

Bearish options in AUD/JPY

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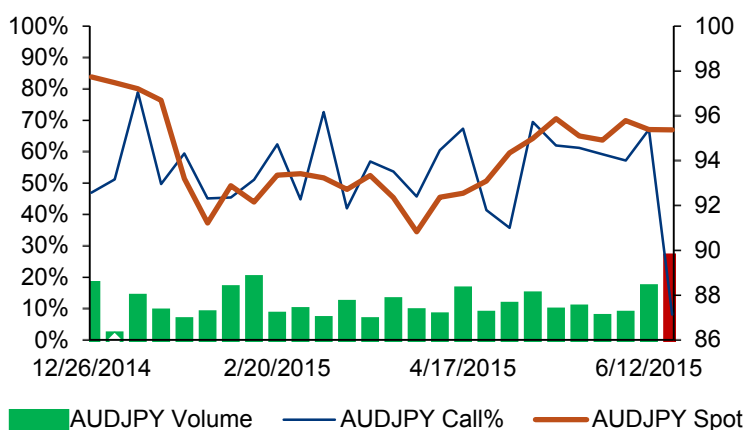
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Trade of the week: Sell AUD/JPY, reference 95.360

Significant flow in the short-term <1m options in AUDJPY was skewed for puts last week in the SDR data (Chart 1). The AUDJPY risk reversal moved for puts, offering evidence of downside demand, consistent with [our negative fundamental outlook](#). The front-end volatility has remained supported by speculative flow with the curve flattening, against the backdrop of significant steepening in G10 since last week.

Chart 1: Bearish flows in <1m AUD/JPY SDR options



Source: BofA Merrill Lynch Global Research, DTCC

Trade of the Week is our highest conviction view over the coming week. A history of prior trades of the week is in the Appendix A. Trades are exited at the subsequent Monday close.

Table 1: FX trend and positioning analysis is bearish NOK and bullish JPY

	Trend	Risk of Reversal	MAA	UD	RS
EURUSD	↑	LOW	71	53	97
USDJPY	↑	HIGH	86	83	100
GBPUSD	↑	MEDIUM	89	52	86
AUDUSD	↓	LOW	21	5	38
USDCHF	↓	LOW	4	57	64
USDCAD	↔	NO TREND	57	49	36
NZDUSD	↓	LOW	0	26	20
USDSEK	↓	LOW	29	27	4
USDNOK	↑	LOW	64	13	36

Source: BofA Merrill Lynch Global Research, Bloomberg

Red shading suggests that the trend is stretched and positioning leaves it at a high risk of reversal. Green shading suggests no threat to the trend and that it should continue. An uptrend is defined to mean MAA > 60. A downtrend means MAA < 40. The risk of reversal of an uptrend is defined to be high if all 3 of MAA, UD and RS > 80, and low if both UD and RS < 50. The risk of reversal of a downtrend is high if all 3 of MAA, UD and RS < 20, and low if both UD and RS > 50. The values of the other UD & RS indicators are a 1 year percentile, while MAA is a percentage.

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Refer to important disclosures on page 22 to 23. Analyst Certification on Page 21.

22 June 2015

Sell NOK/SEK

The FORTE model shorts NOK/SEK as Swedish equities continue to outperform Norwegian equities. The SEK come back as top asset in FORTE, benefitting from positive rates trend and momentum, while NOK becomes a funder. Plus, our positioning models are bearish NOK vs. SEK (Chart 5) and against USD (Table 1).

Table 2: FORTE turns bearish NOK/SEK

	FORTE RANKING	Equity Ranking	Rate z-score	Cheapness z-score	Short-term Momentum z-score
SEK	1	2	0.6	-1.1	0.7
EUR	2	4	1.0	-0.5	0.9
NZD	3	3	-0.7	2.3	-1.2
JPY	4	1	0.3	-0.1	-2.0
USD	5	5	0.5	0.8	0.2
CHF	6	6	-0.2	-0.1	0.9
AUD	7	7	0.1	0.4	0.4
GBP	8	8	0.2	-1.7	0.9
NOK	9	9	0.3	-0.4	0.4
CAD	10	10	0.0	0.2	0.4

Source: BofA Merrill Lynch Global Research

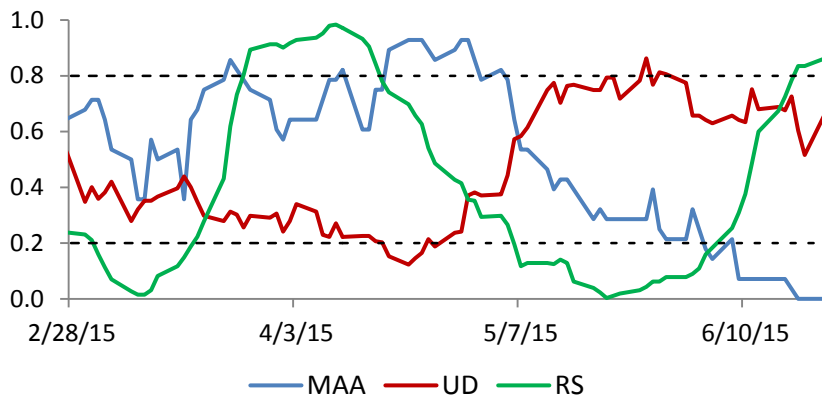
The equity signal ranking is magnified or diminished by currency rates trend and currency cheapness 1 (bullish) to 10 (bearish).

FORTE is positioned long of the two currencies shaded green and short of the two shaded red, chosen from the four candidates based on equities.

Sell NZD/JPY

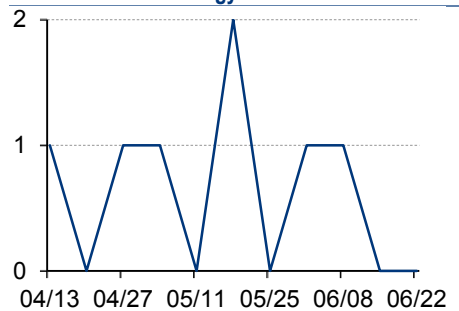
NZD/JPY downtrend is supported by favorable positioning as we continue to look for [JPY strength in the crosses](#). Rising UD indicator shows bearish price action with greater down volatility, suggesting long positioning in the pair. Additionally Residual Skew has moved puts with the options market looking for continuation lower.

Chart 2: NZD/JPY downtrend has more to run with bearish positioning indicators



Source: BofA Merrill Lynch Global Research

Chart 3: FORTE strategy results



Source: BofA Merrill Lynch Global Research, Bloomberg

The vertical axis denotes the number of long currencies that appreciated on a weekly close-to-close basis against an equally weighted basket of the two currencies recommended to short. For example, if the Monday close to Monday close change of our top two ranked currencies were 3% and 0.5% respectively, while each of our two short currencies rose 0.5%, then we would determine that 1 of our long currencies appreciated versus the equally weighted average of the shorts.

BofAML FORTE Model

Model description

FORTE is designed to capture currency performance generated by equity flows. The model first ranks each currency from 1 to 10 based on 1 year equity performance. A secondary ranking also incorporates the 1 year z-scores of a) 10 year rates, b) 3 week currency cheapness, and c) 1 week rate momentum. (see [FX Quant Viewpoint: Introducing BofAML FORTE](#) for more details) For our optimal currency portfolio, we go long the two currencies in the top-four equity ranking that are the highest ranked by the secondary ranking. We go short the two currencies in the bottom-four equity ranking that are the lowest ranked by the secondary ranking.

FORTE goes short NOK/SEK

FORTE ranks the SEK and EUR as asset currencies while funding these positions with CAD and NOK. SEK returns as asset in FORTE with positive rates trend and momentum, while NOK equities continue to underperform.

Table 3: Forex trends from equities (Forte) signals

	Equity Change (52wk)		Rates + cheapness filter		Equity Scorecard	Rates z-score	Cheapness (3wk) z-score	Rates Momentum (1wk) z-score	Overall Final rank
	Level	Rank	Filter score	Rank					
SEK	15.08	2	2.21	1	2	0.64	-1.12	0.68	1
EUR	9.55	4	1.89	2	0.5	1.01	-0.48	0.86	2
NZD	12.60	3	1.42	4	1	-0.74	2.32	-1.16	3
JPY	32.92	1	1.19	5	3	0.32	-0.11	-2.02	4
USD	8.16	5	1.52	3	0	0.48	0.80	0.23	5
CHF	4.36	6	0.58	6	0	-0.18	-0.13	0.89	6
AUD	3.73	7	0.35	7	-0.5	0.10	0.37	0.37	7
GBP	0.37	8	-1.51	8	-1	0.24	-1.69	0.94	8
NOK	-0.14	9	-1.67	9	-2	0.33	-0.39	0.39	9
CAD	-2.09	10	-2.40	10	-3	0.00	0.16	0.44	10

Source: Data collected Monday 06/22/2015

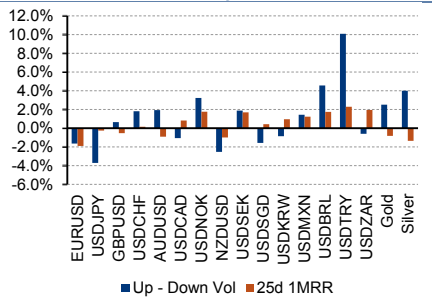
The equity signal ranking is magnified or diminished by currency rates trend and currency cheapness 1 (bullish) to 10 (bearish)

Table 4: Forte signal history

Long	1	JPY	JPY	JPY	JPY	JPY	JPY	JPY	JPY	JPY	JPY	JPY
Currencies	2	SEK	SEK	SEK	SEK	USD	NZD	EUR	SEK	SEK	NZD	USD
Short	9	GBP	GBP	CHF	GBP	CHF	CAD	CAD	AUD	CAD	CAD	GBP
Currencies	10	CAD	CAD	CAD	CAD	GBP	GBP	GBP	GBP	GBP	GBP	CAD
Portfolio												
Date		4/13/2015	4/20/2015	4/27/2015	5/4/2015	5/11/2015	5/18/2015	5/25/2015	6/1/2015	6/8/2015	6/15/2015	6/22/2015

Source: BofA Merrill Lynch Global Research - the "Date" represents the day (close of business) when the signal expires. The arrow indicates whether the model had a positive or negative return for the week based on close-to-close returns. Past performance is not an indicator of future results.

