Estimation of Expected Inflation

Requirement for a review : further data and evidence on the new inflation environment

7 November 2019

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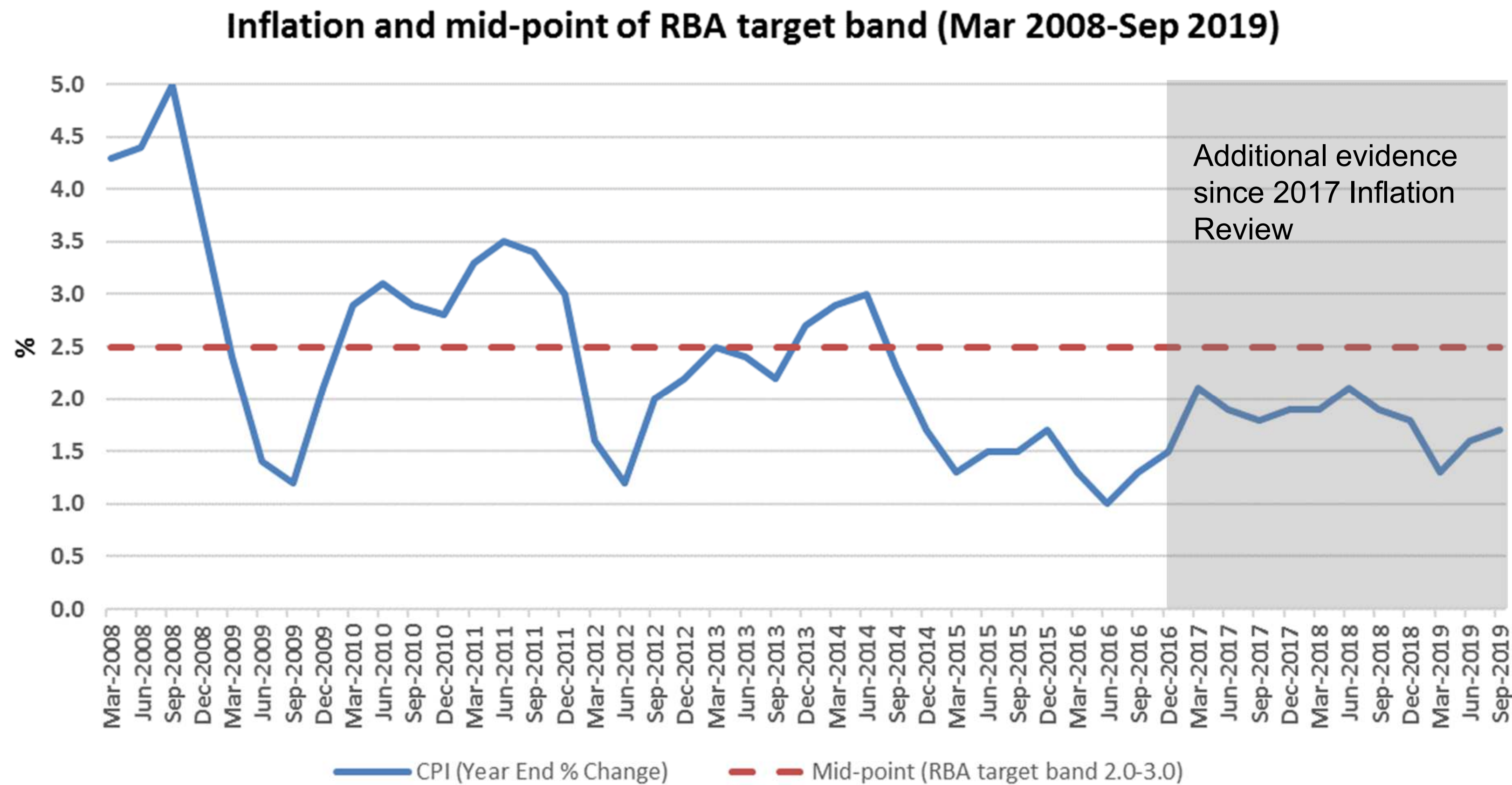
Inflation has been under mid-point of target band for five years now



Sources: ABS Cat No 6401.0

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Consistent pushing back of return to target range (2019 evidence)

Some time before inflation is back in range (July 2019)

"Whether or not further monetary easing is needed, **it is reasonable to expect an extended period of low interest rates. On current projections, it will be some time before inflation is comfortably back within the target range. The Board is strongly committed to making sure we get there and continuing to deliver an average rate of inflation of between 2 and 3 per cent. It is highly unlikely that we will be contemplating higher interest rates until we are confident that inflation will return to around the midpoint of the target range.**

Low inflation has become the norm in most economies. This is evident in this next graph, which shows the share of advanced economies with a core inflation rate below 2 per cent and below 1 per cent (Graph 3). Currently, three-quarters of advanced economies have an inflation rate below 2 per cent, and one-third have an inflation rate below 1 per cent.

