WACC Biannual Update

24 February 2022

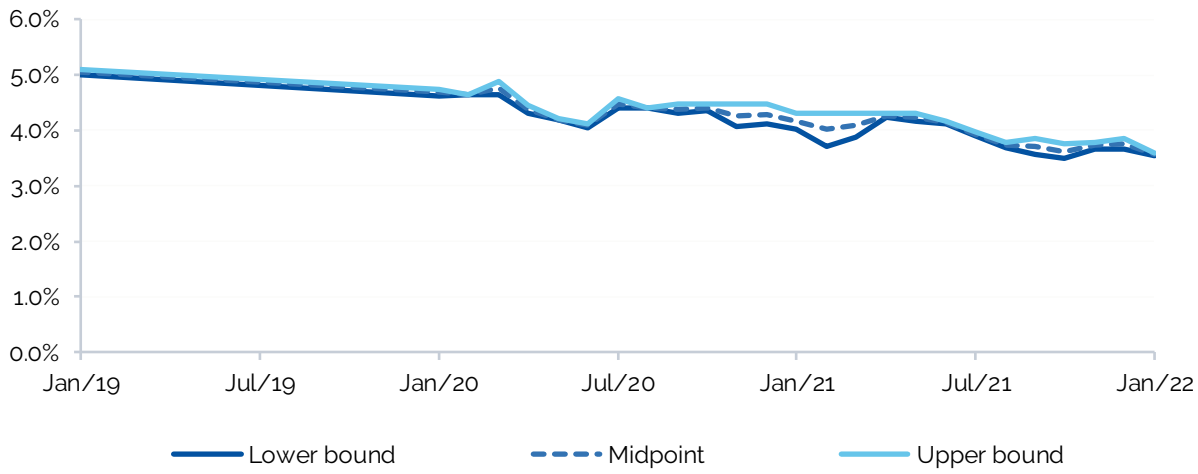
1 Introduction

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 contain market data sampled to 31 January 2022.

2 Overview

Since the last update in August 2021, 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 3.6% (Table 1). Figure 1 presents the real post-tax WACC since 2019.

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 Reserve Bank of Australia and Refinitiv 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 2021 update (the August 2021 update contains data sampled to 31 July 2021).

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 2021			
Nominal post-tax	6.3%	6.4%	6.4%
Real post-tax	3.9%	3.9%	4.0%
31 January 2022			
Nominal post-tax	6.2%	6.3%	6.3%
Real post-tax	3.5%	3.6%	3.6%

Source: IPART analysis of 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 2021				
Current	1.6%	3.6%	8.9%	2.3%
10 years	2.4%	4.9%	6.0%	2.3%
31 January 2022				
Current	1.6%	3.6%	8.6%	2.6%
10 years	2.5%	4.8%	6.0%	2.6%

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

Our calculation of the WACC can be found in the accompanying spreadsheet.[a] 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 remained constant and the long-term (10-year) measure has increased by 10 basis points.
- **Cost of Debt:** The current measure of the cost of debt has remained constant while the long-term measure has decreased by 10 basis points.
- **Market Risk Premium (MRP):** The current measure of the MRP has decreased by 30 basis points. We do not update the long-term measure with changes in the market.
- **Inflation:** Our current measure of inflation has increased by 30 basis points and the long-term measure has also increased by 30 basis points.

a 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.[b] 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 2022
Damodaran	8.97%
Bank of England (2002)	9.04%
Bank of England (2010)	8.94%
Refinitiv	8.13%
SFG Market indicator (mean)	7.89%
SFG analysts implied method	9.10%
Short Run MRP	**8.60%**

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

[b] 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.

Table 4 Industry-specific WACC parameters

	Equity beta			Target term to maturity	Gearing ratio
	Low	Mid	High		
Water	0.6	0.7	0.8	10 Years	60%
Transport					
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%

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 2020 to January 2022

	Jan-20	Jul-20	Jan-21	Jul-21	Jan-22
Water					
Upper bound	4.0%	3.9%	3.6%	3.2%	2.9%
Midpoint	3.8%	3.6%	3.3%	3.1%	2.7%
Lower bound	3.6%	3.4%	3.0%	2.9%	2.5%
Rail					
Upper bound	4.5%	4.3%	4.1%	3.7%	3.4%
Midpoint	4.4%	4.2%	3.9%	3.6%	3.3%
Lower bound	4.3%	4.1%	3.7%	3.6%	3.2%
Bus, Light rail					
Upper bound	4.4%	4.2%	4.0%	3.6%	3.2%
Midpoint	4.2%	4.1%	3.7%	3.5%	3.1%
Lower bound	4.1%	3.9%	3.5%	3.4%	3.0%
Ferries					
Upper bound	4.8%	4.6%	4.4%	4.2%	3.8%
Midpoint	4.8%	4.6%	4.3%	4.1%	3.7%
Lower bound	4.8%	4.6%	4.2%	4.0%	3.7%
Rail access[a]					
Upper bound	5.8%	5.3%	5.1%	5.2%	4.8%
Midpoint	5.5%	5.1%	4.9%	4.8%	4.5%
Lower bound	5.2%	5.0%	4.7%	4.4%	4.2%

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

a: In our initial publication of this fact sheet on 24 February 2022 the real estimate of the lower bound of the rail access WACC was incorrectly converted from the nominal estimate. This mistake only applied to rail access. This has been corrected in this publication of the February 2022 market update fact sheet.

