FINAL DECISION
AusNet Services distribution determination
2016 to 2020

Attachment 3 – Rate of return

May 2016

| Average | 63.3 | 59.0 | 63.1 | 66 |

Source: AER analysis.

Notes: (a) AER, *Final decision: Electricity transmission and distribution network service providers: Review of the weighted average cost of capital (WACC) parameters*, 1 May 2009, p. 124.

(b) Analysis including full sample of businesses.

(c) AGL, Alinta and GasNet excluded from the analysis.

(d) ERA, *Explanatory statement for the draft rate of return guidelines*, 6 August 2013, p. 49.

The benchmark gearing ratio is used:

- to weight the expected required return on debt and equity to derive a WACC

- to re-lever the asset betas for the purposes of comparing the levels of systematic risk across businesses, and

- as a factor in estimating the benchmark credit rating.[578]

3.4.4 Expected inflation rate

Our estimate of expected inflation is set out in Table 3-23. We base our approach on an average of the RBA's short term inflation forecasts and the mid-point of the RBA's inflation targeting band.

This method is consistent with what we have previously adopted and applied since 2008, as well as AusNet Services' regulatory proposal and our preliminary decision (the current method).[579] We consider the current method to be a reasonable estimation method for the following reasons:

- RBA research indicates that its one year inflation forecasts have substantial explanatory power.[580]

- To the extent that the historical success of RBA monetary policy informs market consensus inflation expectations, the mid-point of the RBA's inflation targeting band would reflect longer term inflation expectations. We note that since inflation rate targeting in 1993, the average annualised inflation rate has been approximately 2.6 per cent, which is close to the 2.5 per cent midpoint of the target band.

- Evidence indicates that the RBA's control of official interest rates and commentary has an impact on outturn inflation and inflation expectations.[581]

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[578] That is, if a service provider had a gearing ratio that was significantly different to the benchmark gearing ratio, then we would consider any implications of this for including that service provider within the sample used to estimate the industry median credit rating.

[579] AER, *Preliminary decision AusNet Services determination, Attachment 3 Rate of return*, October 2015, pp. 225–226; AusNet Services, *Regulatory Proposal*, 30 April 2015, pp. 348–349.

[580] Further, RBA forecasts have been marginally more accurate than private sector forecasts. Tullip, P., Wallace, S., 'Estimates of uncertainty around the RBA's forecasts', *RBA Research Discussion Paper – November 2012*, RDP2012–07, p. 30.

- This method is simple, transparent, easily replicated and unlikely to be subject to estimation error.

In the preliminary decision, we noted our expectation that the RBA would publish a more recent inflation forecast before our final decision, and that we will update the value of the expected inflation rate accordingly in the final decision.[582] Consistent with our preliminary decision, our final decision reflects updated RBA forecasts from May 2016.

Table 3-23   AER estimate of expected inflation (per cent)

Expected inflation	2016-17	2017-18	2018 to 2025	Geometric average
AER preliminary decision	2.5 [a]	2.5 [a]	2.5	2.50
AER final decision update	1.5 [b]	2.0 [b]	2.5	2.32

Source: RBA, *Statement on Monetary Policy*, August 2015, p. 67; RBA, *Statement on Monetary Policy*, May 2016, p. 61.

(a)   In August 2015, the RBA published a range of 2–3 per cent for its December 2016 and December 2017 CPI inflation forecasts respectively. Where the RBA published ranges, we select the mid-points.

(b)   In May 2016, the RBA published a range of 1–2 per cent and a range of 1.5–2.5 per cent for its December 2016 and December 2017 CPI inflation forecasts respectively. We select the mid-point from this range.

AusNet Services proposed the current method in its initial regulatory proposal. However, it also noted that, 'expectations concerning inflation (or in fact fears of significant deflation) appear to be volatile and it may be that the best method for estimating inflation may evolve during the period that our revenue proposal is being considered'.[583] The initial regulatory proposal did not explain this further or indicate how 'the best method' might evolve.

