WACCs for the third regulatory period.***

### 9.4.5 Equity beta

The equity beta measures the risk (volatility) of the returns a business's assets relative to the financial market as a whole. It is a statistical value and is the R-squared of the covariance of the returns on the assets of the business with returns of the market. Specifically the equity beta represents only whole-of-market related risk and should not reflect any firm-specific risk.

TasWater proposed an equity beta of 0.70 based on the recent decisions of other regulators in particular the AER's decision to use an equity beta of 0.70 for TasNetworks' distribution business.

As there are no listed monopoly water and sewerage businesses on the Australian Stock Exchange, regulators have used listed energy businesses as comparators. The AER, in its *Appendices to the Explanatory Statement Rate of Return Guideline 2013*, identified a number of possible comparator businesses for regulated network providers, in order to justify an equity beta of 0.70 for regulated network providers.

The Economic Regulator does not accept TasWater's proposed equity beta of 0.70. TasWater's proposal is based on regulatory precedent with TasWater citing a number of recent decisions by other Australian regulators and specifically referring to the AER's decision for TasNetworks' distribution business.

The Economic Regulator considers the equity beta should be as close as possible to that of a benchmark efficient business providing the same services and with the same risks as TasWater but some of the comparator businesses used by the AER are not sufficiently similar to a monopoly water and sewerage business. For example, the Alinta group that owns retail businesses operating in unregulated markets and the Hastings Diversified Utilities Fund, which is a fund manager, specialising in infrastructure. The Economic Regulator notes that a number of the comparator business have not only been delisted for a number of years but were only listed for a short period compared to other comparator businesses. Frontier Economics<sup>76</sup> calculated a ten year average beta for the businesses that were used by the AER for its "primary" range for beta noting that some regressions used less than ten years of data due to shorter listing periods. The average for the monthly beta is 0.62 and the average for the weekly beta is 0.63. After excluding the delisted businesses, the average monthly beta is 0.57 while the average "weekly beta" is 0.49. The Economic Regulator considers that this comparator group, which comprises currently listed Australian energy distribution businesses ie APA Group, Ausnet Services, Duet Group<sup>77</sup> and Spark Infrastructure are the best comparators for a regulated monopoly water and sewerage business.

The Economic Regulator reviewed the findings of the Industry Panel for international comparisons. The Industry Panel calculated the equity betas for 16 listed water and sewerage business in the United States and the United Kingdom with the Industry Panel calculating a median equity beta of 0.53 and an average equity beta of 0.69.

The Industry Panel reviewed Australian regulated water business price reviews and found that since 2010, regulators have used equity beta's ranging from 0.55 to 0.80 with the majority using an equity beta of 0.65 or 0.70.

#### 9.4.5.1 Economic Regulator's decision

The Economic Regulator used an equity beta of 0.65 for the second regulatory period and, based on the above discussion, will maintain an equity beta of 0.65 for the third regulatory period.

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<sup>76</sup> Frontier Economics, Estimating the equity beta for the benchmark efficient entity, January 2016.

<sup>77</sup> Duet Group is included in the listed group but was subsequently delisted in May 2017.

***The Economic Regulator has decided to apply an equity beta of 0.65 in calculating the WACCs for the third regulatory period.***

#### 9.4.6 Gamma

Gamma is the value of dividend imputation credits, which is the product of the distribution rate and the utilisation rate. The distribution rate is the ratio of the amount of distributed imputation credits to the amount of company tax paid. The utilisation rate is the proportion of investors in the market that utilise imputation credits. For the second regulatory period, the Economic Regulator used a gamma of 0.5.

In its proposed PSP TasWater argued that because its council shareholders cannot benefit from imputation credits the utilisation rate is zero and consequently gamma should be zero. TasWater also considered that the three per cent pre-tax cost of equity specified in the WSI Act prevents it receiving a cost reflective price for its assets and applying a non-zero gamma will reduce its tax allowance leading to an under recovery of costs since imputation credits have no value to TasWater's shareholders.

The Economic Regulator considered that the underlying premise of economic regulation is to determine the revenue for a benchmark efficiently managed *privately* owned business. Therefore, the fact that the TasWater is publicly owned should not be factored into the calculation of the required revenue, i.e. TasWater should not benefit from its public ownership.

The Economic Regulator also considered that the AER's review of gamma for Distribution Network Service Providers is a comprehensive review of the value of imputation credits. The Economic Regulator did not accept TasWater's proposal for gamma to equal zero and, based on the AER's findings, the Economic Regulator proposed in its Draft Report using a gamma of 0.4.

##### 9.4.6.1 Issues raised during consultation on the Economic Regulator's Draft Report

In its submission TasWater reiterated that it considers gamma should be equal to zero because its shareholders are local government councils who cannot benefit from imputation credits. TasWater contends that, by not taking into consideration the actual ownership of the regulated entity, economic regulators can "effectively dictate" whether a firm should be owned by domestic shareholders (individuals, companies or councils), foreign shareholders (individuals, companies or councils) or other entities.

##### 9.4.6.2 Economic Regulator's decision

Economic regulators attempt to simulate the returns that an efficiently managed business would generate in an efficient, competitive market. By referring to a notional benchmark efficient privately owned business the advantages of public ownership are eliminated. The corollary of unknown ownership is that the tax status of the owners is also unknown. Therefore, contrary to TasWater's assertion, the Economic Regulator is not determining the ownership structure of a regulated business. Furthermore, gamma is not specific to any particular market or individual business and applies to the overall Australian market.

The Economic Regulator considers that, based on the AER's research, the current best estimate of gamma for a business operating in Australia is 0.4. The Economic Regulator has therefore decided to retain its Draft Report proposal and requires TasWater to apply a gamma of 0.4 in calculating its MARRs for the third regulatory period.

***The Economic Regulator has decided to apply a gamma of 0.4 in calculating TasWater's MARRs for the third regulatory period.***

## 9.5 Economic Regulator's proposed and final WACCs

The Economic Regulator's proposed WACC components were calculated using data available as at 1 November 2017, while the final WACC components used data available as at 5 April 2018, and the calculated Existing and New asset WACCs are set out in Table 9.2.

Table 9.2 Economic Regulator's proposed and final WACCs

WACC component	Proposed Value (Draft Report)	Final Value (Final Report)
Gearing	60%	60%
Risk free rate	2.90%	2.88%
Debt risk premium	2.03%	1.98%
Debt issuance	0.10%	0.10%
Cost of debt (Pre-tax)	5.02%	4.96%
Market risk premium	6.50%	6.50%
Equity beta	0.65	0.65
Statutory return on equity <sub>(Existing)</sub> (pre-tax nominal)	3.00%	3.00%
Gamma	0.4	0.4
Cost of equity <sub>(New)</sub> (post-tax)	7.12%	7.10%
<b>WACC<sub>EXISTING</sub></b>	<b>4.00%</b>	<b>3.96%</b>
<b>WACC<sub>NEW</sub></b>	<b>5.86%</b>	<b>5.82%</b>