Chart 4: Up-Down volatility



Source: BofA Merrill Lynch Global Research
Data collected Monday 06/22/2015

Event analysis Model description

Often following a big currency move (rally or a sell-off), investors face the dilemma of either chasing the move or fading it. We believe the FX options market can provide valuable information about positioning and sentiment, so we have developed a framework that uses the level of volatility, skew and term structure to help with such decisions (see [Positioning through the lens of FX Vol](#)). Our framework consists of four general rules¹.

- Buy: a currency whose depreciation is accompanied by an increase in 1m vol and put skew, but whose 1y vol does not increase.
- Sell: a currency whose depreciation is accompanied by a parallel shift higher across the vol curve.
- Buy: a currency whose appreciation is accompanied by a relative inversion of the vol curve and a decline in put skew.
- Sell: a currency whose appreciation is accompanied by an increase in put skew.

Bearish EUR

The front end vols have fallen more than the fall of 1y vols across G10, steepening the curves. Following the EUR appreciation, the options market is contrarian for EUR/USD going lower as the skew has moved for EUR puts / USD calls. This is bearish EUR/USD, in our view.

Table 5: Volatility analysis

Pair	old spot	new spot	1m vol %ile	1m vol Chg	1y Vol %ile	1y vol Chg	1y-1m %ile	1y - 1m Chg	1m Skew %ile	1m skew % chg	Summary of views
EURUSD	1.1290	1.1329	94.05	-1.17	85.99	-0.43	4.22	0.73	1.73	-6.75	Bearish EUR
USDJPY	123.3600	123.1100	27.64	-1.00	24.76	-0.33	45.11	0.67	37.62	-2.83	No Signal JPY
GBPUSD	1.5613	1.5855	70.44	-0.98	62.57	-0.33	19.39	0.64	52.02	0.83	No Signal GBP
USDCHF	0.9293	0.9208	89.25	-1.18	89.44	-0.47	10.56	0.71	9.40	-1.28	No Signal CHF
AUDUSD	0.7766	0.7769	76.39	-0.93	80.81	-0.41	31.29	0.52	94.63	0.09	No Signal AUD
USDCAD	1.2316	1.2268	75.82	-0.60	83.88	-0.06	42.61	0.54	28.79	0.18	No Signal CAD
USDSEK	8.1518	8.1307	90.40	-1.50	77.93	-0.59	5.18	0.91	95.20	5.12	No Signal SEK
USDNOK	7.7548	7.7592	82.15	-2.46	85.80	-0.73	16.12	1.73	87.52	4.91	No Signal NOK
NZDUSD	0.6997	0.6900	76.39	-1.36	84.07	-0.64	34.93	0.73	84.84	-0.53	No Signal NZD
USDSGD	1.3459	1.3334	84.64	-0.44	74.47	-0.07	17.27	0.37	3.84	0.56	No Signal SGD
USDKRW	1117.3000	1098.8000	68.71	-0.28	47.98	0.17	27.26	0.45	4.61	-4.16	No Signal KRW
USDMXN	15.4408	15.3321	47.98	-0.74	46.26	-0.07	49.52	0.67	6.14	-0.84	No Signal MXN
USDBRL	3.1270	3.0997	68.71	-0.82	82.34	-0.21	48.18	0.60	16.51	-0.86	No Signal BRL
USDTRY	2.7370	2.6871	71.79	-2.60	88.87	-0.28	50.67	2.32	16.89	0.01	No Signal TRY
USDZAR	12.4202	12.1744	62.19	-1.10	42.80	0.04	26.49	1.14	16.31	-1.52	No Signal ZAR

Source: BofA Merrill Lynch Global Research.
Data collected Monday 06/22/2015

The table shows the 1-year percentile and 1-week change in 1m and 1y implied vol, the 1y-1m spread, and the 1m 25 delta risk reversal as a percentage of the ATM. Changes in ATM volatilities are calculated using fixed strikes to account for the skew. For a currency with a put skew, the rules for generating the signal column are the following:

- Bullish signal: 1. Spot change < -1%, 1m vol change > 0.5%, 1y vol change < 0.2%, 1m skew chg < -2
2. Spot change > 1%, 1y-1m change < -0.2%, 1m skew change > 2

Bearish Signal:

1. Spot change < -1%, 1m vol change > 1%, 1y vol change > 0.5%
2. Spot change > 1%, 1m skew change < -2

¹ The rules described here assume the currency has a positive put skew.

Positioning analysis

Model description

In [FX Quant Viewpoint, 13 February 2013](#) we described three measures of positioning: moving average aggregation (MAA), Up/Down volatility (UD) and Residual Skew (RS) (see charts in Appendix A).

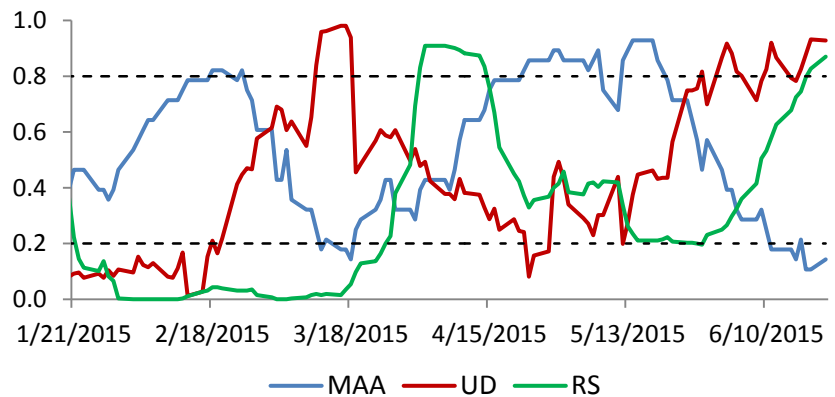
MAA is the percentage of moving average trading rules giving a buy signal for a given cross and a variety of moving averages. A high (low) percentage of buy signals suggests long (short) positioning in the pair is quite heavy.

Up/Down volatility and Residual Skew are measures of skewness in currency returns, which we view as an indirect reflection of positioning. A high (low) value of one or both of UD and RS in conjunction with a high (low) value of MAA suggests positioning is impacting price action, so a reversal is likely.

Positioning: Mixed signals for USD

Our positioning models are showing some caution for the US dollar (Table 1). Positioning indicators are bearish NOK but turned bullish JPY and CHF. The price action in NOK/SEK remains attractive, indicating NOK/SEK shorts are not stretched (Chart 5), while USD/JPY trend remains stretched and shows high risk of correction lower.

Chart 5: NOK/SEK positioning remains bearish



Source: Source: BofA Merrill Lynch Global Research

Time zone trading patterns

Model description

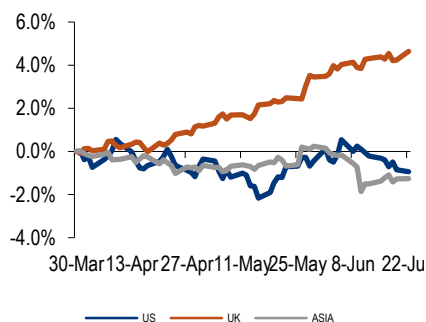
Understanding flows is both the most important and the most difficult aspect of currency trading. In our view, breaking down currency performance by time zones can help investors better understand the sources of key flows (e.g., the importance of private cross-border portfolio investment flows or reserve rebalancing related flows at any given time). We define the UK time zone as between 8am GMT and 1pm GMT. The US time zone is from 1pm to 12am GMT, and Asia's is from 12am to 8am GMT.

USD selling in NY continues

New York has continued selling USD against G10 currencies, especially buying EUR and GBP. This can be interpreted as a reduction in outstanding USD longs in NY hours.

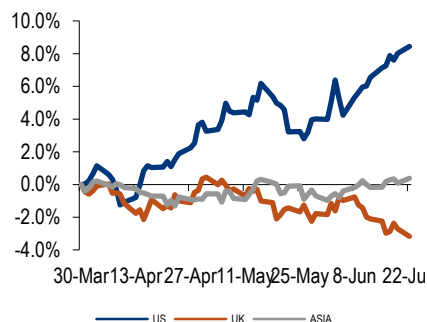
London time zone remains bullish USD vs. JPY and CHF. The USD/JPY London uptrend has been ongoing since late April and shows no signs of slowing down.

Chart 6: USDJPY



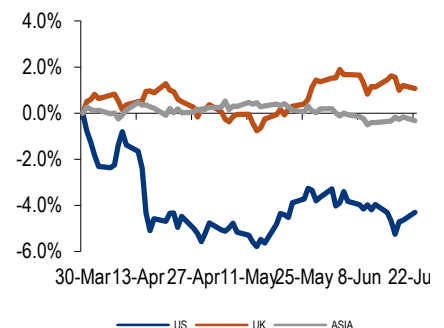
Source: BofA Merrill Lynch Global Research

Chart 7: EURUSD



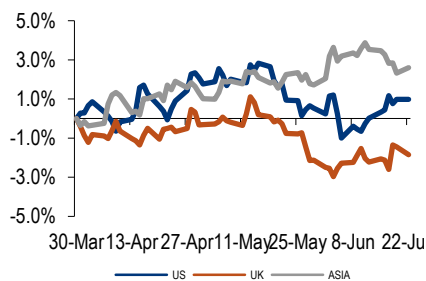
Source: BofA Merrill Lynch Global Research

Chart 8: USDCAD



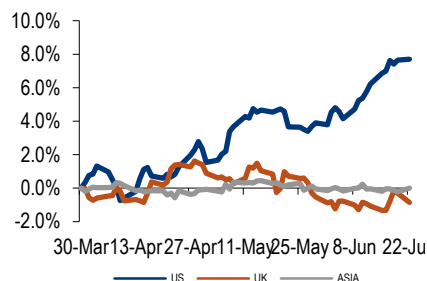
Source: BofA Merrill Lynch Global Research

Chart 9: AUDUSD



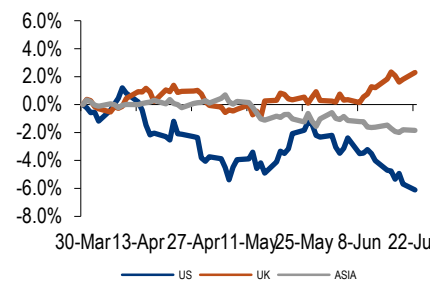
Source: BofA Merrill Lynch Global Research

Chart 10: GBPUSD



Source: BofA Merrill Lynch Global Research

Chart 11: USDCHF



Source: BofA Merrill Lynch Global Research

Swap data repositories (“SDR”) were created by the Dodd-Frank Reform and provide a central facility for swap data recordkeeping by US-based financial institutions. In [Liquid Insight, 11 October 2013](#) we observed that the relative volume and direction of reported option flows could assist in gauging positioning. Options maturing in 1m and less are reflective of hedge fund activity, while options maturing from 3-9m are reflective of corporate activity.