In its revised regulatory proposal, AusNet Services departed from the current method and now proposes an estimate of 2.19 per cent.[584] This estimate is based on CEG's application of the 'breakeven approach',[585] using an averaging period of 20 business days ending 30 September 2015.[586]

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[581]   AER, *Final decision: SP AusNet transmission determination 2008–9 to 2013–14*, January 2008, pp. 103–4; RBA, *Letter to ACCC*, 9 August 2007, p. 3; Australian Treasury, *The Treasury bond yield as a proxy for the CAPM risk-free rate, Letter to ACCC*, 7 August 2007, p. 5.

[582]   AER, *Preliminary decision AusNet Services determination, Attachment 3 Rate of return*, October 2015, p. 255.

[583]   AusNet Services, *Regulatory Proposal*, 30 April 2015, p. 349.

[584]   This estimate is based on data over the 20 business days to 30 September 2015. See AusNet Services, *Revised regulatory proposal*, January 2016, pp. 7-96–7-102.

[585]   The breakeven approach entails estimating the inflation rate in which an investor would be indifferent between investing in nominal bonds and indexed bonds. This inflation rate is implied from nominal and indexed bond yields of the same maturity.

[586]   CEG, *Memorandum: September 2015 cost of debt and inflation forecasts*, 5 January 2016, p. 3.

We do not accept this revised proposal because we do not consider CEG's application of the breakeven approach appropriately adjusts for bias. Further, we do not consider that a breakeven approach using indexed CGSs would necessarily produce better estimates of expected inflation than the current method (or another estimation method, such a one based on inflation swaps).[587]

Moreover, even if we considered an alternative approach was preferable to the current approach (which we do not), the method for estimating expected inflation should apply to all service providers as inflation expectations are not business-specific. As such, any change in approach should only be considered following broad consultation with all stakeholders, rather than within a single reset. Moreover, the method for estimating expected inflation is defined in the post-tax revenue model (PTRM) and changing this should be done in accordance with distribution consultation procedures.[588]

We note that AusNet Services did not propose CEG's recommendation to apply a five year inflation expectation to the return on debt.[589] Rather it proposes an inflation expectation that matches the term of our allowed rate of return (that is, 10 years). We accept this aspect of AusNet Services' proposal.

Response to CEG's approach

In its revised regulatory proposal, AusNet Services submitted a report by CEG on estimating expected inflation. We do not consider that CEG's approach produces better estimates of expected inflation than the current method. CEG's method entails:[590]

- A recommendation that AusNet Services did not put forward in its revised proposal. That is, on the basis that CEG thinks that, for the return on debt, we should use a five year inflation expectation matching the regulatory control period:

  o Adopting a 60/40 weighted average estimate of five and 10 year inflation expectations, rather than a 10 year inflation expectation.

  o Where available, using observed inflation in its estimate of a five year inflation expectation.

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[587] We consider we would need to adjust for biases if we estimated breakeven expected inflation using either interest swaps or indexed CGSs. However, some evidence indicates that inflation swaps might produce better estimates than indexed CGSs. For instance, in February 2015, the RBA noted that fluctuations in market liquidity affect the inflation swap market less than the indexed CGS market. See RBA, *Statement on Monetary Policy*, February 2015, p. 50. The RBA previously found inflation swaps tend to be a more useful source of information on expected inflation in practice since (as of March 2012) there were few indexed CGS on issue and that the indexed CGSs were somewhat less liquid than nominal CGSs. While the supply of indexed CGS has increased since the RBA's finding, the liquidity of indexed CGS relative to that of nominal CGS appears not to have improved considerably. See; Finlay, R., Olivan, D., 'Extracting Information from Financial Market Instruments', *RBA Bulletin*, March Quarter 2012, pp. 45–46.