But countries that are operating nearer to full capacity are more likely to have inflation close to target. **It also appears that if you have an extended period of very low inflation – as did Japan and the euro area – it is harder to get back to target as a deflationary mindset takes hold**."

Philip Lowe, RBA Governor, Address to Anika Foundation Luncheon, Sydney – 25 July 2019

Return to range 'pushed out again' (August 2019)

"Over the year to June, inflation was 1.6 per cent, in both headline and underlying terms, extending the period over which inflation has been below the 2–3 per cent medium-term target range**. The Reserve Bank Board remains committed to having inflation return to this range, but it is taking longer than earlier expected.**

Looking ahead, inflation is still expected to pick up, **but the date at which it is expected to be back at 2 per cent has been pushed out again. Over 2020, inflation is forecast to be a little under 2 per cent and over 2021 it is expected to be a little above 2 per cent."**

RBA, Opening Statement to Economics Committee, 9 August 2019

And again (November 2019)

The central scenario remains for inflation to pick up, but to do so only gradually. In both headline and underlying terms**, inflation is expected to be close to 2 per cent in 2020 and 2021. [...]**

Given global developments and the evidence of the spare capacity in the Australian economy, **it is reasonable to expect that an extended period of low interest rates will be required** in Australia to reach full employment and achieve the inflation target.

Statement by Philip Lowe, Governor: Monetary Policy Decision, 5 November 2019

RBA does not target a mechanical return to target (2019 evidence)

RBA itself does not even try to follow 'back in two years' rule

"So it is more difficult to manage inflation tightly than it once was.

[…]

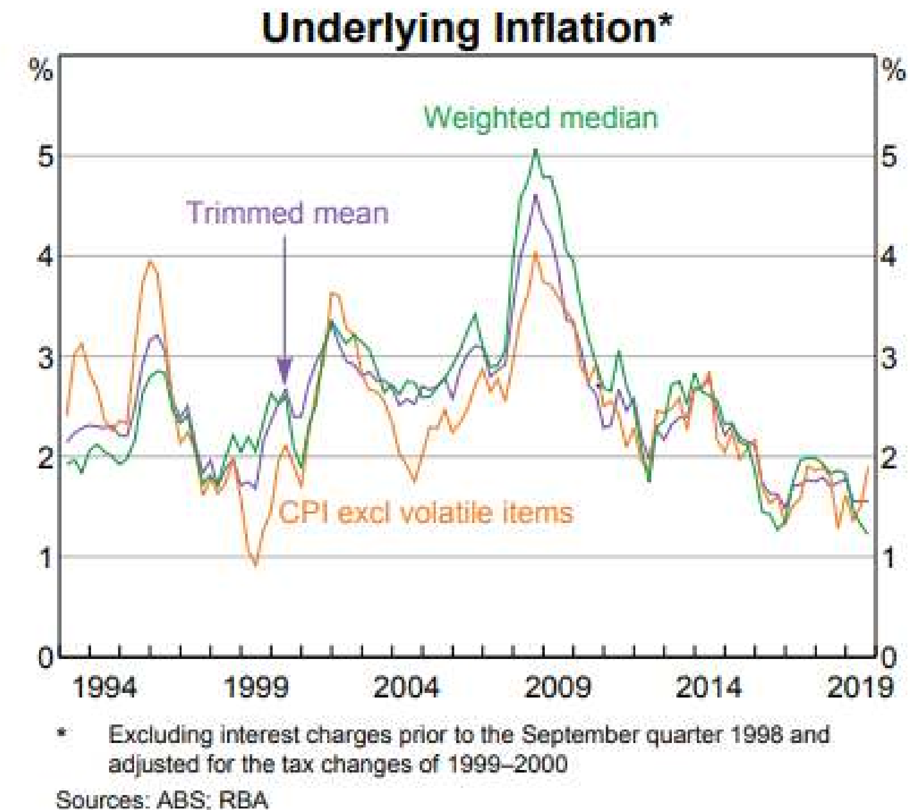
Our target is to achieve an average rate of inflation, over time, of between 2 and 3 per cent. This means that there is an acceptable degree of variation in inflation from year to year, and we have been prepared to use this flexibility. **Our focus is very much on the medium term – hence 'on average' and 'over time'.**

