# WACC Biannual Update

February 2021

1 Introduction

Every six months, we publish a financial market update to help our stakeholders understand and replicate our Weighted Average Cost of Capital (WACC) decisions. We also publish a spreadsheet containing a working copy of our WACC model. This update and the accompanying spreadsheet contains market data sampled to 31 January 2021.

2 Overview

Since the last update in August 2020, the WACC estimate (real post-tax WACC based on an equity beta of 1 and a gearing ratio of 60%) has decreased by 30 basis points to 4.2% (Table 1). Figure 1 presents the real post-tax WACC since 2018.

Figure 1   Estimated real post-tax WACC midpoint and range based on an equity beta of 1 and a gearing ratio of 60%
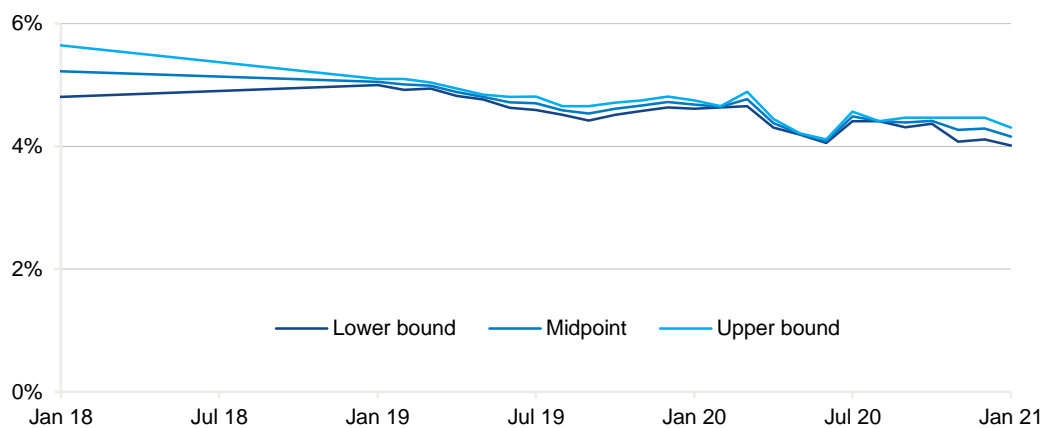
Source: IPART analysis of Bloomberg, Reserve Bank of Australia and Refinitiv (formerly Thompson Reuters) data.

Table 1 summarises our estimates of the nominal and real post-tax WACC range and the midpoints. It also compares the current WACC estimates with those we published in the August 2020 update (the August 2020 update contains data sampled to 31 July 2020).

Table 2 summarises the underlying market-based WACC parameters over the same period.

Table 1   IPART's WACC range using an equity beta value of 1 and a gearing ratio of 60%

	Lower	Midpoint	Upper
31 July 2020			
Nominal post-tax	6.6%	6.7%	6.8%
Real post-tax	4.4%	4.5%	4.6%
31 January 2021			
Nominal post-tax	6.3%	6.5%	6.6%
Real post-tax	4.0%	4.2%	4.3%

Source: IPART analysis of Bloomberg, Reserve Bank of Australia and Refinitiv (formerly Thompson Reuters) data.

Table 2   Market-based parameters

	Risk free rate	Cost of debt	Market risk premium	Inflation
31 July 2020				
Current	1.9%	4.0%	8.6%	2.1%
10 years	2.8%	5.4%	6.0%	2.1%
31 January 2021				
Current	1.8%	3.7%	8.4%	2.2%
10 years	2.7%	5.2%	6.0%	2.2%

Note: The current estimates are measured either over 40 trading days or two months, depending on their data source.
Source: IPART analysis of Bloomberg, Reserve Bank of Australia and Refinitiv (formerly Thompson Reuters) data.

Our calculation of the WACC can be found in the accompanying spreadsheet.[1] At the parameter level, Table 2 shows that over the last six months the:

▼ **Risk free rate:** The current measure of the risk free rate has decreased by 10 basis points and the long-term (10-year) measure has fallen by 10 basis points.