The flow in the short-term <1m options in AUDJPY was skewed for puts last week on rising volume (Chart 12). This is a bearish signal for AUD/JPY, in our view. The flow in long-term 3-9m options in NZD/USD was pointing towards puts as a hedge (Chart 14).

This chart displays three data series for AUDJPY from December 26, 2014, to June 12, 2015. The left Y-axis (0% to 100%) measures AUDJPY Volume (green bars) and AUDJPY Call% (blue line). The right Y-axis (86 to 100) measures AUDJPY Spot (orange line). The volume is generally low, with a notable spike in late May/early June 2015. The call percentage fluctuates between approximately 35% and 75%. The spot rate starts around 98.5, peaks near 99.5, and ends around 90.5.

Date	AUDJPY Volume (%)	AUDJPY Call% (%)	AUDJPY Spot (Right Axis)
12/26/2014	18	50	98.5
1/10/2015	14	78	99.2
1/24/2015	8	50	98.5
2/7/2015	10	45	91.5
2/20/2015	18	50	93.5
3/6/2015	10	72	93.5
3/20/2015	10	45	92.5
4/3/2015	14	55	90.5
4/17/2015	10	65	93.5
5/1/2015	16	40	95.5
5/15/2015	14	68	96.5
5/29/2015	10	60	95.5
6/12/2015	18	28	90.5

Source: BofA Merrill Lynch Global Research, DTCC

[illegible]

Source: BofA Merrill Lynch Global Research, DTCC

Scatter plot showing Volume (z-score) on the Y-axis (ranging from -1.5 to 4) versus Call percentage (z-score) on the X-axis (ranging from -3 to 2). The plot displays data points for various currency pairs, with labels indicating the pair names. The points are scattered across the plot, showing a general positive correlation between Volume and Call percentage, though with significant variance.

Source: BofA Merrill Lynch Global Research, DTCC

Tail risk analysis

Model description

We analyze tail risks from China (CDS increasing by 75bp), equities (25% drop in S&P500) and Europe (Sp-Ge 10yr bond spread widening by 200bp), and calculate what we anticipate will provide the most efficient FX hedge. We estimate the reaction of currencies to these moves using a one-sided regression of weekly returns. We calculate the strike that maximizes the estimated payout given the estimated spot moves in the scenarios, and rank the currencies according to the estimated payout. We also perform a one-sided quadratic regression of the weekly returns to determine if correlation is likely to increase in the scenario. In our view, the convexity is favorable if the slope of the quadratic regression curve increases (in absolute value) for larger absolute returns.

Use CAD-crosses to hedge tail risks

We reached our target on Year Ahead 2015 tail hedge for oil, [Target reached on USD/CAD](#). In our view, CAD/JPY provides the most attractive hedge for China. In addition, CAD/JPY also provides the optimal currency hedge for US tail risks. Plus, GBP/CAD is the optimal hedge for the Eurozone tail risks, in our view.

Table 6: Tail risk analysis – 75bp increase in China CDS

Pair	Spot	Strike	Estimated Scenario Spot	Strike Vol	Correlation	Estimated Payout	Favourable Convexity
S&P500	2110.00	2125.00	1895.94	0.1	-0.37	2.19	No
CADJPY	100.7130	96.9860	91.2580	9.7	-0.24	3.90	Yes
CADCHF	0.7526	0.7257	0.6814	11.0	-0.14	2.90	No
USDCAD	1.2240	1.2369	1.3079	8.8	-0.01	2.70	No
AUDJPY	95.6100	94.2260	87.7450	10.2	-0.25	2.40	No
EURCHF	1.0456	1.0450	0.9713	9.6	-0.07	2.40	No
EURJPY	139.9110	139.8800	130.0790	10.7	-0.10	2.30	Yes
USDSEK	8.1401	8.0480	8.7406	12.0	-0.03	2.20	No

Source: BofA Merrill Lynch Global Research, Bloomberg, Data collected Monday 06/22/2015

Table 7: Tail risk analysis – 25% drop in S&P500

Pair	Spot	Strike	Estimated Scenario Spot	Strike Vol	Correlation	Estimated Payout	Favourable Convexity
S&P500	2110.00	1800.00	1582.48	22.0	1.00	9.27	No
CADJPY	100.3330	91.8750	85.4490	11.4	0.57	9.10	Yes
CADCHF	0.7502	0.6834	0.6375	12.3	0.29	7.20	No
AUDJPY	95.6070	89.7930	82.7010	12.0	0.50	5.00	Yes
USDMXN	15.3290	16.2636	17.6656	12.6	-0.39	4.80	No
AUDCHF	0.7149	0.6619	0.6170	12.3	0.23	4.70	No
EURMXN	17.3516	18.4919	20.0377	13.0	-0.40	4.60	Yes

Source: BofA Merrill Lynch Global Research, Bloomberg, Data collected Monday 06/22/2015

Table 8: Tail risk analysis – 200bp increase in Sp-Ge bond spread

Pair	Spot	Strike	Estimated Scenario Spot	Strike Vol	Correlation	Estimated Payout	Favourable Convexity
S&P500	2110.00	2125.00	1880.74	14.6	-0.47	2.31	Yes
GBPCAD	1.9359	1.9729	2.0705	8.6	0.29	2.90	No
CADJPY	100.7260	98.6020	92.9710	9.2	-0.29	2.90	No
EURCAD	1.3894	1.4261	1.5011	9.8	0.40	2.70	No
AUDNZD	1.1287	1.1171	1.0678	8.3	-0.23	2.60	Yes
CADCHF	0.7525	0.7346	0.6894	10.8	0.02	2.40	Yes
AUDJPY	95.6470	94.2750	87.7920	10.2	-0.26	2.40	No
EURAUD	1.4635	1.4945	1.5877	10.7	0.30	2.30	No

Source: BofA Merrill Lynch Global Research, Bloomberg, Data collected Monday 06/22/2015

Optimal hedge ratios

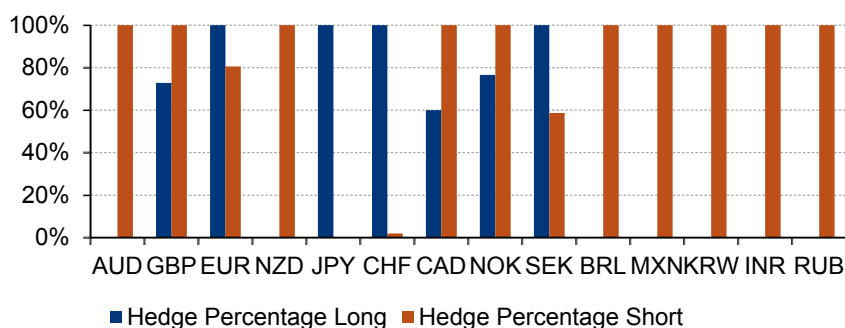
Model description

Investors owning assets denominated in foreign currencies are subject to fluctuations in the dollar value of their investments due to currency movements. An important factor in the decision to hedge FX is the carry of the currency. Hedging a long position in a currency with high interest rates implies the acceptance of a cost reflected by the difference in foreign and domestic rates. We analyze the impact of correlation on hedged and un-hedged returns, and determine the appropriate hedge ratios to use for a given utility function. The USD based portfolio hedging is shown in this section. See Appendix C for other currency denominated portfolios. For more information regarding methodology, see [The impact of currency correlation on asset returns](#)).

Equity hedge percentage – lower GBP equity hedge

Equity volatility has risen in UK and FX volatility has fallen. In addition, the correlation between GBP equity and FX has less positive, increasing effect of a natural hedge. We recommend lowering the GBP equity hedge percentage. Table 10 shows the hedge percentages calculated to maximize the volatility-adjusted carry return on foreign equity indices.

Chart 15: Equity hedge percentage long and short – USD base



Source: BofA Merrill Lynch Global Research & Bloomberg

Table 9: Equity hedge recommendation – USD base

	Correlation	Equity Vol	Currency Vol	Carry	Hedge Percentage Long	Hedge Percentage Short
AUD	-32%	15.8%	11.5%	2.0%	0%	100%
GBP	8%	12.2%	7.8%	0.2%	73%	100%
EUR	6%	20.7%	12.4%	-0.5%	100%	81%
NZD	-47%	8.5%	12.2%	3.1%	0%	100%
JPY	-48%	12.2%	7.6%	-0.6%	100%	0%
CHF	-10%	14.4%	11.9%	-1.2%	100%	2%
CAD	37%	8.9%	8.3%	0.5%	60%	100%
NOK	18%	13.1%	14.6%	0.8%	77%	100%
SEK	-6%	16.0%	13.6%	-0.6%	100%	59%
BRL	40%	19.1%	16.0%	12.3%	0%	100%
MXN	19%	7.2%	10.7%	2.4%	0%	100%
KRW	-10%	9.0%	8.6%	0.9%	0%	100%
INR	56%	17.0%	5.7%	4.9%	0%	100%
RUB	5%	15.1%	20.2%	12.2%	0%	100%

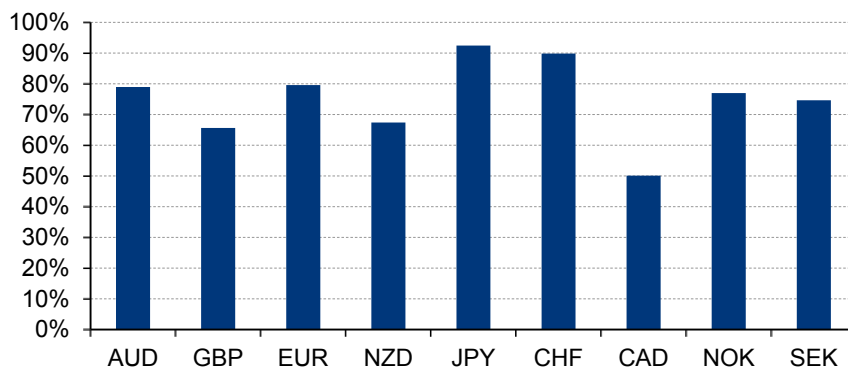
Source: BofA Merrill Lynch Global Research, Bloomberg

Hedge percentages are capped at 1 (fully hedged) and floored at zero (un-hedged). Equity index volatility and correlation are calculated using 1 month of daily returns. Currency volatility is 1 month at-the-money implied volatility. Carry is calculated using 1-month forward points. Data collected Monday 06/22/2015

Bond hedge percentage – lower CAD hedge ratio

Bond volatility has fallen in Canada and FX volatility has also fallen. In addition, the correlation between CAD bonds and FX has become more negative, increasing effect of the natural hedge. We recommend lowering the CAD FX bond hedge ratio.