[…]

Importantly, we have always seen the inflation target as nested within the broader objective of welfare maximisation. This means that the question the Reserve Bank Board asks itself when making interest rate decisions is how those decisions can best contribute to the welfare of the Australian people. In particular, we are seeking to achieve the maximum sustainable rate of employment consistent with inflation being at target. And we are seeking to do this in a way that limits the build-up of financial imbalances that can be the source of instability down the track. In doing this, we can make a material contribution to the welfare of the society we serve.

I acknowledge there is an element of judgement and discretion in this approach. **Certainly, there is more judgement involved than in an approach to monetary policy that mechanically sets interest rates so that forecast inflation is at the target in two years' time."**

Philip Lowe, RBA Governor, Sir Leslie Melville Lecture, 29 October 2019



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Market expects inflation below 2% for around 25 years

[Redacted due to proprietary third-party data/content]

Inflation expectations are at historical lows

- Evidence is that inflation expectations have stayed low for three years and are now at historical lows

- Shaded period in figure on next slide illustrates the **new data points** available since the 2017 AER Inflation Review

- Every estimate of inflation expectations published by RBA is at or near historical lows

- Statistical testing of breakeven and market economists' forecasts series shows a significant difference (t-statistics of 10 and 7, respectively)
  - Expectations from 2017 and following are statistically significantly lower than the prior expectations (available at the time of the 2017 Inflation Review)

Inflation expectations are at historical lows

…and have remained so in the last three years

Additional evidence since 2017 Inflation Review

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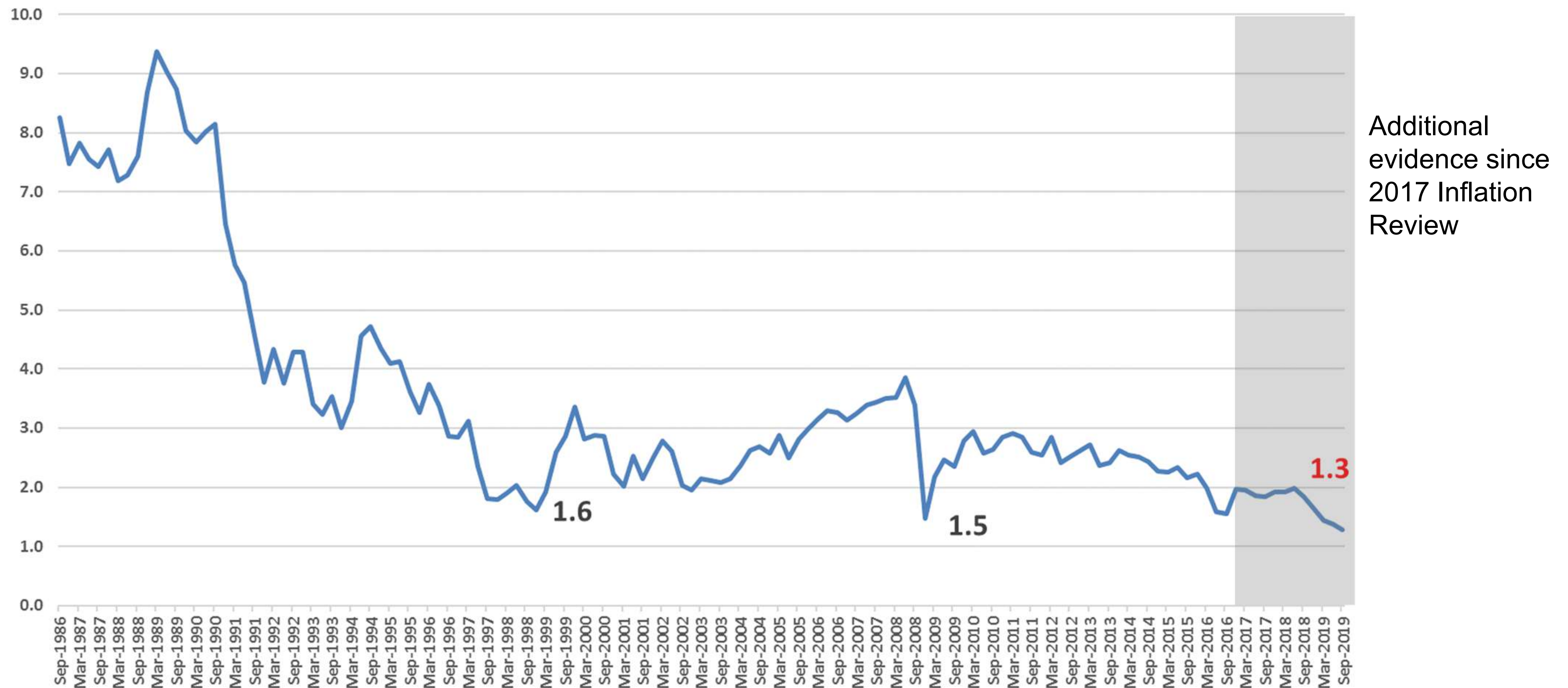
Market measures of inflation expectations lowest ever recorded



