

# GBP Interest Rate Swap Volatility Indices

Parameta Solutions GBP Interest Rate Swap Volatility (GBP IRSV) indices aim to provide market participants with a forward looking implied volatility measure for the GBP 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<sup>1</sup>, 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 GBP Interest Rate Swap Volatility (GBP IRSV) indices aim to provide market participants with a model-free measure of spot implied volatility in the GBP interest rate swap markets. Derived from interest rate swaption prices, an index is available for each of the 48 most liquid option expiry, swap tenor combinations. Each index distills the information content of up to 24 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<sup>2</sup> 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 48 of the most liquid option expiry, swap tenor combinations from the GBP 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 distill 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<sup>2</sup>

## Recent history of 1Y10Y volatility indices



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 Solution. Indices can also be viewed on Bloomberg using the tickers below or from page PMET.

GBP IRSV Indices	Swap Tenor (T in years)						
	01Y	02Y	05Y	10Y	20Y	30Y	
Option Expiry	01M	PSVRS1IB	PSVRS1KB	PSVRS1VB	PSVRS1XB	PSVRS1UB	PSVRS1YB
	03M	PSVRS3IB	PSVRS3KB	PSVRS3VB	PSVRS3XB	PSVRS3UB	PSVRS3YB
	06M	PSVRS6IB	PSVRS6KB	PSVRS6VB	PSVRS6XB	PSVRS6UB	PSVRS6YB
	01Y	PSVRS1IB	PSVRS1KB	PSVRS1VB	PSVRS1XB	PSVRS1UB	PSVRS1YB
	02Y	PSVRS2IB	PSVRS2KB	PSVRS2VB	PSVRS2XB	PSVRS2UB	PSVRS2YB
	03Y	PSVRS3IB	PSVRS3KB	PSVRS3VB	PSVRS3XB	PSVRS3UB	PSVRS3YB
	05Y	PSVRS5IB	PSVRS5KB	PSVRS5VB	PSVRS5XB	PSVRS5UB	PSVRS5YB
	10Y	PSVRS10IB	PSVRS10KB	PSVRS10VB	PSVRS10XB	PSVRS10UB	PSVRS10YB

## Calculation Methodology

The index calculation methodology is based on published academic research<sup>3</sup> 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 1000, 500, 400, 300, 200, 150, 100, 75, 50, 25, 12.5 for the specified option expiry and swap tenor.

For more information on the calculation methodology please [contact us](#).

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

## Additional Information

- The price source for the GBP IRSV indices is the ICAP EMEA Interest Rate Options Desk
- IRSV indices are published at or around 5PM UK time based on closing prices as at 4.15PM
- A business day for IRSV means a day on which banks are open in the UK and the ICAP Interest Rate Options Desk publishes prices
- The inception date for the majority of GBP IRSV indices is 04 Jan 2010

## Get in touch

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