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.

Note 2: 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).

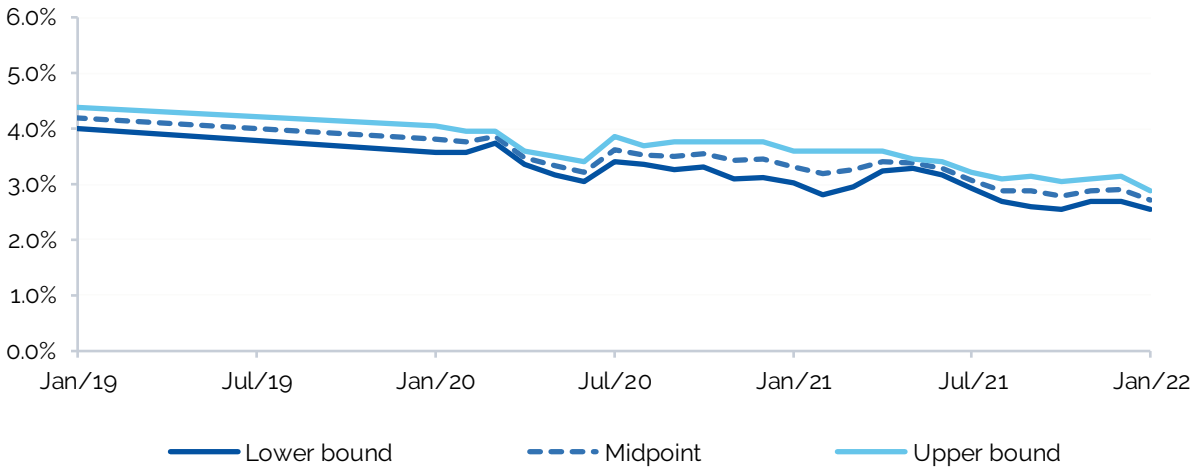
Note 3: For our approach to determination Opal fares refer to Maximum Opal fares 2020-2024 Final report February 2020. For rural and regional bus fares refer to Review of rural and regional bus fares from January 2021, Final report December 2020 and for rail access refer to Rate of return and remaining mine life 2019-2024 final report July 2019.

Note 4: 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.

3.1 Water

Figure 2 shows the six-monthly WACC range and midpoint estimates since January 2019 for the water industry. The WACC for the water industry ranges from 2.5% to 2.9%, with a midpoint of 2.7%. In the August 2021 market update, we reported a midpoint WACC of 3.1% for the water industry.

Figure 2 Water industry real post-tax WACC midpoints and ranges



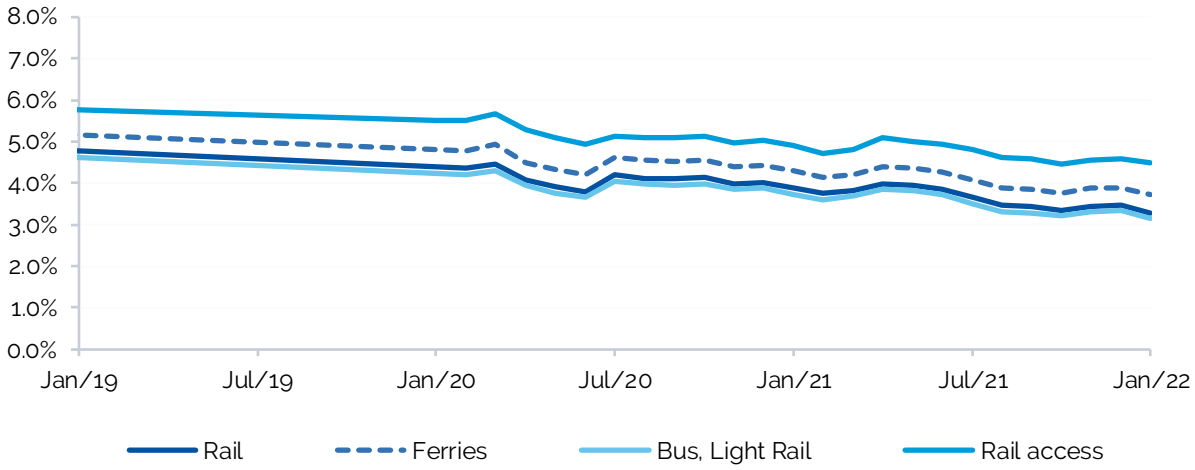
Source: IPART analysis of Reserve Bank of Australia and Refinitiv (formerly Thompson Reuters) data.