▼ **Cost of Debt:** The current measure of the cost of debt has decreased by 30 basis points while the long-term measure has fallen by 20 basis points.

▼ **Market Risk Premium (MRP):** The current measure of the MRP has decreased by 20 basis points. We do not update the long-term measure with changes in the market.

▼ **Inflation:** Our current measure of inflation has increased by 10 basis points and the long-term measure has gone up by 10 basis points.

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1   Select an industry from the drop-down menu in the accompanying spreadsheet for industry-specific WACC estimates

Short-run Market Risk Premium (MRP)

To enhance the transparency of our WACC decisions, we publish our short-run estimates of the MRP.[2] We base our current MRP estimate on the short-run estimates. Table 3 provides the short-run MRP estimate using our six measures of the MRP, reported to two decimal places.

Table 3   Short-run MRP

Short-run MRP including imputation credits	Estimate at 31 January 2021
Damodaran	9.06%
Bank of England (2002)	8.58%
Bank of England (2010)	8.76%
Bloomberg	-
SFG Market indicator (mean)	7.12%
SFG analysts implied	9.74%
Short Run MRP	**8.41%**

Source: IPART analysis of Bloomberg and Refinitiv (formerly Thompson Reuters) data; Frontier Economics.
Note: Bloomberg MRP estimate withheld for copyright reasons

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2   IPART, *MRP estimates at end of April 2017 – Fact Sheet*, May 2017.

3   Industry Analysis

Table 4 shows the industry-specific parameters that we have previously adopted for the industries we regulate.[3] In our most recent review of Opal fares for use on public transport and fares for rural and regional bus services IPART did not determine a WACC. The information for public transport in Table 4 is based on reviews conducted in 2017. We have also included in Table 4 data for rail access charges under the NSW Rail Undertaking which was reviewed in 2020.

Table 4   Industry-specific WACC parameters

	Equity beta			Target term to maturity	Gearing ratio
	Low	**Mid**	**High**		
Water[a]	0.6	0.7	0.8	10 Years	60%
Transport[b]					
Rail	0.8	0.9	1.0	10 Years	60%
Rail Access	1.0	1.0	1.0	10 Years	45%
Bus (metro & outer metro)	0.7	0.9	1.0	10 Years	60%
Light rail	0.7	0.9	1.0	10 Years	60%
Ferries	0.8	0.9	1.0	10 Years	40% to 60%

a: For the water industry, we determine a WACC for Central Coast Council, Essential Energy, Hunter Water Corporation, Sydney Desalination Plant, Sydney Water Corporation, Water Administration Ministerial Corporation (WAMC), the Wentworth to Broken Hill Pipeline and WaterNSW (for the Murray-Darling Basin valleys, we apply the ACCC's WACC methodology prescribed under the Water Charge (Infrastructure) Rules 2010).

b: For our approach to determination Opal fares refer to *Maximum Opal fares 2020-2040 Final report February 202*0. For rural and regional bus fares refer to *Review of rural and regional bus fares from January 2021*, *Final report December 2020* and for rail access refer to *Rate of return and remaining mine life 2019-2024 final report July 2019*.

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3   Please note that the methodology and parameters in this note and spreadsheet do not pre-empt the outcome of IPART's future decisions. They should be used as an illustration of how our current methodology would be applied to the given parameter values. This is because at each price review, we assess the appropriate valuation for each WACC parameter. In some cases, we may depart from our standard industry parameter valuations taking account of the individual regulated business's circumstances.

Table 5 shows the six-monthly WACC range and midpoint estimates over the last two years for the industries that IPART regulates.