[588] As required by of cll. 6.16 and 6A.20 of the NER.

[589] CEG, *Memorandum: September 2015 cost of debt and inflation forecasts*, 5 January 2016, p. 3.

[590] CEG, *Memorandum: September 2015 cost of debt and inflation forecasts*, 5 January 2016, p. 3.

- A recommendation that AusNet Services proposed in its revised proposal. That is, estimating expected inflation using its application of the breakeven approach, rather than using the current method based on RBA forecasts.

We respond to CEG's report in the following sections.

An expectation matching the regulatory control period

We accept AusNet Services' decision to not adopt CEG's estimate of expected inflation that assumes the relevant expectation for the return on debt matches the regulatory control period.[591]

It is both internally consistent and necessary to use a 10 year inflation expectation to convert a nominal return on debt with a 10 year term to a real return on debt with a 10 year term. Debt contracts are based on prices investors are willing to pay. These prices reflect investor expectations of the risk free rate, debt risk premium and inflation over their investment horizon at the time they raise this debt. Service providers, including AusNet Services agree that this horizon (or term) for the return on debt is 10 years.[592] Therefore, while debt contracts may fix the nominal cost of debt, this cost incorporates investor expectations of inflation over the next 10 years.

Our position is consistent with what CEG has supported in the past and it is not clear to us why it has since changed its position. In 2008, CEG submitted that the correct measure of expected inflation for converting nominal returns into real returns is expected inflation over the life of the 10 year nominal CGS bond from which the inflation estimate is being removed.[593] While we no longer explicitly use 10 year nominal CGS bonds to estimate return on debt, our estimate of a 10 year forward looking return on debt implicitly reflects a 10 year forward looking nominal risk free rate. We can express this algebraically as:

$$Expected[RoD\ {}_{nominal,\ 10\ years}] = Expected\ [rf]\ {}_{nominal,\ 10\ years} + Expected[DRP\ {}_{10\ years}]$$

Where: RoD = Return on debt

       rf = risk free rate

       DRP = debt risk premium

Our position is also consistent with what NERA has advised service providers in the past when it submitted:[594]

> inflation rate forecast horizon should match the term of the nominal government bond rate [that is,10 years] used in the calculation of the weighted average cost of capital (WACC). This practice is consistent with the fundamental principle established by the Fisher equation which in effect states that the nominal bond

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[591]   CEG, *Memorandum: September 2015 cost of debt and inflation forecasts*, 5 January 2016, p. 3.

[592]   AusNet Services proposes the AER adopt a 10 year term in *Revised regulatory proposal*, January 2016, p. 7-34.

[593]   CEG, *A methodology for estimating expected inflation: A report for ElectraNet*, 17 January 2008, p. 3.

[594]   NERA, *AER SP AusNet draft determination: Inflation expectations - TransGrid*, November 2007, pp. 4–5.

rate encapsulates the market's expectations of the inflation that is expected to prevail over the life of the security in question.

The breakeven approach

Our final decision is to apply the current method rather than to use CEG's breakeven estimates. Even though we recognise there may be benefits to using a breakeven approach, we also recognise:

- There are strengths and limitations to both the current method and breakeven approaches. Given the information currently before us, we are not satisfied that changing our approach would improve our estimates of expected inflation.

- There are clear limitations to using breakeven approaches that result in biased estimates of expected inflation unless particular adjustments are made to these estimates. AusNet Services has not put any material before us to discuss these limitations or propose how to adjust for them.

- Market imperfections can undermine the ability of breakeven approaches to estimate the market's inflation expectations. CEG has recognised this in its recent advice.[595] It has also recognised this in the past when advising that it was generally reasonable to use RBA forecasts.[596] CEG also advised that its estimate of expected inflation using the breakeven approach (at that time) was, 'at odds with credible forecasts by the RBA and all other macro-economic experts'.[597] While CEG has indicated that this is no longer a material concern, we find its analysis unconvincing for reasons discussed below.