Chart 16: Bond hedge percentage – USD base



Source: BofA Merrill Lynch Global Research & Bloomberg

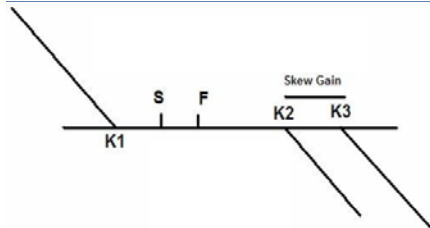
Table 10: Bond hedge recommendation – USD base

	Correlation	Bond Vol	Currency Vol	Carry	Hedge Ratio (maximising Sharpe Ratio)
AUD	-5.4%	9.0%	11.5%	2.0%	79%
GBP	-36.9%	6.8%	7.8%	0.2%	66%
EUR	-41.3%	6.6%	12.4%	-0.5%	80%
NZD	-20.7%	4.8%	12.2%	3.1%	67%
JPY	-24.1%	3.3%	7.6%	-0.6%	92%
CHF	-34.0%	4.6%	11.9%	-1.2%	90%
CAD	-63.6%	6.1%	8.3%	0.5%	50%
NOK	-48.8%	6.3%	14.6%	0.8%	77%
SEK	-61.1%	5.9%	13.6%	-0.6%	75%

Source: BofA Merrill Lynch Global Research, Bloomberg

Hedge percentages are capped at 1 (fully hedged) and floored at zero (un-hedged). Bond volatility and correlation are calculated using 1 month of daily returns in the 7-10 year sector. Currency volatility is 1 month at-the-money implied volatility. Carry is calculated using 1-month forward points. Bond expected return is set equal to the bond volatility. Data collected Monday 06/22/2015

Exhibit 1: Risk reversal structure



Source: BofA Merrill Lynch Global Research

This picture illustrates the calculation of the skew gain. K1 represents the purchased 35 delta option, while K2 is the strike that is symmetrical about the forward, which would be approximately zero cost in the absence of skew. K3 is the actual zero cost risk reversal strike.

Optimum hedging strategy

Model description

We present an analysis of the relative performance of using a forward, options (ATM or 35 delta) or a 35 delta collar for hedging a currency exposure over a three-month period. We use a 2 standard deviation range² around the consensus forecast as our estimate of the range for the final spot rate in three months, and consider the ratio of best to worst case for each structure. A collar is preferable to a forward if this ratio is greater than 1. An ATM option is viewed favorably if this ratio is greater than 3. A 35 delta option is preferred if the premium saving relative to the ATM option exceeds the difference in the loss on the combined underlying and option position when the options are exercised. A USD denominated portfolio is shown here. See Appendix E for other currency denominated portfolios.

Hedge long FX exposures with forwards

Forwards are providing the most optimal FX hedges for corporates with long currency (short USD) exposures. With close to zero transaction costs, these are optimal hedges from both an economic and effectiveness perspective.

Table 11: Long exposure, USD base

Currency	Spot	Forecast	Min Spot	Max Spot	ATM Max / Min	OTM Saving (bps)	Collar Max / Min	Skew Pickup	Suggested Strategy
EUR	1.1327	1.06	0.93672	1.18328	0.72799	-90.03	0.72325	-0.67	Forward
JPY	123.06	124.39	114.359	134.421	4.23	-20.16	1.264	-0.12	ATM Option
GBP	1.5853	1.51	1.3762	1.6438	1.00642	-47.97	0.74805	-0.31	Forward
CHF	0.9204	0.98	0.8769	1.0831	1.31106	-27.7	1.46332	-0.32	Collar
AUD	0.7769	0.75	0.66052	0.83948	1.58528	-63.24	0.67496	-0.33	Forward
CAD	1.2266	1.26	1.16572	1.35428	1.89957	-37.19	0.68693	-0.5	Forward
NOK	7.76025	7.9	6.49781	9.30219	6.47095	-56.12	0.75032	-0.98	ATM Option
NZD	0.69015	0.71	0.61308	0.80692	3.29325	-58.14	0.68468	-0.31	ATM Option
SEK	8.1321	8.67	7.70076	9.63924	1.32605	-53.62	0.96963	-0.92	Forward
MXN	15.3327	15.48	14.02181	16.93819	2.50578	-55.99	0.31838	-0.88	Forward
KRW	1098.8	1120.17	1030.71	1209.63	2.35	-41.11	0.56	-0.61	Forward
ZAR	12.1706	12.46	11.03428	13.88572	1.70127	-71.8	0.07478	-1.07	Forward

Source: BofA Merrill Lynch Global Research. Bloomberg

Data collected Monday 06/22/2015. Min spot is 2 standard deviations below the forecast, while max spot is 2 standard deviations above. OTM saving is calculated as the premium differential between an ATM and 35d options, less the difference in the worst case loss for the combined underlying and option portfolio.

Table 12: Short exposure, USD base

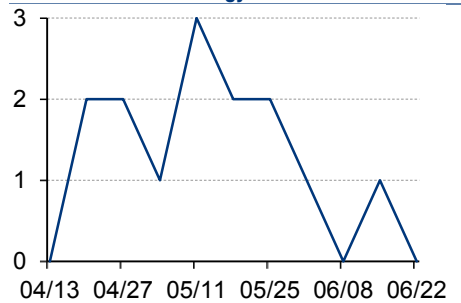
Currency	Spot	Forecast	Min Spot	Max Spot	ATM Max / Min	OTM Saving (bps)	Collar Max / Min	Skew Pickup	Suggested Strategy
EUR	1.13225	1.06	0.93672	1.18328	7.49111	-6.87	1.58554	0.86	ATM Option
JPY	123.065	124.39	114.359	134.421	3.711	-31.92	0.828	-0.02	ATM Option
GBP	1.5854	1.51	1.3762	1.6438	8.77055	-14.41	1.4849	0.23	ATM Option
CHF	0.92105	0.98	0.8769	1.0831	4.35514	-38.32	0.78817	0.21	ATM Option
AUD	0.7768	0.75	0.66052	0.83948	8.74622	-17.5	2.18471	0.28	ATM Option
CAD	1.2268	1.26	1.16572	1.35428	4.45987	-14.93	0.92886	0.48	ATM Option
NOK	7.76505	7.9	6.49781	9.30219	4.65966	-26.87	0.76506	1.29	ATM Option
NZD	0.6899	0.71	0.61308	0.80692	6.40303	-11.22	2.68535	0.24	ATM Option
SEK	8.1351	8.67	7.70076	9.63924	4.43132	-9.45	0.83586	1.18	ATM Option
MXN	15.3333	15.48	14.02181	16.93819	3.86781	-18.1	1.01872	0.71	ATM Option
KRW	1098.8	1120.17	1030.71	1209.63	4.16	-14.92	0.94	0.48	ATM Option
ZAR	12.17	12.46	11.03428	13.88572	6.45483	-28.92	1.16837	1.2	ATM Option

Source: BofA Merrill Lynch Global Research. Bloomberg

Data collected Monday 06/22/2015. Min spot is 2 standard deviations below the forecast, while max spot is 2 standard deviations above. OTM saving is calculated as the premium differential between an ATM and 35d options, less the difference in the worst case loss for the combined underlying and option portfolio.

² We use a 1 year exponential realized volatility as our measure of a standard deviation.

Chart 17: Octave strategy results



Source: BofA Merrill Lynch Global Research, Bloomberg

The vertical axis denotes the number of long currencies that appreciated on a weekly close-to-close basis against an equally weighted basket of the three currencies recommended to short. For example, if the Monday close to Monday close change of our top three ranked currencies were 3%, 0.5% and 1% respectively, while each of our 3 short currencies rose 0.5%, then we would determine that 2 of our long currencies appreciated versus the equally weighted average of the shorts.

BofAML Octave Model

Model description

Our weekly directional model is designed to produce an optimal currency portfolio based on carry, momentum and valuation considerations. The inputs in our model are the level of bond yields (carry), the change in bond yields, the change in national equity indices and deviation of spot from its moving averages, (valuation) with which we rank each currency from 1 to 10. We then combine these signals using a modified scorecard framework to arrive at an Overall Portfolio Indicator (see [FX Quant Viewpoint: Introducing the BofAML OCTAVE model](#) for more details). For our optimal currency portfolio, we go long the three currencies that are the highest ranked, funded by the three currencies that are the lowest ranked.

USD remains a top asset in OCTAVE

OCTAVE ranks the USD, NOK and JPY as asset currencies, while funding these positions with SEK, CHF and AUD. USD remains top asset in OCTAVE with rising rates and a resilient equity market.