3.2 Transport

Figure 3 presents notional WACCs for public transport and rail access based on updated market parameters and inputs. In recent reviews IPART has not used the building block method to recommend Opal prices for rail, bus, light rail and ferries and therefore does not currently have a WACC embedded in those pricing decisions. However, we continue to present the real WACC estimates for those industries here for stakeholders who remain interested. For our decisions on rail access we use a WACC in those pricing decisions. The WACC estimates presented here show the indicative WACC for these industries were we to estimate it as at 31 January 2022. They do not imply a change to any in-place pricing determinations or undertakings.

- The rail industry has a midpoint WACC of 3.3%. In the August 2021 market update, we reported a midpoint WACC of 3.6%
- The bus and light rail industry have a midpoint WACC of 3.1%. In the August 2021 market update, we reported a midpoint WACC of 3.5%
- The ferry industry has a midpoint WACC of 3.7%. In the August 2021 market update, we reported a midpoint WACC of 4.1%
- The rail access industry has a midpoint WACC of 4.5%[c]. In the August 2021 market update, we reported a midpoint WACC of 4.8%

Figure 3 Transport industries real post-tax WACC midpoints



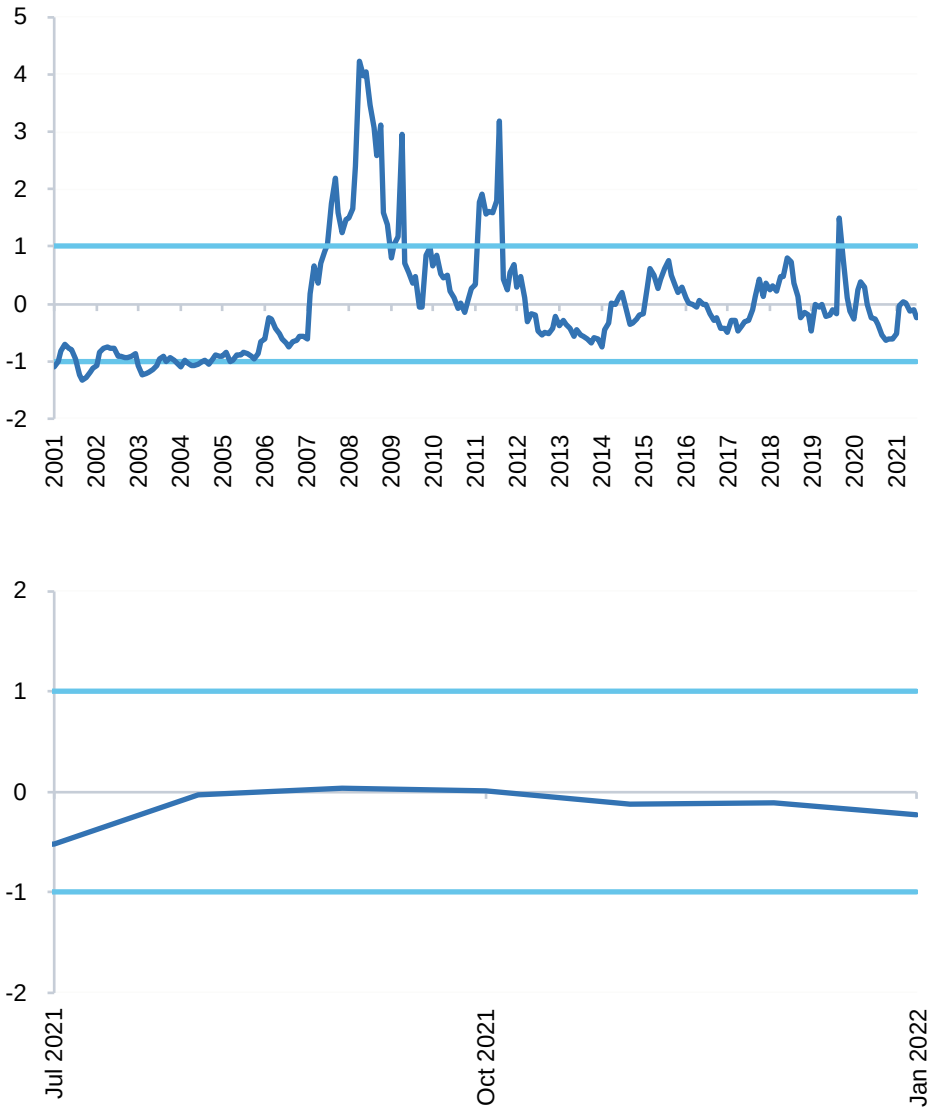
Source: IPART analysis of Reserve Bank of Australia and Refinitiv (formerly Thompson Reuters) data.

[c] In our initial publication of this fact sheet on 24 February 2022 we incorrectly reported this value as 4.4%. This was updated in this publication of the February 2022 market update fact sheet.

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 2022. As shown in Figure 4, the uncertainty index is currently within one standard deviation of the long-term average value of zero. According to our WACC decision rule[d], we would use the midpoint WACC to estimate the return on capital invested by the regulated business.

Figure 4 IPART's uncertainty index



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

[d] 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