Changing approaches may not improve estimates

We do not consider that reverting to a breakeven approach is likely to improve our estimates of expected inflation. We recognise that both the current method and breakeven approaches have benefits and limitations, as summarised in Table 3-24.

Table 3-24: Comparison of the current method and breakeven approach

Approach	Benefits	Limitations
The current method : A geometric average of the RBA forecast and mid-point.	This is simple, transparent and easily replicated. Since the current method is not subject to estimation bias or error it may improve regulatory certainty and reduce the scope for gaming. This relies on RBA 2 year forecasts – RBA's research suggests that its 1 year forecasts of inflation have substantial explanatory power and in the past RBA	If monetary policy loses or is perceived to have lost its effectiveness in influencing economic activity, inflation expectations may deviate systematically from the mid-point of the inflation target range. In which case, estimates under this approach may be too high or too low relative to the market inflation expectations. The current approach is more likely than market-based estimates to be inconsistent with

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[595] For example, in its report, CEG, *Measuring expected inflation for the PTRM*, June 2015, p. 7.
[596] CEG, *Expected inflation estimation methodology: A report for Country Energy*, April 2008, p. 4.
[597] CEG, *Expected inflation estimation methodology: A report for Country Energy*, April 2008, p. 4.

forecasts have been marginally more accurate than private sector forecasts.[598] Since inflation rate targeting in 1993, the average annualised inflation rate has been approximately 2.6%, which is close to the 2.5% midpoint of the target band. To the extent that the historical success of RBA monetary policy informs market-consensus expectations of inflation, the current approach may be a reasonable estimate of longer term inflation expectations. There is evidence to suggest that the RBA's control of official interest rates and commentary has an impact on outturn inflation and inflation expectations.[599]		the term structure of inflation observed in the market because it is not based on the market-implied forward inflation curve. This raises the risk that estimates of the real risk free rate may depart from the 'true' real risk free rate in the market.
The breakeven approach: The breakeven inflation rate implied by comparing CPI-indexed CGS and nominal CGS.	These estimates include market-consensus expectations of inflation that is based on an aggregation of most up-to-date, relevant and available information.	We moved away from using this approach in the past as it was recognised that bias existed in indexed CGS yields. The breakeven approach can be a misleading proxy for expected inflation unless various biases are identified and removed. Potential sources of bias include the effect of bond convexity; inflation risk premia, liquidity premia, and inflation indexation lag on nominal and/or indexed bond yields.

Other limitations and potential biases to the breakeven approach

There is no straightforward way of employing a breakeven approach. Rather, breakeven estimates require adjustment to account for several different types of bias.[600] Table 3-25 highlights some of these potential biases based on preliminary research.

Table 3-25: Potential biases under the breakeven approach

Potential bias	Effect on estimates	Explanation	Adjustment needed?
Convexity	Underestimate	Differences in convexity and convexity bias between indexed and nominal bonds mean that the implied breakeven inflation rate may differ from inflation expectations. Convexity bias results in a downward bias of bond yields and nominal bond yields are	Yes

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[598] Tullip, P., Wallace, S., 'Estimates of uncertainty around the RBA's forecasts', *RBA Research Discussion Paper – November 2012*, RDP2012-07, p. 30.

[599] AER, *Final decision: SP AusNet transmission determination 2008–9 to 2013–14*, January 2008, pp. 103–4; RBA, *Letter to ACCC*, 9 August 2007, p. 3; Australian Treasury, *The Treasury bond yield as a proxy for the CAPM risk-free rate, Letter to ACCC*, 7 August 2007, p. 5.

