

<u>Using Sentry Derivatives' FX OPTION WIDGET</u>. A short guide that can be displayed alongside the widget

This interactive widget shows market data for a range of European style vanilla Call and Put options for a variety of currency pairs.

For all views, streaming quotes for spot FX rates are shown on the left column, and standard expiration dates are shown across the top row, just below the title.

There are two types of pages that can be displayed - Pricing pages and Volatility pages.

<u>Pricing pages:</u> The main page is populated with live streaming prices for options on the chosen currency pair.

<u>Currency pair</u>: Click one of the currency pairs on the left of the widget.

Expiration: Click to choose one of the standard tenors. The currency pair and expiration date are shown in top row of the display. "O/N" means overnight option, "1W" is one week to expiration, "3M" is the standard three month expiration date, etc.

<u>Strike</u>: The price at which an option can be exercised. Strike prices are evenly spaced and automatically chosen to reflect a full spectrum of deltas, from 0.20 to 0.80.

<u>Delta</u>: The change of an option price due to a change in the spot price. Put options have negative deltas, as put prices fall as spot rises.

<u>Vol</u>: Mid-market implied volatility for the chosen option.

<u>Skew</u>: The difference between the implied volatility of the option, and the implied volatility of an option for the same date with a delta neutral strike* (see below).

<u>Vega</u>: The change of an option price due to a 1% increase in implied volatility (e.g. from 11.95% to 12.95%)

<u>Pricing convention</u>: Option prices can be shown in base pips, term pips, or term %. Base refers to the first currency of a currency pair, also known as the domestic currency. Term refers to the second currency of a pair, also known as the foreign currency. Choose the convention at the bottom left side of the Pricing page.

<u>Term pips</u> (default): For a EUR/USD option, the price of an option in USD pips, expressed in decimal form. Multiply this number times the EUR amount of the option to get the value of an option in USD. A quote of 0.0090 for an option on one million EUR/USD costs USD 9,000.

<u>Base pips</u>: For a EUR/USD option, the price of an option in EUR pips, expressed in decimal form. Multiply this quote by the USD amount of the option at the strike price to



get the value of the option in EUR. A quote of .0098 for an option on one million EUR/USD struck at $1.12 = .0098 \times 1,000,000 \times 1.12 = EUR 10,976$.

<u>Base %</u>: For a EUR/USD option, the price of an option as a percentage of the EUR amount, e.g. the cost in % of protecting the nominal amount of the option. In the same example, a cost of $1.10\% \times EUR 1$ million = EUR 11,000.

<u>Charts</u>: Click on any option price, and a chart showing profit and loss for the purchase of the option on 10,000 base currency replaces the right side of the Pricing page. Cost in the term currency and the breakeven spot level are shown inside the chart. Choose a different strike to see the difference for other options. Click the small "x" at the top right of the chart to close the window.

<u>Volatilities pages</u>: Click on "Vols" at the lower left of the widget to display one of three Volatility pages. To return to a Pricing page, click on any volatility number to "drill down" to the related Pricing page.

<u>Implied Vols</u>: The default page shows live implied volatility levels for delta neutral strikes for each of the currency pairs and standard tenors.

<u>Realized Vols</u>: This page shows realized volatility over the chosen period. Price samples are taken at 20:00 GMT.

<u>Ratio</u>: This page shows implied volatility divided by realized volatility for each date and tenor.

*Delta neutral strike: The strike at which the delta of a call plus the delta of a put equals zero.

Very Abridged Version

The Option Pricing Widget has two types of pages: Pricing Pages and Volatility Pages.

Click any currency pair to see a range of streaming vanilla European style Call and Put option mid-market prices and related data.

Choose one of the standard tenors by clicking on the top row of the window.

You may choose various pricing conventions at the bottom left of the page. The default is Term pips, alternatives are Base pips and Base %.

Click on any option price to see a chart showing profit and loss for the purchase of an option on 10,000 of the currency pair at the chosen strike and tenor, including breakeven level.

Click "Vols" to see a matrix of Implied volatilities for all currency pairs and tenors. Additional pages showing Realized volatilities and the ratio of Implied over Realized can be chosen. Click on any volatility number or currency pair to display its related Pricing page.