



## Notes

	ERP (%)	DRP (%)	Difference basis points <sup>1</sup>
*	4.55	3.08	147
**	4.55	2.60	195
***	3.60	1.85	175
****	3.60	1.72	188
*****	3.60	1.93	167
*****	3.60	1.81	179

The basis points (bps) difference between the equity risk premium (ERP) and the debt risk premium (DRP) based on the 2013 guideline approach to estimating the return on debt (a simple average of extrapolated RBA and Bloomberg yields to 10 years) using updated closing price yield data for 17/12/13

The bps difference between the ERP and the DRP based on the 2018 draft guideline approach to estimating the return on debt using updated closing price yield data for 17/12/13

The bps difference between the draft ERP and DRP based on the 2013 guideline approach to estimating the return on debt using updated closing price yield data for 4/4/18

The bps difference between the draft ERP and DRP based on the 2018 draft guideline approach to estimating the return on debt using updated closing price yield data for 4/4/18

The bps difference between the draft ERP and DRP based on the 2013 guideline using updated closing price yield data for 31/8/18

The bps difference between the draft ERP and DRP based on the 2018 draft guideline using updated closing price yield data for 31/8/18

<sup>1</sup> 1% equals 100 basis points (bps).

## Notes

In relation to the Blue curve (which reflects our 2013 Guideline approach to estimating the return on debt):

- The debt risk premium (DRP) pre 2013 from the 1<sup>st</sup> of January 2008 to the 15<sup>th</sup> of April 2010 is based on a simple average of the Bloomberg FV (BFV) 7 year BBB yield curve and the Reserve Bank of Australia (RBA) 10 year BBB yield curve both extrapolated and interpolated to give 10 year yields to maturity (YTM) (using the methods set out in the 2013 Guideline) converted to effective annual rates and the interpolated CGS 10 year YTM converted to effective annual rates.
- The DRP pre 2013 from the 16<sup>th</sup> of April 2010 to the 31<sup>st</sup> of December 2013 is based on a simple average of the published Bloomberg BVAL (BVAL) and RBA BBB yield curves extrapolated and interpolated to give 10 year YTM (using the methods set out in the 2013 Guideline) converted to effective annual rates and the interpolated CGS 10 year YTM converted to effective annual rates.
- The DRP post 2013 is based on a simple average of the published BVAL and RBA BBB yield curves extrapolated and interpolated to give 10 year YTM (using the method set out in the 2013 Guideline) converted to effective annual rates and the interpolated CGS 10 year YTM converted to effective annual rates.
- Bloomberg typically publishes a daily 10 year BVAL YTM so the only necessary adjustment is conversion to an effective annual rate. However, Bloomberg did not publish a 10 year BVAL BBB YTM pre 15 April 2015. For that period, we have extrapolated the published 5 or 7 year BVAL BBB YTM estimate to 10 years using the corresponding margin (from 5 to 10 or 7 to 10 years) as reflected in the RBA yield curve. Extrapolation was also necessary for a period in September and October 2016.
- The RBA publishes its yield curve YTM estimates for one day at the end of each month, but we require YTM estimates for each business day. As a result, we interpolate the RBA month-end YTM data across all business days in the month using daily interpolated CGS 10 year YTM data.

In relation to the green curve (that largely reflects our 2018 draft guideline approach to estimating the return on debt, although noting extrapolation where required reflects our 2013 Guideline approach for simplicity):

- The DRP under the draft guideline approach is based on estimated 10 year YTM from published BBB and A yield curves of BVAL, RBA and Thomson Reuters (TR) and the interpolated CGS 10 year YTM. Where necessary, we have extrapolated or interpolated yield curves using the methodology set out in the 2013 draft guideline and then converted the YTM to effective annual rates. We have extrapolated the relevant published 5 or 7 year BVAL and TR YTM estimate to 10 years using the corresponding margin (from 5 to 10 or 7 to 10 years) as reflected in the RBA yield curve.
- As set out in the 2018 Draft Guideline, the BBB yield curve estimates are weighted 2/3 and A yield curve estimates weighted 1/3. The BBB yield curve has a 2/3 weighting attached to the simple average of the three 10 year BBB YTM estimates from each curve provider and the A yield curve has 1/3 weighting attached to the simple average of the three 10 year A YTM estimates from each curve provider. See the draft 2018 guideline for more detail.

- This curve commences on the chart from 5 August 2010, when we first have TR BBB yield data available (at a maturity of 5 years or greater).
- Bloomberg typically publishes a daily 10 year BVAL YTM so the only necessary adjustment is conversion to an effective annual rate. However, Bloomberg did not publish a 10 year BVAL BBB YTM pre 15 April 2015. For that period, we have extrapolated the published 5 or 7 year BVAL BBB YTM estimate to 10 years using the corresponding margin (from 5 to 10 or 7 to 10 years) as reflected in the RBA yield curve. Extrapolation was also necessary for a period in September and October 2016.
- The RBA only publishes its yield curve estimates for one day at the end of each month, but we require YTM estimates for each business day. As a result, we interpolate the RBA month-end YTM data across all business days in the month using daily interpolated CGS 10 year YTM data.

#### Other comments:

- The ERP of 3.6 per cent is based on the 2018 draft guideline published in July 2018 and is subject to consultation as is our proposed new debt approach.
- Regulatory determinations in existence prior to 2009 had been set by multiple (state/ACCC) regulators.<sup>2</sup> For the purposes of presenting this chart we have shown the equity risk premium (ERP) as 6.0 per cent until the AER's 2009 Statement of regulatory intent (SORI) for the weighted average cost of capital (WACC).
- The 2009 SORI set an ERP of 5.2 per cent based on a market risk premium (MRP) of 6.5 per cent and an equity beta of 0.8. However, the National Gas Rules and National Electricity Rules did not adopt a consistent approach and the WACC parameters were open to change for gas and electricity distribution service providers if there was persuasive evidence at the time of their determination. This is illustrated in decisions after 2009 arriving at different results for the MRP as shown by the annotations on the chart. We have not shown all variation on the chart between an ERP of 4.8 per cent (by decreasing MRP from 6.5 per cent to 6 per cent) and 5.2 per cent. As shown in the chart by the dotted green line those service providers bound by the SORI remained at an ERP of 5.2 per cent.

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<sup>2</sup> Generally an MRP of 6 per cent and an equity beta of 0.9 or 1 appear to have been used in gas/electricity and transmission/distribution determinations. For more information see: *Final decision Electricity transmission and distribution network service providers Review of the weighted average cost of capital (WACC) parameters*, May 2009, p V.