

FX Vol Strategist

FX Strategy

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Focus on JPY vols

- Front-end implied volatility across the FX universe is close to post-Lehman lows. Meanwhile, long-end vols across most of the G10 spectrum remain elevated relative to the front end, keeping the term structure of volatility steep.
- Gamma pricing for most of the USD majors looks fair based on our models with very little premium for potential euro stress. We think this decrease in risk premium represents a combination of improved liquidity conditions and better growth prospects away from the epicenter of stress in the euro area. Additionally, policy response and flexibility have also eased tail risk concerns. Nevertheless, we think that the sharp fall in implied vols since the start of the year have generally reduced risk/reward of running outright short vol positions in the majors.
- We also look at the unprecedented cheapening in JPY skews and highlight two relative value opportunities. USDJPY risk reversals are now skewed to the upside all the way out to the six-month point on the curve with the 1yr USDJPY risk reversal currently at its cheapest level since December 2002. We recommend a six-month USDJPY leveraged call spread and buying 1yr AUDUSD puts versus selling 1yr AUDJPY puts.
- Elsewhere, we like exploiting the rich wing pricing in CHF crosses. CHF cross vols continue to trade higher compared to EUR cross vols and with richer wing pricing. Given our expectation for the EURCHF floor to hold, we think the CHF is a better alternative to express a bearish euro view versus the USD as well as other G10 currencies via seagulls or outright CHF put spreads.

Front-end implied volatility across the FX universe is close to post Lehman lows. Even though USDJPY and JPY cross vols have edged slightly higher from the multi-year lows in January, front-end vols remain low on an outright basis, in part due to suppressed delivered volatility. Meanwhile, long-end vols across most of the G10 spectrum remain elevated relative to the front end, keeping the term structure of volatility steep.

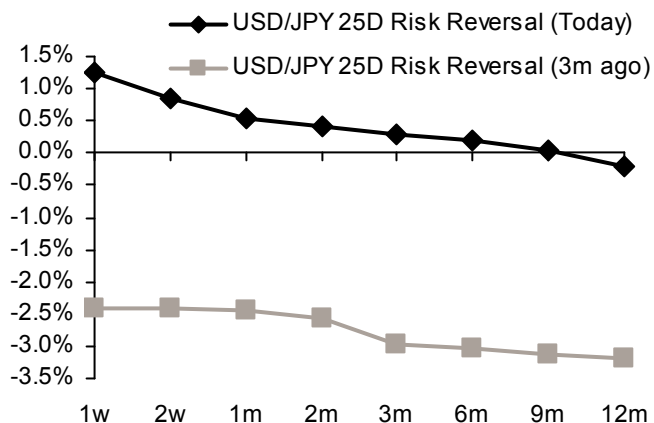
Gamma pricing for most of the USD majors looks fair based on our models with very little premium for potential euro stress. We think this decrease in risk premium represents a combination of improved liquidity conditions and better growth prospects away from the epicentre of stress in the euro area. Additionally, policy response and flexibility have also eased tail risk concerns. Nevertheless, we think that the sharp fall in implied vols since the start of the year have generally reduced risk/reward of running outright short vol positions in the majors. Some of the crosses such as EURAUD and EURCAD are rich based on our tick model.

Looking at skew pricing, one of the most noteworthy development since the beginning of the year has been the unprecedented cheapening in JPY skews. USDJPY risk reversals are now skewed to the topside all the way out to the six-month point on the curve with the 1yr USDJPY risk reversal currently at its cheapest level since December 2002. (See Exhibit 1 and Exhibit 2). In line with the cheapening in USDJPY skews, front-end JPY cross skews are now trading cheap to USD-based skews. For instance, AUDJPY and CADJPY risk reversals are trading at a discount to AUDUSD and USDCAD riskies on an outright basis in the one-month sector and on a vol-adjusted basis in the three-month sector. However, further out the curve JPY cross skews continue to trade rich to USD-based skews. (See Exhibit 3 and Exhibit 4).

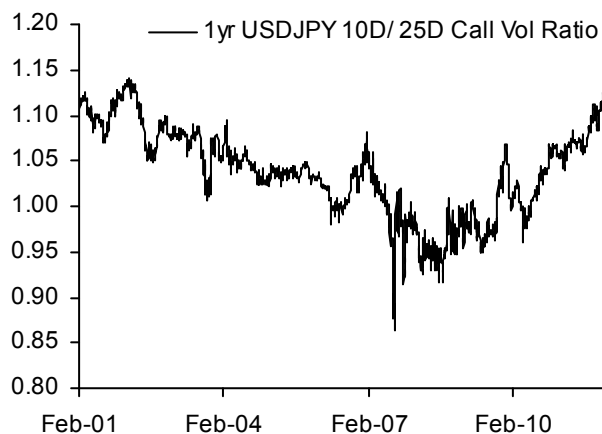
We think this offers two relative value opportunities as follows:

- Given the steepness of the implied vol term structure and the historically cheap pricing of risk reversals, investors with a neutral or modestly bearish JPY view can buy mid-dated or long-dated leveraged USDJPY call spreads. For instance, a six-month 82/ 86 1x1.5 call spread costs 0.36% of the USD notional (spot ref: 77.62). Assuming an unchanged vol surface, the structure would be worth 46bp in three months if spot goes higher to 80. The risk to the trade is potentially unlimited the further USDJPY trades above 94 at expiry.
- Investors can exploit the still-rich AUDJPY implied vol and skew pricing in the long end relative to AUDUSD via long 1yr AUDUSD puts versus selling 1yr AUDJPY puts. The risk to the trade is a sharp sell off in USDJPY or a spike higher in JPY vols. However, BoJ intervention is likely to limit the potential losses on the trade, in our view.

