Parameta Solutions Indices

AUD Interest Rate Swap Volatility Indices

Parameta Solutions AUD Interest Rate Swap Volatility (AUD IRSV) indices aim to provide market participants with a forward looking implied volatility measure for the AUD interest rate swap markets.

Background

Interest rate swaps are an important tool for fixed income market participants, chiefly as they reflect the market's expectation of future interest rates. They are used by corporate treasurers, speculators, investors, and banks in a variety of use cases in portfolio management, financing, risk management, and investment strategies. According to ISDA[1], total notional outstanding for Interest Rate Derivatives (IRD) reached $573.7 trillion and accounted for 80.3% of global OTC derivatives notional outstanding as of end-June 2023. Interest rate swaps notional outstanding hit $465.9 trillion accounting for 81.2% of total IRD notional outstanding at end-June 2023.
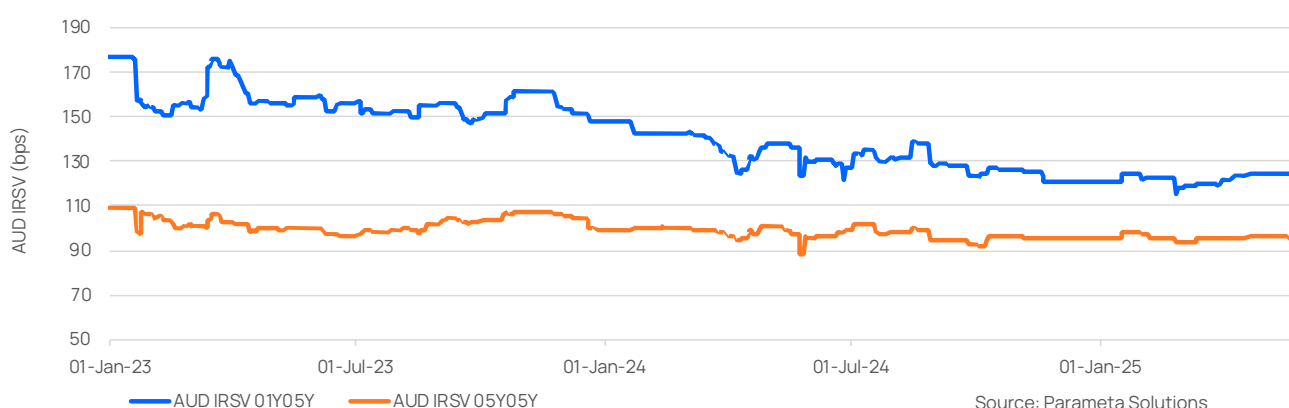
Index Description

The Parameta Solutions AUD Interest Rate Swap Volatility (AUD IRSV) indices aim to provide market participants with a model-free measure of spot implied volatility in the Australian interest rate swap markets. Derived from interest rate swaption prices, an index is available for each of 42 liquid option expiry, swap tenor combinations. Each index distils the information content of up to 11 different ATM and OTM payer and receiver strikes into a single measure of implied volatility for each option expiry/swap tenor combination.

Accurate volatility forecasts are important for investors, both when making investment decisions and when measuring investment risks. Simple volatility measures implied from at-the-money (ATM) option prices fail to capture all available information from option markets. To address this, recent research advocates deriving implied volatility in a model-free manner from both ATM and out-of-the-money (OTM) call and put options. A recent BIS working paper[2] found that predictions of interest rate swap volatility based on model-free implied volatility have superior predictive power over other commonly used volatility forecasting measures.

Index Objective and Key Features

- Indices are available for 42 of the most liquid option expiry, swap tenor combinations from the AUD interest rate option markets.

- The objective of each index is to provide an indication of the expected volatility of the index swap rate tenor over the index option expiry period.

- IRSV indices distil the information content of ATM and OTM interest rate swaptions into a single measure of implied volatility for each index.

- Model-free volatility estimates are widely accepted to have superior predictive power compared to other forecasting measures[2].

Recent History of AUD 1Y05Y and 05Y05Y Volatility Indices

Source: Parameta Solutions

[1] https://www.isda.org/a/5ihgE/Key-Trends-in-the-Size-and-Composition-of-OTC-Derivatives-Markets-in-the-First-Half-of-2023.pdf
[2] https://www.bis.org/publ/work1068.pdf

Indices Available

The following indices are available directly from Parameta Solutions. Indices can also be viewed on Bloomberg using the tickers below or from page PMET.

AUD IRSV Indices		Swap Tenor					
		01Y	02Y	05Y	10Y	20Y	30Y
Option Expiry	01M	PSVRA1IB	PSVRA1KB	PSVRA1VB	PSVRA1XB	PSVRA1UB	PSVRA1YB
	03M	PSVRA3IB	PSVRA3KB	PSVRA3VB	PSVRA3XB	PSVRA3UB	PSVRA3YB
	06M	PSVRA6IB	PSVRA6KB	PSVRA6VB	PSVRA6XB	PSVRA6UB	PSVRA6YB
	01Y	PSVRAIIB	PSVRAIKB	PSVRAIVB	PSVRAIXB	PSVRAIUB	PSVRAIYB
	02Y	PSVRAKIB	PSVRAKKB	PSVRAKVB	PSVRAKXB	PSVRAKUB	PSVRAKYB
	05Y	PSVRAVIB	PSVRAVKB	PSVRAVVB	PSVRAVXB	PSVRAVUB	PSVRAVYB
	10Y	PSVRAXIB	PSVRAXKB	PSVRAXVB	PSVRAXXB	PSVRAXUB	PSVRAXYB

Calculation Methodology

The index calculation methodology is based on academic research[3] which provides a theoretical foundation for measuring interest rate swap volatility based on the model-free fair value of variance swap contracts for forward swap rates.

Each index is derived from the following inputs:

- Swaption ATM mid-price premium
- Swaption ATM normal volatility
- Swaption skew mid-price premia across the following payer and receiver strikes 200, 150, 100, 50 and 25 for the specified option expiry and swap tenor.

For more information on the calculation methodology please contact us.

Additional Information

- The price source for the AUD IRSV indices is the ICAP Australia Interest Rate Options Desk.
- AUD IRSV indices are published at or around 5PM Sydney time based on prices between 2.30 and 4.30PM.
- A business day for IRSV means a day on which banks are open in Australia and the ICAP Interest Rate Options Desk publishes prices.
- The inception date for the AUD IRSV indices is 01 Apr 2021.

[3] Mele, Antonio & Obayashi, Yoshiki. (2015). The Price of Fixed Income Market Volatility. 10.1007/978-3-319-26523-0_3

Get in touch

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