

## FX OPTIONS: Exchange-Listed FX Options



**Steve Meizinger**, Director of Education at the International Securities Exchange (ISE), is a leading expert in Forex, equity, and index options trading. As a top rated instructor for ISE and the Options Industry Council, Steve has led thousands of seminars, helping investors navigate the market and identify the most appropriate trading strategies. Steve has over twenty years experience as an Options Specialist at several leading exchanges, including the NYSE, PHLX and AMEX.

## The Upside of Exchange-Listed FX Options

Though their exact origin remains uncertain, exchange-listed options are extremely versatile financial instruments.

The concept of risk and reward goes way back. Some financial historians believe options were created thousands of years ago and often used to mitigate the financial risks in the mercantile shipping business (not including the crew's risk for their own life). The risk was transferred from those parties willing to pay premiums to reduce risk to those that received the premiums and tolerated additional risk. Though their exact origin remains uncertain, exchange-listed options

are extremely versatile financial instruments. Today, options are listed on exchanges and available in many different asset classes. Some of the most popular are equity, bond, ETF, equity indexes and foreign currencies. I will attempt to shed some light on foreign currency options, specifically, ISE FX Options. ISE FX Options allow you to hedge your US dollar exposure and implement your view on the US dollar versus the six major currencies.

With the ever-quickenning pace of globalization, the popularity of exchange-listed foreign exchange options has only increased, as investors seek more transparency and flexibility in their trading. Options provide investors with more choices. *How can you decide which options strategy is appropriate for you?* Well, that depends on your financial goals and your risk tolerance. Before you begin trading, take time to understand the options terminology, the relationship between risk and reward and how

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it will impact your portfolio, and the options “Greeks” (and their various approximations of the dimensions of risk). You will then be much better equipped to select the appropriate options strategy, taking into account current market conditions and your forecast for the future.

Available at the International Securities Exchange (ISE) since the spring of 2007, FX options are accessible through your equity options broker, allowing you to gain exposure to movements in the currency markets. ISE FX Options are cash-settled and US dollar-relative. The US dollar is the base currency for all of the ISE FX pairs. If you forecasted a US dollar rally against another currency, you could buy call options. If you believed the US dollar is going to decline against another currency, you could buy puts. At expiration, all-in-the-money options settle in cash, instead of the physical delivery of equity and ETF options. This feature makes the ISE FX Options very easy to use. The table below provides examples of how each of the rates are calculated.

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#### CONSTRUCTION OF ISE FX PAIRS

| CONVENTION | ISE FX SYMBOL | RATE MODIFIER | ISE UNDERLYING RATE EXAMPLES |
|------------|---------------|---------------|------------------------------|
| USD/EUR    | EUI           | 100           | 74.13 (0.7413 X 100)         |
| USD/JPY    | YUK           | 1             | 94.06 (94.06 X 1)            |
| USD/GBP    | BPX           | 100           | 66.95 (0.6695 X 100)         |
| USD/CHF    | SFC           | 100           | 111.93 (1.1193 X 100)        |
| USD/CAD    | CDD           | 100           | 118.03 (1.1803 X 100)        |
| USD/AUD    | AUX           | 100           | 137.90 (1.3790 X 100)        |

A common theme from just a couple of years ago was our “one global economy”. Some experts were predicting a further consolidation of currencies, especially after the successful introduction of the euro less than ten years ago. The rationale was to have one global economic marketplace,

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followed by just a dozen or so currencies. *How would this all play out?* One thought was that the many of the world's currencies may start trading in similar directions. This concept is defined as correlation, or how one asset moves in relation to another asset. To understand this concept of correlation, let me explain from a practical perspective how the foreign exchange market moves today. *(I will leave the more advanced math to investors that would like to study statistics and linear regressions.)*

Currencies are priced in pairs, so no single pair is wholly independent of the other. I will attempt to shed some light on how currencies interact on a daily basis. Initially, economic news is released from either of the ISE currency pair's local regions. The market then reacts to the news, usually based on the concept of uncertainty. If the market was expecting the news, or was discounting the news, the markets might or might not be affected all that much. One way to gauge the future expectations of the market is by the "jumpiness" of the pair value as measured by the implied volatility of the option. Option pricing models can "reverse engineer" the current ISE market price and solve for what option volatility would make that option "fairly valued." Higher option premiums generally translate to increased future uncertainty. Lower option premiums generally translate to decreased future uncertainty. The options premiums are a form of a market poll on what kind of price range might be expected in the future. It is helpful tool, but not a guarantee, of future underlying movement.

No market participant can predict with full certainty the movement or lack of movement in an underlying FX pair. Once the market ascertains what the news "means," both the exchange rate value and the implied volatility might change. Another possibility is that the exchange rate value changes, but the implied volatility remains somewhat constant *(in reality it is always changing but often not by all that much)*. Of course, the exchange rate value and the implied volatility may also stay constant, but that is rare as the exchange rate value will normally move in a range estimated by the implied volatility. At some point, the market will find a new equilibrium for both the exchange rate value and the implied volatil-

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ity. (To be accurate the interest-rate differential between the currency pair is also used but, for simplicity, I will assume that differential is constant). Once the equilibrium value is determined, the process repeats itself based on the market's future expectations of the currency pair and the volatility of the pair. In reality, the correlation between the various currency pairs and the option volatilities deviates each day, creating trading opportunities between the various pairs.