Table 13: Ordered carry, trend and value (Octave) signals

	Carry Levels		Yield Change		Equity Mkt Change		Contrarian Indicator		Overall Portfolio Indicator	
	Level	Rank	Level	Rank	Level	Rank	Level	Rank	Level	Rank
USD	0.90	6	0.13	1	0.05	2	1.00	6	-8.26	1
NOK	1.26	3	-0.01	7	-2.40	4	1.01	4	-4.09	2
JPY	0.15	7	0.01	6	2.23	1	1.01	2	-3.61	3
NZD	3.06	1	-0.47	10	-0.76	3	1.06	1	-1.22	4
CAD	1.04	5	0.01	5	-4.50	6	1.00	5	1.77	5
GBP	1.09	4	0.12	3	-4.55	7	0.98	9	4.03	6
EUR	0.14	8	0.07	4	-5.87	8	0.98	8	4.78	7
AUD	2.13	2	-0.03	9	-5.91	9	1.01	3	5.13	8
CHF	-0.71	10	-0.01	8	-4.03	5	0.98	7	6.79	9
SEK	-0.03	9	0.13	2	-7.46	10	0.97	10	8.85	10

Source: BofA Merrill Lynch Global Research, Bloomberg

Data collected Monday 06/22/2015

For each of the four OCTAVE components, every currency gets a rank from 1 (bullish) to 10 (bearish)

Table 14: Octave signal history

Long	1	JPY	NOK	NOK	NOK	NOK	NOK	NOK	NOK	NOK	NOK	USD
Currencies	2	NOK	JPY	JPY	JPY	JPY	CAD	CAD	CAD	JPY	NZD	NOK
	3	CHF	EUR	CAD	AUD	CAD	AUD	USD	USD	USD	USD	NZD
Short	8	AUD	NZD	EUR	NZD	NZD	EUR	CHF	CHF	CHF	CHF	CHF
Currencies	9	USD	AUD	USD	USD	CHF	NZD	EUR	EUR	EUR	SEK	EUR
	10	GBP	USD	SEK	SEK	SEK	SEK	SEK	SEK	SEK	EUR	SEK
Portfolio												
Date		↓	↑	↑	↓	↑	↑	↑	↓	↓	↓	↓
		4/13/2015	4/20/2015	4/27/2015	5/4/2015	5/11/2015	5/18/2015	5/25/2015	6/1/2015	6/8/2015	6/15/2015	6/22/2015

Source: BofA Merrill Lynch Global Research - the "Date" represents the day (close of business) when the signal expires. The arrow indicates whether the model had a positive or negative return for the week based on close-to-close returns. Past performance is not an indicator of future results.

APPENDIX A: Trade Methodology & History

All trades are recommended and reported using the methodology explained below.

Trade of the week recommendation

Trade of the week recommendations are published in the weekly FX Quant Trader on Monday after the NY close. The first paragraph in the report will contain the highest conviction directional trade for the week, together with supporting information from models discussed in the report. This trade will be chosen in a pair that has sufficient liquidity to permit a position to be implemented without a material impact on the price.

The highest conviction trade is determined by the analysts based solely on information from the individual models. High conviction is determined on the basis of consistency of multiple individual signals. When signals are inconsistent, the analysts will determine conviction on the basis of the weight that should be attached to individual signals in the opinion of the analysts. This weight is based on the degree to which the analyst believes that the underlying assumptions of the models are being met.

Trade of the week history

Trades are assumed to be initiated at the indicated reference level, which is determined at the time of publication and closed at 5pm EST the subsequent Monday. The table below shows a history of prior trades of the week together with corresponding entries and exits.

22 June 2015

Table 15: Trade of the week history

Date (trade initiation)	Trade idea	Entry level	Date (trade closed)	Exit level
15-Jun-15	Short CHFJPY	132.773	22-Jun-15	133.874
8-Jun-15	Long USDKRW	1118.4	15-Jun-15	1117.27
1-Jun-15	Short EURUSD	1.0928	8-Jun-15	1.1291
25-May-15	Short EURUSD	1.098	1-Jun-15	1.0927
18-May-15	Long AUDNZD	1.0825	25-May-15	1.0704
11-May-15	Short NZDUSD	0.7345	18-May-15	0.7389
4-May-15	Short GBPUSD	1.512	11-May-15	1.5586
27-Apr-15	Short GBPAUD	1.9405	4-May-15	1.9292
20-Apr-15	Long AUDCAD	0.9443	27-Apr-15	0.9498
13-Apr-15	Short EURUSD	1.0571	20-Apr-15	1.0738
6-Apr-15	Short GBPUSD	1.4895	13-Apr-15	1.4676
30-Mar-15	Short AUDUSD	0.7656	6-Apr-15	0.7592
23-Mar-15	Long EURGBP	0.73203	30-Mar-15	0.73145
16-Mar-15	Long USDNOK	8.2681	23-Mar-15	7.875
9-Mar-15	Short NZDUSD	0.7359	16-Mar-15	0.737
2-Mar-15	Long USDCHF	0.9582	9-Mar-15	0.9859
23-Feb-15	Short EURUSD	1.1335	2-Mar-15	1.1184
16-Feb-15	Long EURJPY	134.28	23-Feb-15	134.67
9-Feb-15	Long USDJPY	118.61	16-Feb-15	118.48
2-Feb-15	Short GBPUSD	1.5039	9-Feb-15	1.5215
26-Jan-15	Short NZDUSD	0.7426	2-Feb-15	0.7305
19-Jan-15	Short EURAUD	1.41461	26-Jan-15	1.41814
12-Jan-15	Long EURGBP	0.78	19-Jan-15	0.76798
5-Jan-15	Short GBPJPY	182.43	12-Jan-15	179.556
8-Dec-14	Short AUDNZD	1.0836	15-Dec-14	1.0603
1-Dec-14	Short EURJPY	147.64	8-Dec-14	148.65
24-Nov-14	Short AUDUSD	0.8618	1-Dec-14	0.8491
17-Nov-14	Long EURAUD	1.4296	24-Nov-14	1.44377
10-Nov-14	Short EURJPY	142.65	17-Nov-14	145.22
3-Nov-14	Long USDJPY	114.05	10-Nov-14	114.86
27-Oct-14	Long USDJPY	107.82	3-Nov-14	114.05
20-Oct-14	Short EURJPY	136.92	27-Oct-14	136.91
13-Oct-14	Long NZDUSD	0.7892	20-Oct-14	0.7967
6-Oct-14	Long USDCHF	0.9583	13-Oct-14	0.948
29-Sep-14	Long USDCHF	0.9513	6-Oct-14	0.9583
22-Sep-14	Long CADCHF	0.851	29-Sep-14	0.8521
15-Sep-14	Long USDCHF	0.9352	22-Sep-14	0.9399
8-Sep-14	Short GBPUSD	1.6106	15-Sep-14	1.6233
1-Sep-14	Long CADJPY	95.952	8-Sep-14	96.62
25-Aug-14	Long USDTRY	2.1781	1-Sep-14	2.1603
18-Aug-14	Long EURGBP	0.7988	25-Aug-14	0.79571
11-Aug-14	Short EURNOK	8.276	18-Aug-14	8.228
4-Aug-14	Long USDSGD	1.2461	11-Aug-14	1.2502
28-Jul-14	Short AUDUSD	0.9406	4-Aug-14	0.9334
21-Jul-14	Short EURUSD	1.3524	28-Jul-14	1.344
14-Jul-14	Short AUDNZD	1.0666	21-Jul-14	1.0787
7-Jul-14	Short AUDCAD	1.0014	14-Jul-14	1.0063
30-Jun-14	Short USDJPY	101.33	7-Jul-14	101.86
23-Jun-14	Long EURUSD	1.3602	30-Jun-14	1.3692
16-Jun-14	Short USDNOK	5.9907	23-Jun-14	6.1085
9-Jun-14	Long AUDJPY	95.903	16-Jun-14	95.729
2-Jun-14	Short GBPUSD	1.6747	9-Jun-14	1.6803

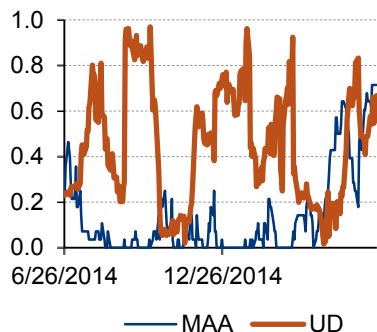
Source: BofA Merrill Lynch Global Research, Bloomberg

APPENDIX B

Short-term positioning indicators

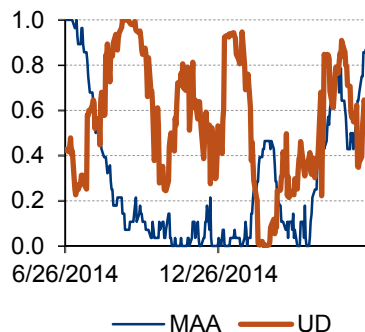
MAA & Up-Down Vol

Chart 18: EUR/USD



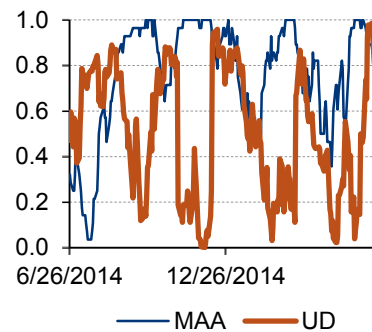
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 21: GBP/USD



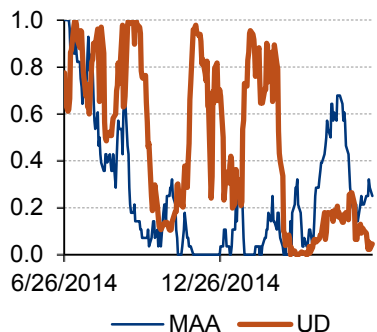
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 24: USD/JPY



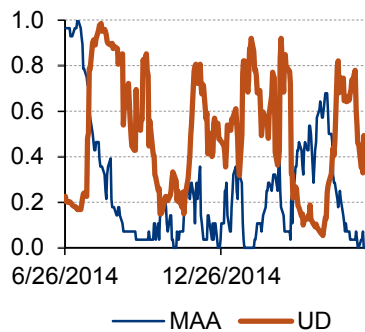
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 19: AUD/USD