Additional evidence since 2017 Inflation Review

Source: RBA, Average annual inflation rate implied by the difference between 10-year nominal bond yield and 10-year inflation indexed bond yield; End-quarter observation

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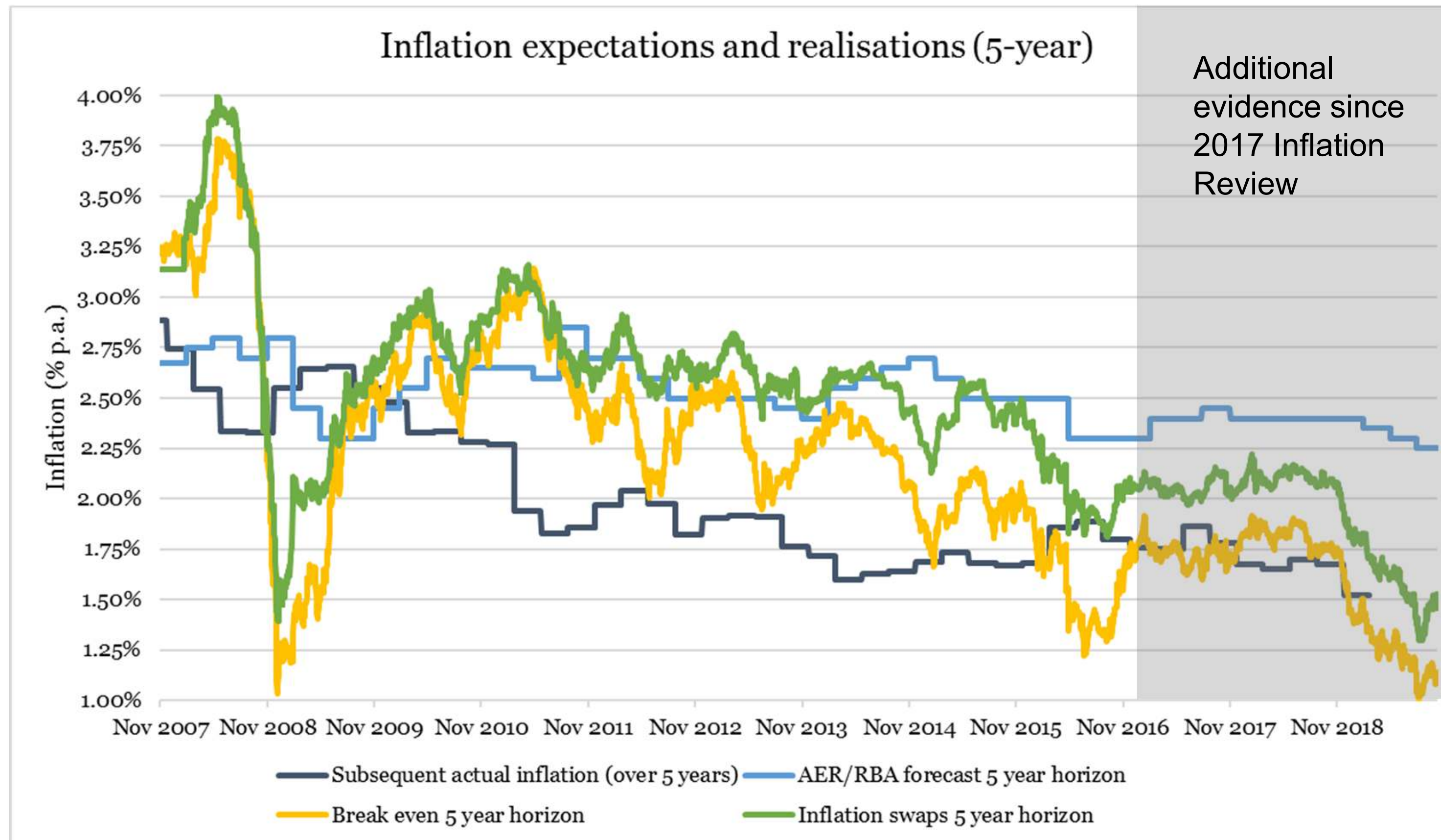
Inflation expectations are at historical lows…consistent with observed inflation outcomes over the last three years