[600] For example, see Barne, M.L.; Bodie, Z.; Triest, R.K.; Wang, J.C., 'A TIPS scorecard: are they accomplishing their objectives?', *Financial Analysts Journal*, Vol. 66, No. 5, 2015, p. 70; D'Amico, S., Kim, D.H., Wei, M., 'Tips from TIPS: the informational content of Treasury inflation-protected security prices', *Federal Reserve Board*, Washington D.C., 2010–19 (Version December 2009), p. 2.

generally more downwardly biased than indexed bond yields. This is because convexity bias is sensitive to yield volatility and nominal bond yields are generally more volatile than indexed bond yields. As a result, the differences in bond convexity bias could bias long-term breakeven inflation rates below inflation expectations. [601]

Inflation risk premium	Generally an overestimate. Potential underestimate if there are concerns about deflation or very low inflation.[602]	Nominal bondholders will demand compensation for inflation risk as the actual inflation rate may not match the expected inflation rate. The implied breakeven inflation rate is likely to exceed the expected inflation rate if there is an inflation risk premium in nominal bond yields. However, if there are concerns about deflation, the inflation risk premium may become negative and the breakeven inflation rate may underestimate expected inflation.	Yes, if our goal is to only estimate expected inflation. No, if our goal is to convert a nominal rate of return with an inflation risk premium into a real rate of return for a business with no inflation risk.
Liquidity premium	Underestimate	The indexed bond market is likely to be less liquid than the nominal bond market and as a result the breakeven inflation rate is likely to include a liquidity premium. The differential liquidity premium between nominal and indexed bonds may also be time-varying. This premium is likely to be greater during periods of uncertainty when there is a 'flight' to more liquid nominal bond markets.[603] This would result in a narrow spread between nominal and indexed bond yields caused by greater uncertainty rather than a fall in expected inflation. If we accept CEG's forecasts of weak economic activity and an 'inflation trap', any resulting financial market uncertainty may give rise to a large liquidity premium in the breakeven inflation rate.	Yes
Inflation indexation lag	Underestimate or overestimate – potentially small if inflation is stable	Indexed CGS yields reflect some historical inflation as there are lags between movements in the price index and adjustments of indexed bond cash flows.[604] The indexation lag on	Potentially not if immaterial.

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[601] Scholtes, C., 'On market-based measures of inflation expectations', *Bank of England Quarterly Bulletin*, Spring 2002, p. 71.

[602] Examining the US bond market over 2000 to 2008, Grishchenko and Huang (2012) found the inflation risk premium to range from -0.16 to 0.10. They attributed the negative inflation risk premium embedded in nominal bonds to the deflation scare of 2002–2003 and the illiquidity of indexed bonds. Grishchenko, O., Huang, J.Z. (2012) 'Inflation Risk Premium: Evidence from the TIPS market', Finance and Economics Discussion Series Divisions of Research and Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C. 2012-06, pp. 1–46. Campbell and Shiller also found that with inflation positively correlated with stock prices during the US economic downturn (2009), the inflation risk premium in nominal Treasury bonds is likely negative. See Campbell, J., Shiller, R., Viceira, L. (2009), 'Understanding Inflation-Indexed Bond Markets', *Brookings Papers on Economic Activity*, Spring 2009, p. 115.

[603] Shen, P., Corning, J., 'Can TIPS Help Identify Long-Term Inflation Expectations?', *Federal Reserve Bank of Kansas City, Economic Review*, Fourth Quarter 2001, pp. 61–87.

[604] The RBA observed that because indexed CGS are indexed with a lag (of 4.5 to 5.5 months), indexed CGS yields also reflect historical inflation not just future expected inflation. The RBA noted because of indexation lag, the high realised inflation rate during 2008 was reflected in the narrow breakeven inflation rate of 90 basis points during that

and the indexation lag is small.	indexed CGS is considerable - between 4.5 and 5.5 months. As a result of indexation lag, if historical inflation is high (low) relative to the inflation rate expected by the market then, all else equal, the real yield to maturity on the indexed bond may be higher (lower) than its 'true' real yield and the breakeven approach may underestimate (overestimate) the expected inflation rate. Also, due to indexation lag, the real return on indexed bonds may be exposed to some inflation risk and may include an inflation risk premium.[605]