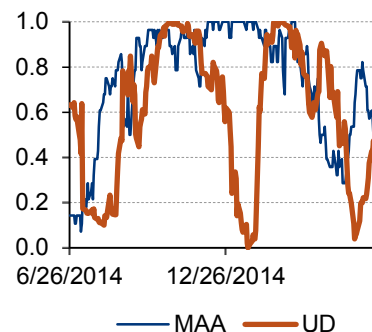
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 22: NZD/USD



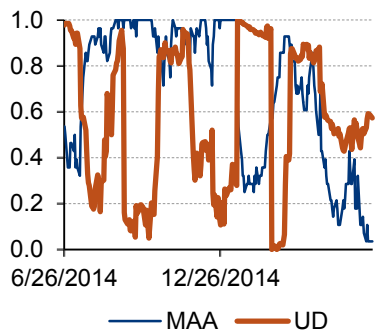
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 25: USD/CAD



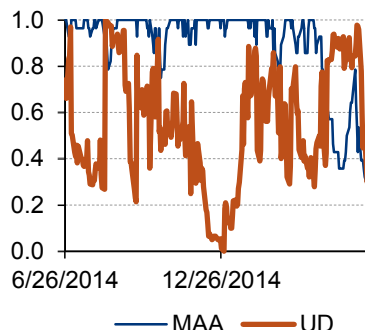
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 20: USD/CHF



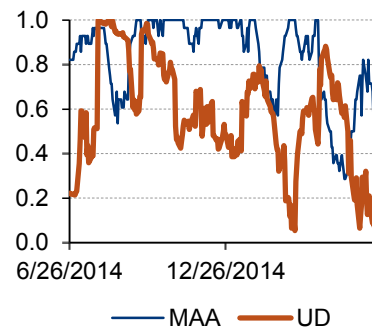
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 23: USD/SEK



Source: BofA Merrill Lynch Global Research. Bloomberg

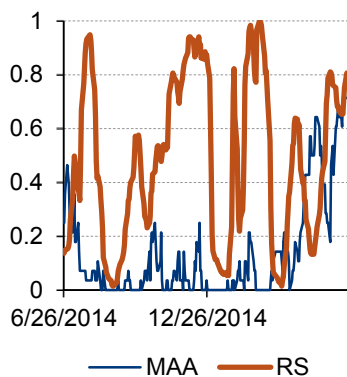
Chart 26: USD/NOK



Source: BofA Merrill Lynch Global Research. Bloomberg

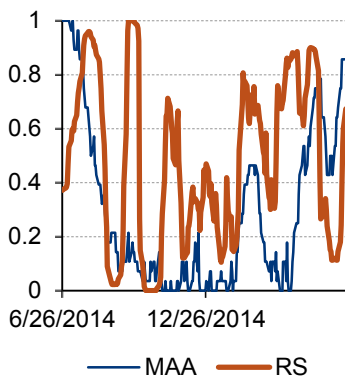
MAA & RS

Chart 27: EUR/USD



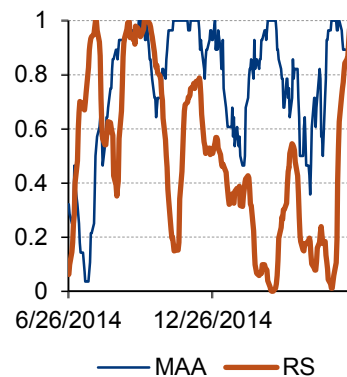
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 30: GBP/USD



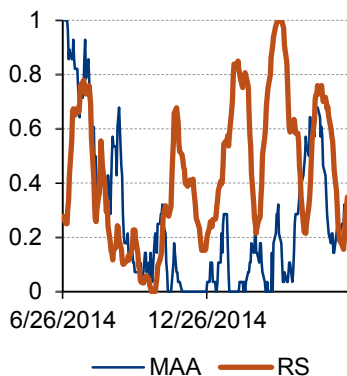
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 33: USD/JPY



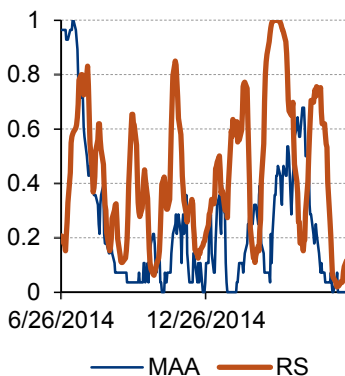
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 28: AUD/USD



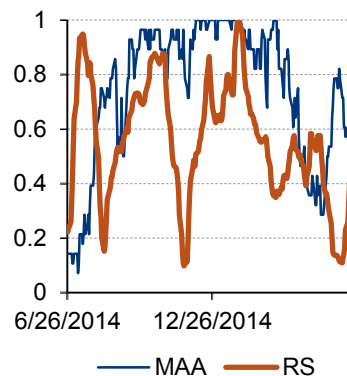
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 31: NZD/USD



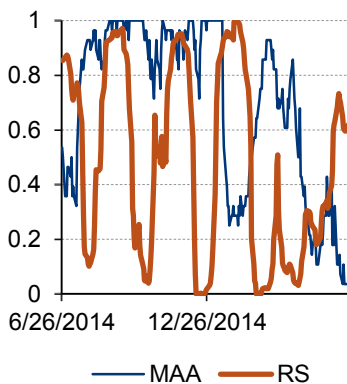
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 34: USD/CAD



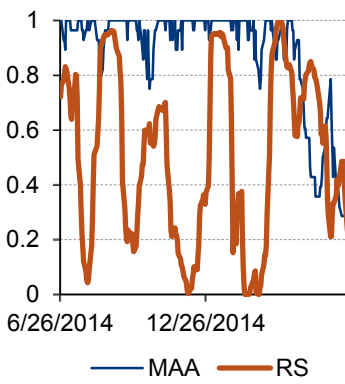
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 29: USD/CHF



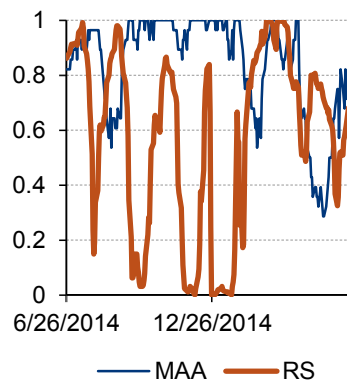
Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 32: USD/SEK



Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 35: USD/NOK



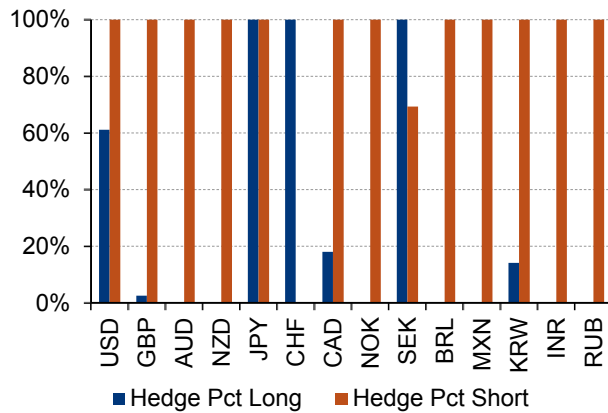
Source: BofA Merrill Lynch Global Research. Bloomberg

22 June 2015

Appendix C: FX hedge percentages

Optimum hedges for portfolios of all non-USD base currencies are presented here.
Equity portfolio

Chart 36: Hedge percentage long and short – EUR base



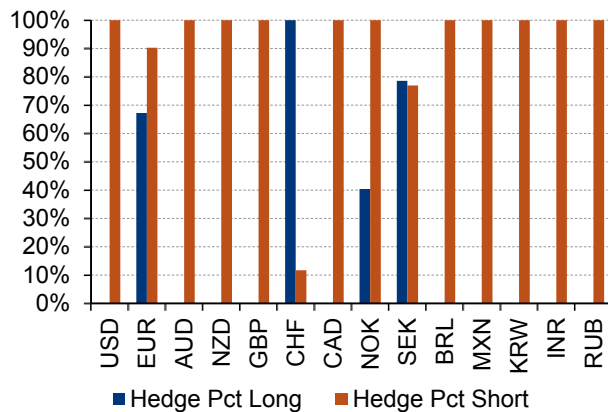
Source: BofA Merrill Lynch Global Research, Bloomberg

Table 16: Equity hedge recommendation – EUR base

	Corr	Equity Vol	Currency Vol	Carry	Hedge Pct Long	Hedge Pct Short
USD	-12%	9.9%	12.4%	0.5%	61%	100%
GBP	-26%	12.2%	10.3%	0.7%	3%	100%
AUD	9%	15.8%	11.8%	2.4%	0%	100%
NZD	-49%	8.5%	12.4%	3.6%	0%	100%
JPY	26%	12.2%	11.8%	-0.2%	100%	100%
CHF	-25%	14.4%	10.3%	-0.8%	100%	0%
CAD	12%	8.9%	10.4%	1.0%	18%	100%
NOK	-12%	13.1%	11.0%	1.3%	0%	100%
SEK	-3%	16.0%	8.3%	-0.2%	100%	69%
BRL	19%	19.1%	16.5%	12.7%	0%	100%
MXN	-15%	7.2%	12.1%	2.9%	0%	100%
KRW	27%	9.0%	11.1%	1.3%	14%	100%
INR	40%	17.0%	12.6%	5.3%	0%	100%
RUB	6%	15.1%	20.4%	12.6%	0%	100%

Source: BofA Merrill Lynch Global Research, Bloomberg

Chart 37: Hedge percentage long and short – JPY base



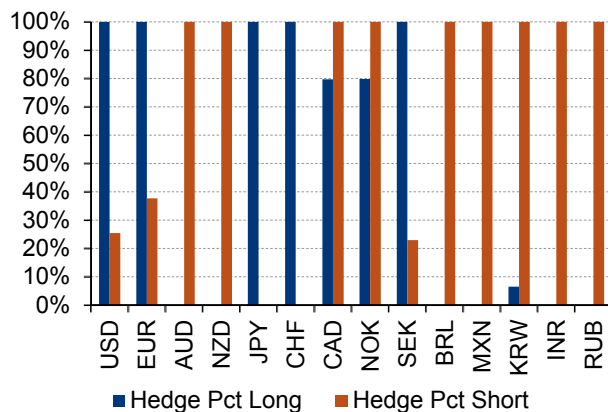
Source: BofA Merrill Lynch Global Research, Bloomberg