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Every estimate published by RBA is at or near all time minimums: All are materially lower than in 2017

Method	Current estimate Percentile rank	Dec 2017 (AER review) Percentile rank
Consumer expectations	6%	73%
Business expectations	11%	21%
Union officials (1-year)	4%	7%
Union officials (2-years)	1%	6%
Market economists (1-year)	1%	15%
Market economists (2-years)	0%	8%
Breakeven (10-year)	0%	8%

Context – AER Inflation Review - Final Decision (2017)

Timing of review and lack of empirical data left unanswered questions for AER

In coming to our preliminary position, we reviewed the available evidence on the rate of reversion to the mid-point of the target band. This evidence suggested that reversion is relatively rapid in Australia - within one to two years. Further, the evidence suggested that the mid-point of the target band is the best estimate of expected inflation beyond two years. A glide path approach would therefore not provide the best estimate of expected inflation.

Consideration of a glide path approach had arisen fairly close to our preliminary position and was not discussed in the ACCC/AER working paper or the discussion paper. Considering the positives and negatives, in our preliminary position we were not satisfied that there was enough evidence to change from the current approach to a glide path approach. We encouraged stakeholders to provide more evidence on this issue in submissions on our preliminary position paper. In particular, we were interested in hearing whether there is other evidence on the speed of reversion of inflation expectations.

Some stakeholders submitted that in extreme circumstances (disturbances) it may take a number of years for inflation expectations to return to the midpoint of the RBA's target band. However, there was no new evidence submitted on how long it takes for inflation to revert to the mid-point after a disturbance. Nor was there new evidence on how to define these disturbances, identify the occurrence of these (if any) in the past which led to a delay beyond two years, or robustly forecast such a disturbance and if so, the time lag.

There has been no reversion back to 2.5%: 5 years and counting…

» ***Question: once outside the RBA target band, how long does it take to return to 2.5%?***
  – Frontier has analysed all ‘out of target band’ excursions since modern inflation targeting began (post 1995).

» ***Findings***
  – Prior to the current excursion (beginning 2014-15) the **longest period was 13 quarters**. That is, the RBA always had inflation back to 2.5% within about 3 years.
  – The current excursion has now had **20 quarters in a row** below 2.5%, with more expected.
  – During the AER’s 2017 review **there had only been 9 quarters below 2.5%.** That is, it could have appeared to be a ‘normal’ excursion.

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Statistical analysis of the current excursion

» ***Question: Is the current 20-quarter excursion statistically different from previous excursions?***

– Frontier has modelled excursion length as an exponential distribution, parameterized using data from all previous excursions.

» ***Findings:***

– **Probability of observing an excursion of more than 20 quarters is only 4.2%. That is, the current excursion is statistically significantly different from prior excursions.**

– **This new evidence was not available to the AER in 2017.**

Summary

» Developments and data since the AER's 2017 Inflation Review clearly demonstrate that there has been a 'regime change' in inflation patterns.

» Statistical analysis shows that the current low-inflation episode is different from anything that has been observed since the RBA began inflation targeting.

– We are simply not drawing from the same distribution.

– The RBA is no longer even trying to return inflation to 2.5% within 2 years.

» A review is required to consider the implications of the new information that has become available since 2017.

» Inflation Working Group has usefully discussed broader issues such as allocation of forecasting risk and alternative approaches: these may represent more fruitful ways forward.

Summary

» Will it all even out in 'swings and roundabouts'?

- To satisfy a (mistaken) NPV=0 condition 'on average' from here the AER and rule-makers would need to be satisfied that inflation will spend 5 years above 3.0 per cent with **no** policy response to the associated costs to consumers.

- Wouldn't it be better to have fair returns and fair prices in every regulatory period, rather than cycles of under- and over-compensation?

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