It is worth noting that the potentially material biases in Table 3-25 have yet to be raised or discussed. This provides further support for broad consultation with all stakeholders prior to changing approaches as this would illicit stakeholder input to the various benefits and limitations to a change in approach. For instance, there is a range of limitations to the breakeven approach that CEG and AusNet Services have not raised and stakeholders may be yet to consider.[606] Where possible, it would be prudent to adjust for any identifiable material biases if such a review lead us to adopt the breakeven approach (or another method, such as one based on interest rate swaps).

Limitations under market imperfections

Market imperfections can undermine the ability of the breakeven approach to estimate the market's inflation expectations. For this reason, our use of the breakeven approach pre-2008 had been criticised by various stakeholders.[607] Also, CEG recently recognised this in advising:[608]

> in the period from 2006 to late 2008 the indexed CGS market was much smaller than today. RBA analysis suggested that the limited supply, in

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[605] year (based on a 2 year breakeven inflation rate), although other potential causes of the narrow breakeven rate were also identified, such as a possible increase in indexed bond liquidity premia. The RBA had undertaken modelling to remove the index lag distortion from indexed bond yields in their estimation of expected inflation from the implied breakeven inflation rate. Finlay, R, Wende, S., 'Estimating Inflation Expectations with a Limited Number of Inflation-indexed Bonds', *Research Discussion Paper: Reserve Bank of Australia*, RDP 2011-01, March 2011, pp. 17–18, 20.

[605] Grishchenko and Huang found the indexation lag of 3 months for 10 year indexed US treasuries added over 4 basis points to real yields. Grishchenko, O., Huang, J.Z., 'Inflation Risk Premium: Evidence from the TIPS market', F*inance and Economics Discussion Series Divisions of Research and Statistics and Monetary Affairs*, Federal Reserve Board: Washington D.C., 2012, pp. 1–46.

[606] CEG did not raise these issues in CEG, *Memorandum: September 2015 cost of debt and inflation forecasts*, 5 January 2016 or in CEG, *Measuring expected inflation for the PTRM*, January 2016. AusNet Services did not raise these in AusNet Services, *Revised regulatory proposal*, pp. 7-96–7-102.

[607] CEG, *Expected inflation estimation methodology: A report for Country Energy*, April 2008; Commonwealth Treasury, *Letter to Joe Dimasi, ACCC, 'The Treasury Bond Yield As a Proxy For the CAPM Risk-Free Rate'*, 7 August 2007; NERA, *Bias in the indexed CGS yields as a proxy for the CAPM risk free rate: A report for the ENA*, March 2007; RBA, *Letter to Joe Dimasi, ACCC, Comments on a report prepared by NERA concerning the Commonwealth Government bond market*, 9 August 2007.

[608] CEG, *Measuring expected inflation for the PTRM*, June 2015, pp. 6–7.

combination with heightened demand by foreigners due to regulatory changes, were combining to push up indexed CGS prices and push down real yields; with the effect that breakeven inflation estimates were overstated.

CEG suggests that its criticism of the breakeven approach in 2007 does not apply to the current market. However, we do not consider it has provided convincing evidence of this. We agree with CEG's observation that there has been an increase in the size of the indexed CGS market (there are currently seven types of indexed CGS on issue).[609] However, we do not consider this means that market distortions are no longer a concern.