Table 17: Equity hedge recommendation – JPY base

	Corr	Equity Vol	Currency Vol	Carry	Hedge Pct Long	Hedge Pct Short
USD	-31%	9.9%	7.6%	0.6%	0%	100%
EUR	-12%	20.7%	11.8%	0.2%	67%	90%
AUD	-12%	15.8%	10.0%	2.6%	0%	100%
NZD	-36%	8.5%	10.6%	3.7%	0%	100%
GBP	-35%	12.2%	8.5%	0.9%	0%	100%
CHF	-32%	14.4%	11.3%	-0.6%	100%	12%
CAD	22%	8.9%	8.1%	1.2%	0%	100%
NOK	15%	13.1%	14.1%	1.5%	40%	100%
SEK	-19%	16.0%	13.5%	0.0%	79%	77%
BRL	3%	19.1%	17.9%	12.9%	0%	100%
MXN	-16%	7.2%	12.4%	3.0%	0%	100%
KRW	3%	9.0%	7.3%	1.5%	0%	100%
INR	10%	17.0%	9.2%	5.5%	0%	100%
RUB	4%	355.2%	21.5%	12.8%	0%	100%

Source: BofA Merrill Lynch Global Research, Bloomberg

Chart 38: Hedge percentage long and short – GBP base



Source: BofA Merrill Lynch Global Research, Bloomberg

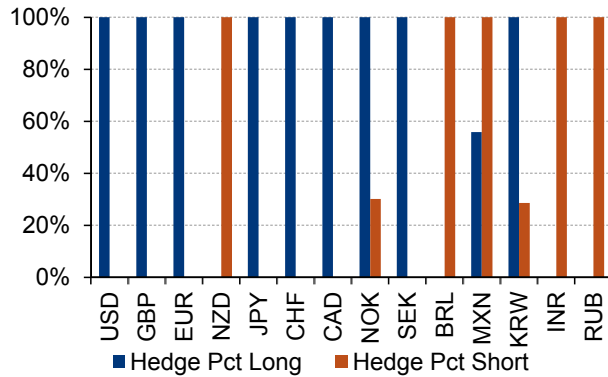
Table 18: Equity hedge recommendation – GBP base

	Corr	Equity Vol	Currency Vol	Carry	Hedge Pct Long	Hedge Pct Short
USD	-27%	9.9%	7.8%	-0.2%	100%	25%
EUR	2%	20.7%	10.3%	-0.7%	100%	38%
AUD	-26%	15.8%	9.8%	1.7%	0%	100%
NZD	-31%	8.5%	10.7%	2.9%	0%	100%
JPY	-12%	12.2%	8.5%	-0.9%	100%	0%
CHF	-23%	14.4%	10.5%	-1.5%	100%	0%
CAD	26%	8.9%	7.7%	0.3%	80%	100%
NOK	15%	13.1%	13.2%	0.6%	80%	100%
SEK	-5%	16.0%	11.2%	-0.9%	100%	23%
BRL	16%	19.1%	12.2%	12.1%	0%	100%
MXN	-18%	7.2%	7.1%	2.2%	0%	100%
KRW	-2%	9.0%	8.2%	0.6%	6%	100%
INR	17%	17.0%	8.9%	4.6%	0%	100%
RUB	-8%	15.1%	21.3%	12.0%	0%	100%

Source: BofA Merrill Lynch Global Research, Bloomberg

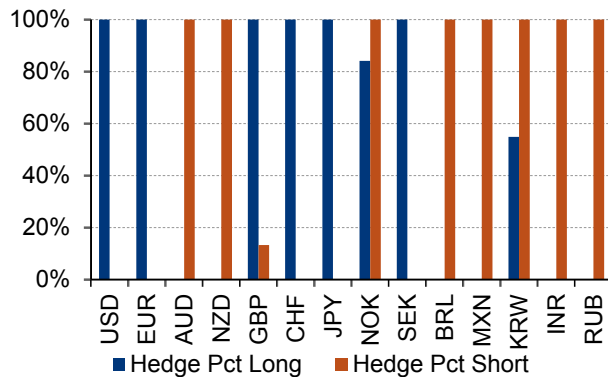
22 June 2015

Chart 39: Hedge percentage long and short – AUD base



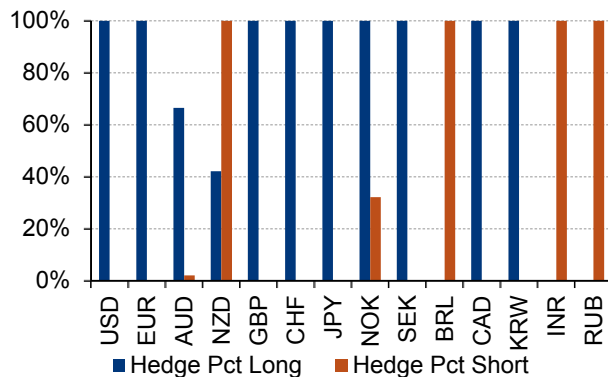
Source: BofA Merrill Lynch Global Research, Bloomberg

Chart 40: Hedge percentage long and short – CAD base



Source: BofA Merrill Lynch Global Research, Bloomberg

Chart 41: Hedge percentage long and short – MXN base



Source: BofA Merrill Lynch Global Research, Bloomberg

Table 19: Equity hedge recommendation – AUD base

	Corr	Equity Vol	Currency Vol	Carry	Hedge Pct Long	Hedge Pct Short
USD	-36%	9.9%	11.5%	-2.0%	100%	0%
GBP	-34%	12.2%	9.8%	-1.7%	100%	0%
EUR	-22%	20.7%	11.8%	-2.5%	100%	0%
NZD	-38%	8.5%	8.0%	1.2%	0%	100%
JPY	-1%	12.2%	10.0%	-2.6%	100%	0%
CHF	-17%	14.4%	11.7%	-3.3%	100%	0%
CAD	-7%	8.9%	9.0%	-1.4%	100%	0%
NOK	-7%	13.1%	13.4%	-1.1%	100%	30%
SEK	-8%	16.0%	13.1%	-2.6%	100%	0%
BRL	-13%	19.1%	13.7%	10.6%	0%	100%
MXN	-20%	7.2%	12.1%	0.5%	56%	100%
KRW	48%	9.0%	9.8%	-1.1%	100%	29%
INR	32%	17.0%	13.8%	3.0%	0%	100%
RUB	2%	15.1%	20.0%	10.5%	0%	100%

Source: BofA Merrill Lynch Global Research, Bloomberg

Table 20: Equity hedge recommendation – CAD base

	Corr	Equity Vol	Currency Vol	Carry	Hedge Pct Long	Hedge Pct Short
USD	-41%	9.9%	8.3%	-0.6%	100%	0%
EUR	-8%	20.7%	10.4%	-1.0%	100%	0%
AUD	-13%	15.8%	9.0%	1.4%	0%	100%
NZD	-28%	8.5%	9.8%	2.6%	0%	100%
GBP	-23%	12.2%	7.7%	-0.3%	100%	13%
CHF	-12%	14.4%	10.7%	-1.8%	100%	0%
JPY	-4%	12.2%	8.1%	-1.2%	100%	0%
NOK	3%	13.1%	12.5%	0.3%	84%	100%
SEK	-17%	16.0%	11.9%	-1.2%	100%	0%
BRL	16%	19.1%	11.8%	11.9%	0%	100%
MXN	-30%	7.2%	9.0%	1.9%	0%	100%
KRW	12%	9.0%	7.3%	0.3%	55%	100%
INR	26%	17.0%	7.9%	4.3%	0%	100%
RUB	-6%	15.1%	20.3%	11.8%	0%	100%

Source: BofA Merrill Lynch Global Research, Bloomberg

Table 21: Equity hedge recommendation – MXN base

	Corr	Equity Vol	Currency Vol	Carry	Hedge Pct Long	Hedge Pct Short
USD	-25%	9.9%	10.7%	-2.5%	100%	0%
EUR	-19%	20.7%	12.1%	-3.0%	100%	0%
AUD	-51%	15.8%	12.2%	-0.5%	66%	2%
NZD	-39%	8.5%	14.4%	0.7%	42%	100%
GBP	-36%	12.2%	6.7%	-2.2%	100%	0%
CHF	-43%	14.4%	13.4%	-3.7%	100%	0%
JPY	-44%	12.2%	12.4%	-3.1%	100%	0%
NOK	-6%	13.1%	16.1%	-1.6%	100%	32%
SEK	-29%	16.0%	10.9%	-3.1%	100%	0%
BRL	21%	19.1%	12.4%	10.2%	0%	100%
CAD	30%	8.9%	9.0%	-1.9%	100%	0%
KRW	-9%	9.0%	8.5%	-1.6%	100%	0%
INR	36%	17.0%	8.1%	2.5%	0%	100%
RUB	-4%	15.1%	23.8%	10.1%	0%	100%

Source: BofA Merrill Lynch Global Research, Bloomberg

Appendix D

Optimal Hedging Strategy

Table 22: Long exposure, EUR base

Currency	Spot	Forecast	Min Spot	Max Spot	ATM Max / Min	OTM Saving (bps)	Collar Max / Min	Skew Pickup	Suggested Strategy
EUR	1.1327	1.06	0.93672	1.18328	0.72799	-90.03	0.72325	-0.67	Forward
JPY	123.06	124.39	114.359	134.421	4.23	-20.16	1.264	-0.12	ATM Option
GBP	1.5853	1.51	1.3762	1.6438	1.00642	-47.97	0.74805	-0.31	Forward
CHF	0.9204	0.98	0.8769	1.0831	1.31106	-27.7	1.46332	-0.32	Collar
AUD	0.7769	0.75	0.66052	0.83948	1.58528	-63.24	0.67496	-0.33	Forward
CAD	1.2266	1.26	1.16572	1.35428	1.89957	-37.19	0.68693	-0.5	Forward
NOK	7.76025	7.9	6.49781	9.30219	6.47095	-56.12	0.75032	-0.98	ATM Option
NZD	0.69015	0.71	0.61308	0.80692	3.29325	-58.14	0.68468	-0.31	ATM Option
SEK	8.1321	8.67	7.70076	9.63924	1.32605	-53.62	0.96963	-0.92	Forward
MXN	15.3327	15.48	14.02181	16.93819	2.50578	-55.99	0.31838	-0.88	Forward
KRW	1098.8	1120.17	1030.71	1209.63	2.35	-41.11	0.56	-0.61	Forward
ZAR	12.1706	12.46	11.03428	13.88572	1.70127	-71.8	0.07478	-1.07	Forward