Table 5   Regulated industries half-yearly real post-tax WACC ranges and midpoints from January 2019 to January 2021

|	Jan-19	Jul-19	Jan-20	Jul-20	Jan-21
Water					
Upper bound	4.4%	4.1%	4.0%	3.9%	3.6%
Midpoint	4.2%	3.8%	3.8%	3.6%	3.3%
Lower bound	4.0%	3.6%	3.6%	3.4%	3.0%
Rail					
Upper bound	4.9%	4.6%	4.5%	4.3%	4.1%
Midpoint	4.8%	4.4%	4.4%	4.2%	3.9%
Lower bound	4.7%	4.3%	4.3%	4.1%	3.7%
Bus, Light rail					
Upper bound	4.7%	4.5%	4.4%	4.2%	4.0%
Midpoint	4.6%	4.3%	4.2%	4.1%	3.7%
Lower bound	4.5%	4.1%	4.1%	3.9%	3.5%
Ferries					
Upper bound	5.2%	4.8%	4.8%	4.6%	4.4%
Midpoint	5.2%	4.8%	4.8%	4.6%	4.3%
Lower bound	5.1%	4.8%	4.8%	4.6%	4.2%

Source: IPART calculations.

Note: These WACC ranges are prepared on the basis that a business has completed the transition to, and is using the trailing average cost of debt.

Water

Figure 2 shows the six-monthly WACC range and midpoint estimates since January 2018 for the water industry. The WACC for the water industry ranges from 3.0% to 3.6%, with a midpoint of 3.3%. In the August 2020 market update, we reported a midpoint WACC of 3.6% for the water industry.

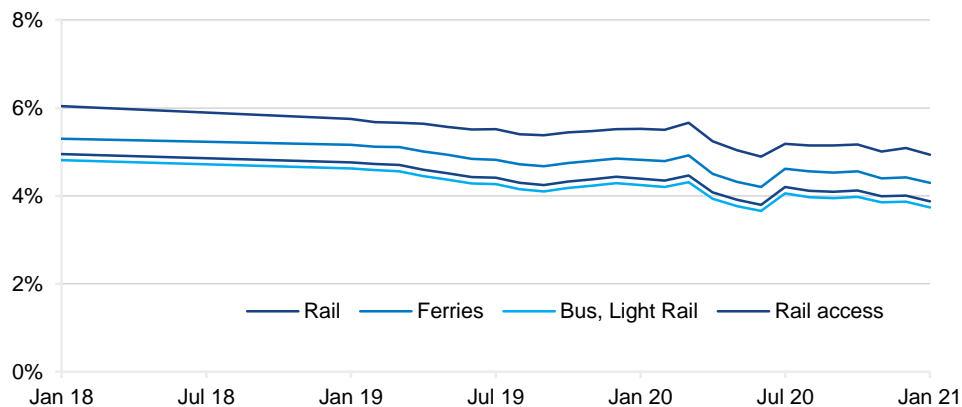**Figure 2   Water Industry real post-tax WACC midpoints and ranges**
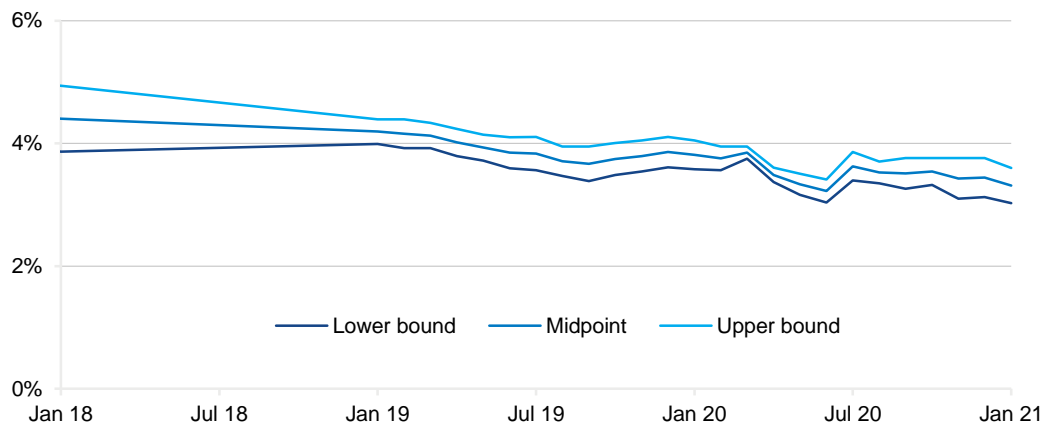
Source: IPART analysis of Bloomberg, Reserve Bank of Australia and Refinitiv (formerly Thompson Reuters) data.