For instance, despite having improved since 2007, the size and liquidity of the indexed CGS market is still limited.[610] Further, increased *absolute* liquidity in the indexed CGS market does not necessarily imply that this market has become more liquid *relative* to the nominal CGS market. This is important because relative liquidity between these two markets determines the liquidity bias in implied breakeven rates. Trading volume of indexed CGS expressed share of total indexed and nominal CGS can be used as a measure of the relative liquidity.[611] According to this metric, there has only been a minor improvement to relative liquidity of the indexed CGS since early 2008.[612] Liquidity bias can be material and difficult to identify and remove from the breakeven rate—particularly as evidence indicates that it can vary considerably over time.[613]

Further, while CEG suggests the current approach is producing unusual results, it is not clear that this is the case. Another market-based method for estimating expected inflation entails using inflation swaps. CEG's application of this method showed that a 10 year inflation expectation of approximately 2.6 per cent, which was higher than what the current approach produced at that time (2.5 per cent). While CEG advised that hedging costs cause an upward bias in inflation estimates from swaps, it is worth noting that the breakeven approach is not free from bias either.[614] Inflation swaps also

[609] Australian Office of Financial Management, 'Treasury Indexed Bonds', 19 February 2016, accessed 25 February 2016, <http://aofm.gov.au/ags/treasury-indexed-bonds/#Treasury_Indexed_Bonds_on_issue>.

[610] Devlin, W., Patwardha, D., 'Measuring market inflation expectation', *Economic Roundup*, No. 2, 2012, p. 7.

[611] In their estimate of the liquidity premia in the breakeven inflation rate, Gurkaynak et al (2010) employed trading volume of indexed Treasuries expressed share of total indexed and nominal Treasuries to measure of the relative liquidity of indexed US Treasuries. See Gurkaynak, R., Sack, B., Wright, J. (2010), 'The TIPS Yield Curve and Inflation Compensation', *American Economic Journal: Macroeconomics*, 2(1), pp. 70-92

[612] The annual trading volume of indexed CGS as a share of total CGS more than doubled in 2007–08, but returned to its 2007–08 share in 2011–12 as new tranches of nominal CGS were issued. Currently, the share is only modestly above 2007–08 levels. See data reported in AFMA, *2015 Australian financial markets report*, pp. 20–21; AFMA, 2012 *Australian financial markets report*, pp. 18–20.

[613] For instance, see Gurkaynak, R., Sack, B., Wright, J. (2010), 'The TIPS Yield Curve and Inflation Compensation', *American Economic Journal: Macroeconomics*, 2(1), pp. 87–89; Shen, P., Corning , J. (2001), 'Can TIPS Help Identify Long-Term Inflation Expectations?' Federal Reserve Bank of Kansas City, *Economic Review*, Fourth Quarter, p. 76.

[614] CEG, *Measuring expected inflation for the PTRM*, January 2016, p. 13; CEG, *Measuring expected inflation for the PTRM*, June 2015, pp. 16–17. CEG references Devlin, W., Patwardha, D., 'Measuring market inflation expectation', *Economic Roundup*, No. 2, 2012. This states: 'while inflation swap rates generally move closely in line

have some advantages over the breakeven approach. For instance, the Treasury, the RBA and several academic researchers observe that, as estimates of expected inflation, inflation swap rates are less affected by liquidity premia than the bond breakeven inflation rate.[615]

Amending methods in the future

In its revised proposal, AusNet Services submitted that it was unclear why we could only consider changing the method for estimating expected inflation as part of a separate consultation process.[616] We consider the NER require that changes/amendments to the PTRM, which would apply to all service providers, must be done in accordance with the distribution consultation procedures.[617] This applies to inflation, which is addressed through the PTRM rather than the rate of return (which is to be in nominal terms).[618]

On a more general note, we consider there are good reasons for maintaining a methodology for estimating inflation expectations that is broadly accepted as sound rather than changing approaches across resets (noting that we do not consider service providers have shown broad support to permanently return to the breakeven approach).[619] This is because:

- The <u>method</u> that we determine is likely to result in the best estimates of expected inflation must be contained in the PTRM.[620] The rules specify that we may amend the PTRM in accordance with distribution consultation procedures.[621] It is valuable to follow distribution consultation procedures in amending this aspect of the PTRM

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with bond market break-evens, they have typically been around 20 basis points higher at the 10-year tenor', p. 14. However, it also discusses how the breakeven approach has competing biases that vary, particularly over longer time periods (pp. 10–11).