If investors  
expected large  
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ISE FX Options, just like other exchange-traded options, gives investors financial control of an asset, but with limited risk. Investors can purchase calls (the right to buy the US dollar exchange rate), or puts (the right to sell the US dollar exchange rate) based on their views of the markets, creating a limited risk profile. Sellers can earn premiums, but with substantial (theoretically even unlimited) risk. If investors expected large potential moves in the FX marketplace, buying calls or puts might make sense. Using that strategy, you are limiting your potential losses to the debit paid for the option with much greater upside potential. However, if the underlying pair does not move, any extrinsic premium paid will be lost. Investors should keep the following in mind: *What if I am right on my prediction? What if am (very) wrong? How much can I lose? and What if the market remains unchanged?* Rather than just concentrating on potential profits, the risks and reward trade-off should be carefully considered.

Following is a recent illustration of how even the most sophisticated investors occasionally lose sight of how market volatility impacts the currency markets. Many institutions have recently been closing out poor investment strategies, some at large losses. One of the most popular FX strategies was the "carry-trade." The carry-trade hopes to earn the interest rate differential between the different currencies, relative to each other. During the market's 2006-2007 climb (and even into early 2008), many investors were shorting the lowest yielding currency (yen) and buying a higher yielding currency. The highest yielding ISE FX Options currency is currently the Australian dollar. The AUD had almost a 5% advantage (US 2%, AUD 7%) against the USD earlier this year. An investor could borrow USD and invest in the AUD and hope to earn 5% annually (actually aggressive entities could leverage that up many times). *Is this a risk-free trade? Why didn't I implement this*

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*strategy?* This type of trade involved tremendous risk. The carry-trader was hoping that AUD did not decrease in value; otherwise losses would occur if the AUD dropped by more than 5%. Earlier this year, the AUD was worth much more relative to the USD than today. The ISE FX symbol **AUX** traded at approximately 102 earlier this year; it is currently trading at approximately 145 (as of 12/30/08). The apparent “rogue” strategy was selling an equivalent of a 115 strike **AUX** call un-hedged, or without upside USD protection. (The trade was not done at ISE, but on an OTC market). According to the WSJ, this trade cost the losing firm approximately \$2B. The lesson: never, ever, sell naked options. A vertical spread strategy, such as buying an upside call against the lower strike call sold would have saved them most the \$2B, but it would have cut into their profits of the carry-trade if the **AUX** remained below 115. There were many traders with similar positions. This is demonstrated by the tremendous increase in implied volatility of **AUX**, which shot up from 12.6% (at the end of 2007) to 42.7% volatility (in late October 2008). *How long can the AUX volatility remain at 42.7%?* That answer cannot be determined with full certainty. What is important is for traders to always take into consideration the possibility of fluctuations in FX market volatility.

If you are looking for increased income for your portfolio with limited risk, then trade ISE FX Options. By implementing spread strategies, investors can limit their catastrophic risk from any one specific trade. There are tradeoffs, certainly. Credit spreads reduce your overall profits (relative to selling un-hedged options) due to the cost of your hedge. This should be intuitive though, if you are limiting your overall exposure to a certain event(s). It comes with a cost. The cost is a lower profit if your original forecast was correct. But if you were wrong, at least you capped your losses at some quantifiable amount specified by the strike prices you selected.

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Many investors were predicting a relatively calm FX options market at the advent of 2008, as judged by the low implied volatilities of the various pairs. Options experts routinely pay close attention to the implied volatilities of their favorite ISE FX pairs to gain valuable knowledge of the market perceptions. High implied volatilities indicate increased nervousness in the marketplace, which manifests into a general aversion to selling options. Low

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implied volatilities means there is more complacency in the marketplace, translating to an aversion to buying options. It's important not only to have your own view of the FX options implied volatility, but also a clear understanding of option spreading strategies. Options vertical spread strategies can help to mitigate any volatility risk. In this current high implied volatility environment, vertical spread strategies are great for entering new FX options positions.

Trading FX Options in a high volatility environment also creates challenges. Since the cost of options can be relatively high, spread strategies should be used to implement your specific FX price forecasts. Vertical options strategies (buying one option, selling another with the same underlying and same month) can help reduce the overall volatility exposure of the trade. Using this type of strategy allows you to focus almost exclusively on your price forecast and timing of the ISE FX pair value. Executing vertical spreads can help you significantly reduce the volatility risk in a specific trade.

With countless strategies to choose from, ISE FX Options are an extremely versatile investment instrument and quite similar to options created thousands of years ago, where they transfer risk from one party to another. Prior to entering any options transaction, it's imperative to take into account the risk and reward trade-offs. Most important, options enable investors to trade with limited risk. Buyers of options can only lose the premium paid. Sellers of options can lose substantial amounts, if the market moves against them in a dramatic fashion. In return for this inherent risk, sellers tend to target options premiums. If you have a view of where the U.S. dollar is headed and are looking for additional income, spread strategies will help limit your overall risk. As many have recently re-discovered, selling options without a hedge can be very risky. With ISE FX Options, investors can create vertical spreads, capping your overall risk. Foreign exchange correlations and implied volatilities will continue to be dynamic. Keeping in mind the risk/reward trade-off, your choice for the most appropriate options strategy should also be based on your individual financial goals. How you determine your forecast and your options strategy is entirely up to you.

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