Transport

Figure 3 presents notional WACCs for public transport based on updated market parameters and inputs from our previous reviews in 2017. It shows the monthly midpoint notional WACC estimates for the various modes of transport since January 2018 based on the industry-specific parameters:

▾ The rail industry has a midpoint WACC of 3.9%. In the August 2020 market update, we reported a midpoint WACC of 4.2%

▾ The bus and light rail industry has a midpoint WACC of 3.7%. In the August 2020 market update, we reported a midpoint WACC of 4.1%

▾ The ferry industry has a midpoint WACC of 4.3%. In the August 2020 market update, we reported a midpoint WACC of 4.6%

▾ The rail access industry has a midpoint WACC of 4.9%, we did not report on this value in our August 2020 update.

**Figure 3   Transport industries real post-tax WACC midpoints**

Note: Parameters for the modes of transport are shown in Table 4.
Source: IPART analysis of Bloomberg, Reserve Bank of Australia and Refinitiv (formerly Thompson Reuters) data.

4   Financial market uncertainty index

In our 2013 Final Report on the review of our WACC methodology, we developed an index to monitor financial market uncertainty. Our uncertainty index calculator and accompanying factsheet are available on our website. We have updated the uncertainty index to the end of January 2021. As shown in Figure 4, the uncertainty index has moved to more than one standard deviation from the long term average of zero in the past year. According to our WACC decision rule[4], we would consider moving away from the midpoint WACC.

Figure 4   IPART's uncertainty index
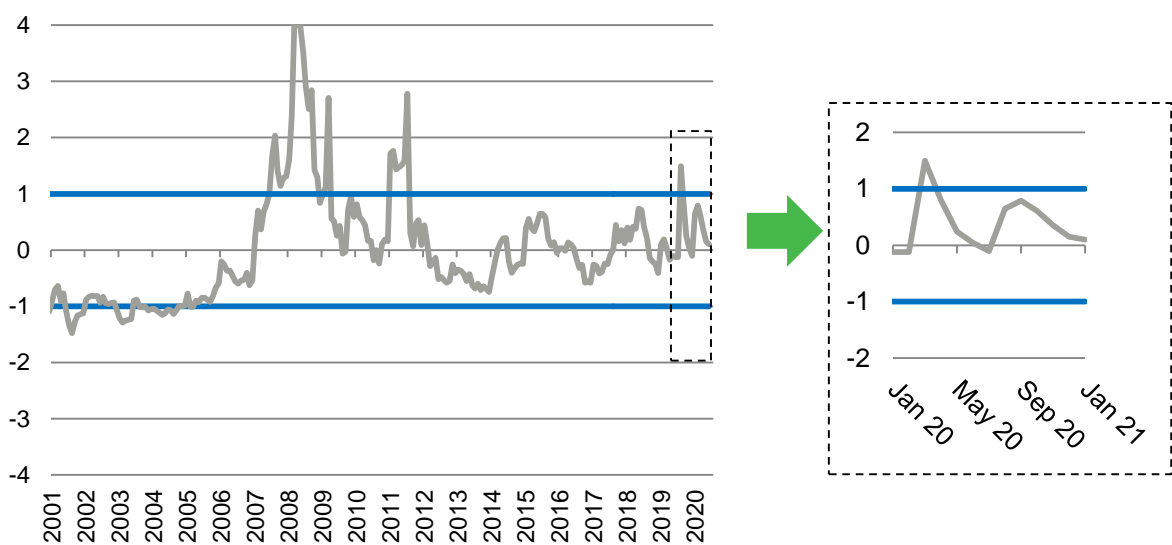
Source: IPART analysis.

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4   The WACC decision rule states that if the uncertainty index is within one standard deviation of the long term average of zero, then utilise the midpoint WACC. If the uncertainty index is greater than one standard deviation from the long term average of zero, consider moving away from the midpoint WACC