615 Devlin, W., Patwardha, D., 'Measuring market inflation expectation', *Economic Roundup*, No. 2, 2012, p. 11; RBA, *Statement on Monetary Policy*, February 2015, p. 50; Haubrich, J., Pennachi, G., Ritchken (2012), 'Inflation Expectations, Real Rates, and Risk Premia: Evidence from Inflation Swaps', *The Review of Financial Studies*, 25(2), pp. 1590; Fleckenstein, M., Longstaff, F., Lustig, H. (2014), 'The TIPS-Treasury Bonds Puzzle', *The Journal of Finance*, 69(5), October, pp. 2165-2167. This was also observed by Campbell et al. (2009) during the height of the financial crisis. Campbell, J., Shiller , R., Viceira, L. (2009), 'Understanding Inflation-Indexed Bond Markets', *Brookings Papers on Economic Activity*, Spring 2009, p. 109.

616 AusNet Services, *Revised regulatory proposal*, January 2016, p. 7-101.

617 NER, cll. 6.4.1(b) & 6A.5.1(b).

618 NER, cl. 6.4.2(b)(1) and (4), NER, cl.6.5.2(d)(2). See our decision on SAPN for a discussion. AER, *Final decision: SA Power Networks determination attachment 3 – Rate of return*, October 2015, pp. 253–254.

619 For instance, when developing the Guideline in 2013, stakeholders endorsed continuing the current method. See AER, *Draft Rate of Return Guideline, Explanatory Statement*, August 2013, p. 152. Since that time, a number of service providers did not raise concerns with our current approach (For example: Amadeus Gas Pipeline, ActewAGL electricity distribution, Ausgrid, Directlink, Endeavour Energy, Energex, Essential Energy, Ergon Energy, JGN, TasNetworks, TransGrid). Since that time, a number of service providers raised concerns with the current approach but only proposed to depart from it in their revised proposals (For example: ActewAGL gas distribution, AGN, AusNet Services, JEN, SAPN and United Energy). CitiPower and Powercor raised concerns with the current approach but did not propose to depart from it in their revised proposals.

620 NER, cl. 6A.5.3(b)(1).

621 NER, cl. 6.4.1(b). NER. cl 6A.5.1(b) is similar, but specifies 'transmission consultation procedures'.

because the method for estimating expected inflation applies to all service providers.

- Regularly switching between different methods for estimating inflation expectations could allow bias to enter our decisions as this would incentivise service providers to propose approaches that were most beneficial to them at a given point in time. If an alternative to the current method provides unambiguously better estimates of expected inflation, we consider it preferable to adopt this as our general approach rather than applying it on a decision-by-decision basis. We do not consider CEG or AusNet Services have made a strong case for how the breakeven approach might produce superior estimates of expected inflation to the current method. Further, neither addressed nor proposed to adjust for the potentially material biases underpinning this approach.

- We do not consider that service providers or other stakeholders have shown broad support to permanently return to the breakeven approach. In 2013, stakeholders endorsed continuing the current method when we raised this as an issue for potential review of our regulatory approach.[622] AusNet Services submitted that stakeholders endorsed continuing the current method in 2013 because it produced similar estimates to the breakeven approach at the time.[623] We do not find this convincing. Recognising that different methods produce different estimates across time, we consider stakeholders would have supported the estimation method they considered was most reasonable. We would accept that stakeholders might change their preferences if liquidity in the indexed CGS market improved notably since 2013 and/or less biases and premia were affecting the breakeven inflation rate more generally. However, this does not appear to be the case.

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[622] AER, *Draft Rate of Return Guideline, Explanatory Statement*, August 2013, p. 152.
[623] AusNet Services, *Revised regulatory proposal*, January 2016, p. 7-99.