Source: BofA Merrill Lynch Global Research. Bloomberg

Data collected Monday 06/22/2015. Min spot is 2 standard deviations below the forecast, while max spot is 2 standard deviations above. OTM saving is calculated as the premium differential between an ATM and 35d options, less the difference in the worst case loss for the combined underlying and option portfolio

Table 23: Short exposure, EUR base

Currency	Spot	Forecast	Min Spot	Max Spot	ATM Max / Min	OTM Saving (bps)	Collar Max / Min	Skew Pickup	Suggested Strategy
USD	1.1327	1.06	0.93672	1.18328	0.72798	-90.03	0.72324	-0.67	Forward
JPY	139.384	131.853	119.732	143.975	0.373	-87.6	0.689	-0.7	Forward
GBP	0.71437	0.70199	0.63635	0.76762	2.55787	-65.3	0.82306	-0.43	Forward
CHF	1.04327	1.0388	0.96302	1.11458	1.82416	-91.39	0.7214	-0.91	Forward
AUD	1.45807	1.41333	1.28195	1.54471	1.76481	-51.68	1.04341	-0.04	Collar
CAD	1.3895	1.3356	1.20539	1.46581	1.43306	-53.87	0.88117	-0.16	Forward
NOK	8.79349	8.374	7.27272	9.47528	2.42137	-35.97	0.90513	0.5	Forward
NZD	1.64183	1.49296	1.30458	1.68134	-0.05653	-73.78	1.24834	-0.03	Collar
SEK	9.2114	9.1902	8.5019	9.8785	2.66214	-21.54	0.86953	0.19	Forward
MXN	17.3675	16.4088	14.46205	18.35555	1.38231	-41.89	1.21164	0.49	Collar
KRW	1244.61	1187.38	1074.81	1299.95	0.94	-55.14	0.95	-0.12	Forward
ZAR	13.785	13.2076	11.68555	14.72965	2.95467	-50.81	2.12574	0.73	Collar

Source: BofA Merrill Lynch Global Research. Bloomberg

Data collected Monday 06/22/2015. Min spot is 2 standard deviations below the forecast, while max spot is 2 standard deviations above. OTM saving is calculated as the premium differential between an ATM and 35d options, less the difference in the worst case loss for the combined underlying and option portfolio

Table 24: Long exposure, JPY base

Currency	Spot	Forecast	Min Spot	Max Spot	ATM Max / Min	OTM Saving (bps)	Collar Max / Min	Skew Pickup	Suggested Strategy
USD	123.075	124.39	114.359	134.421	3.706	-31.93	0.828	-0.02	ATM Option
EUR	139.444	131.853	119.732	143.975	0.357	-87.67	0.688	-0.7	Forward
GBP	195.166	187.829	173.489	202.168	0.764	-52.64	0.713	-0.37	Forward
CHF	133.683	126.929	114.427	139.43	0.77	-65.22	0.866	-0.23	Forward
AUD	95.605	93.293	85.208	101.377	1.268	-71.89	0.643	-0.63	Forward
CAD	100.341	98.722	91.016	106.429	1.801	-51.66	0.743	-0.41	Forward
NOK	15.859	15.7456	13.3245	18.1666	2.8445	-107.12	0.6672	-0.78	Forward
NZD	84.934	88.317	79.02	97.614	3.297	-66.01	0.699	-0.58	ATM Option
SEK	15.1387	14.3472	12.8276	15.8667	0.6456	-101.21	0.7231	-0.7	Forward
MXN	8.027	8.036	7.092	8.979	2.362	-87.07	0.662	-0.82	Forward
KRW	8.9279	9.0053	8.5008	9.5099	1.7145	-32.81	0.4092	-0.5	Forward
ZAR	10.1161	9.9831	9.1492	10.8171	0.6728	-97.3	0.5207	-0.84	Forward

Source: BofA Merrill Lynch Global Research. Bloomberg

Data collected Monday 06/22/2015. Min spot is 2 standard deviations below the forecast, while max spot is 2 standard deviations above. OTM saving is calculated as the premium differential between an ATM and 35d options, less the difference in the worst case loss for the combined underlying and option portfolio

22 June 2015

Table 25: Short exposure, JPY base

Currency	Spot	Forecast	Min Spot	Max Spot	ATM Max / Min	OTM Saving (bps)	Collar Max / Min	Skew Pickup	Suggested Strategy
USD	123.075	124.39	114.359	134.421	4.238	-20.17	1.264	-0.12	ATM Option
EUR	139.438	131.853	119.732	143.975	6.241	-8.48	1.5	0.51	ATM Option
GBP	195.166	187.829	173.489	202.168	6.637	-15.32	1.54	0.09	ATM Option
CHF	133.625	126.929	114.427	139.43	5.738	-28.15	0.945	-0.07	ATM Option
AUD	95.617	93.293	85.208	101.377	7.407	-5.54	2.951	0.43	ATM Option
CAD	100.337	98.722	91.016	106.429	5.744	-11.26	1.752	0.14	ATM Option
NOK	15.8647	15.7456	13.3245	18.1666	7.5881	1.64	2.2147	0.6	OTM Option
NZD	84.965	88.317	79.02	97.614	4.394	-1.93	3.805	0.34	ATM Option
SEK	15.1387	14.3472	12.8276	15.8667	5.6063	-12.26	1.4142	0.49	ATM Option
MXN	8.028	8.036	7.092	8.979	6.933	3.33	3.199	0.52	OTM Option
KRW	8.9279	9.0053	8.5008	9.5099	3.2491	-16.45	1.0237	0.13	ATM Option
ZAR	10.1163	9.9831	9.1492	10.8171	5.6869	-8.13	6.5795	0.49	ATM Option

Source: BofA Merrill Lynch Global Research. Bloomberg

Data collected Monday 06/22/2015. Min spot is 2 standard deviations below the forecast, while max spot is 2 standard deviations above. OTM saving is calculated as the premium differential between an ATM and 35d options, less the difference in the worst case loss for the combined underlying and option portfolio.

Table 26: Long exposure, AUD base

Currency	Spot	Forecast	Min Spot	Max Spot	ATM Max / Min	OTM Saving (bps)	Collar Max / Min	Skew Pickup	Suggested Strategy
USD	0.77715	0.750	0.66052	0.83948	8.77194	-17.55	2.18439	0.28	ATM Option
EUR	1.45783	1.41333	1.28195	1.54471	1.77099	-51.69	1.04262	-0.04	Collar
JPY	95.64	93.293	85.208	101.377	7.425	-5.56	2.95	0.43	ATM Option
GBP	2.04034	2.01333	1.81442	2.21225	3.09614	-37.08	0.93096	0.13	ATM Option
CHF	0.71595	0.735	0.64665	0.82335	6.09527	-12.44	2.98216	0	ATM Option
CAD	0.95331	0.945	0.85631	1.03369	6.52182	-21.18	1.69701	-0.18	ATM Option
NOK	6.03068	5.925	4.90837	6.94163	9.28803	-26.52	1.58826	-0.3	ATM Option
NZD	1.12622	1.05634	0.9336	1.17908	9.49616	-24.61	0.74854	-0.21	ATM Option
SEK	6.31792	6.5025	5.7632	7.24181	4.28366	-27.16	2.0455	-0.35	ATM Option
MXN	11.9146	11.61	10.4408	12.7792	5.4948	-32.86	0.8638	-0.37	ATM Option
KRW	853.93	840.13	752.59	927.66	6.08	-24.85	1.44	-0.25	ATM Option
ZAR	9.4558	9.345	8.1646	10.5254	3.7255	-48.57	0.2592	-0.64	ATM Option

Source: BofA Merrill Lynch Global Research. Bloomberg

Data collected Monday 06/22/2015. Min spot is 2 standard deviations below the forecast, while max spot is 2 standard deviations above. OTM saving is calculated as the premium differential between an ATM and 35d options, less the difference in the worst case loss for the combined underlying and option portfolio.

Table 27: Short exposure, AUD base

Currency	Spot	Forecast	Min Spot	Max Spot	ATM Max / Min	OTM Saving (bps)	Collar Max / Min	Skew Pickup	Suggested Strategy
USD	0.7771	0.750	0.66052	0.83948	1.57767	-63.28	0.67465	-0.33	Forward
EUR	1.45818	1.41333	1.28195	1.54471	3.97471	-32.76	0.55477	-0.24	ATM Option
JPY	95.642	93.293	85.208	101.377	1.255	-71.94	0.641	-0.63	Forward
GBP	2.04079	2.01333	1.81442	2.21225	4.29886	-33.17	0.58196	-0.38	ATM Option
CHF	0.71567	0.735	0.64665	0.82335	3.10109	-56.67	0.69451	-0.29	ATM Option
CAD	0.95305	0.945	0.85631	1.03369	2.40867	-38.55	0.75456	-0.1	Forward
NOK	6.03065	5.925	4.90837	6.94163	2.93076	-68.53	0.68281	0.03	Forward
NZD	1.12582	1.05634	0.9336	1.17908	1.5782	-43.87	0.88055	-0.08	Forward
SEK	6.31611	6.5025	5.7632	7.24181	3.01631	-41.63	0.73244	0.1	ATM Option
MXN	11.9138	11.61	10.4408	12.7792	2.0514	-45.94	0.8382	-0.06	Forward
KRW	853.88	840.13	752.59	927.66	2.09	-49.71	0.75	-0.18	Forward
ZAR	9.4566	9.345	8.1646	10.5254	4.3973	-52.39	1.004	0.29	ATM Option

Source: BofA Merrill Lynch Global Research. Bloomberg

Data collected Monday 06/22/2015. Min spot is 2 standard deviations below the forecast, while max spot is 2 standard deviations above. OTM saving is calculated as the premium differential between an ATM and 35d options, less the difference in the worst case loss for the combined underlying and option portfolio.

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