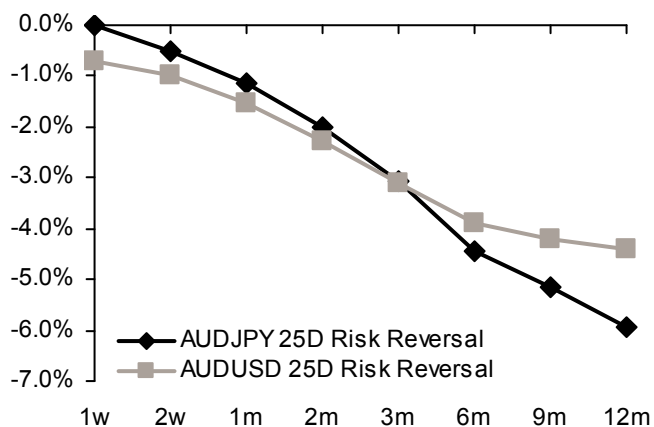
Elsewhere, we like exploiting the rich wing pricing in CHF crosses. CHF cross vols continue to trade higher compared to EUR cross vols and with richer wing pricing (see Exhibit 5). With EURCHF close to the official 1.20 floor and our expectation that the SNB will maintain the floor, we think the CHF is a better alternative to express a bearish euro view versus the USD as well as other G10 currencies via seagulls or outright CHF put spreads. In our latest [Sterling Investor](#), we looked at leveraged GBPCHE call spreads to express a short-term bullish GBP view.

Exhibit 1: USDJPY term structure of risk reversal

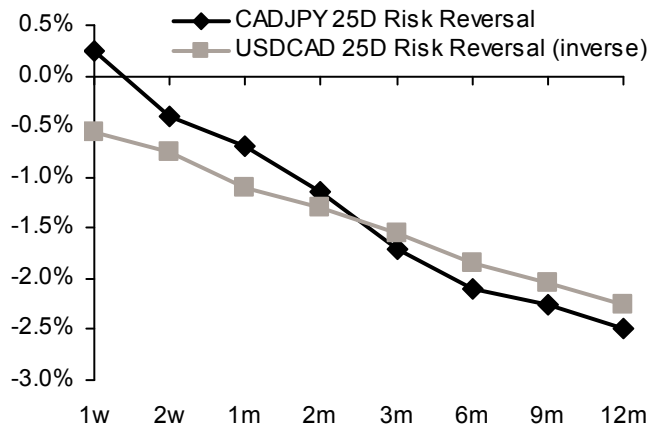
Source: Credit Suisse Locus

Exhibit 2: 1yr USDJPY topside skew at its steepest level since 2002

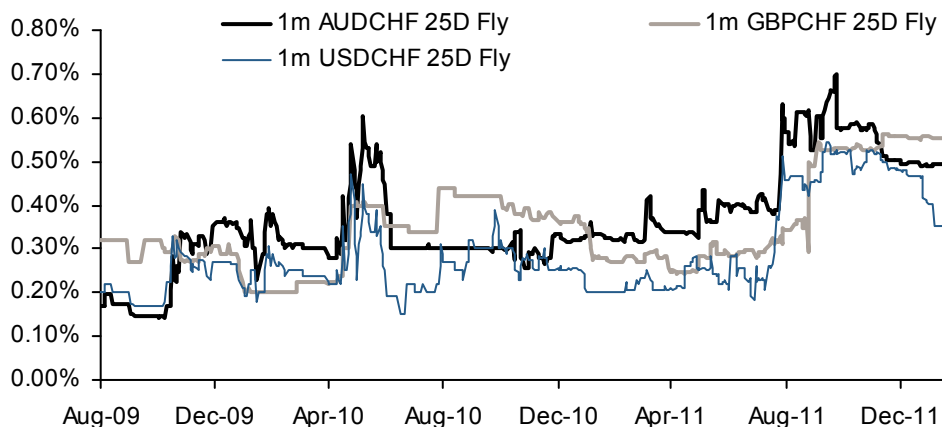
Source: Credit Suisse Locus

Exhibit 3: AUDJPY and CADJPY riskies are trading at a discount to AUDUSD and USDCAD riskies in the front end, but still trading pricing in more downside risk in the back end

Source: Credit Suisse Locus



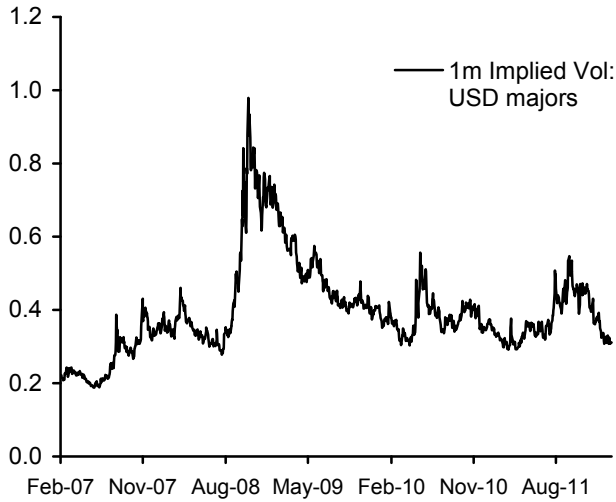
Source: Credit Suisse Locus

Exhibit 4: CHF flies still look very elevated

Source: Credit Suisse Locus

Exhibit 5: 1m Implied USD-based Volatility

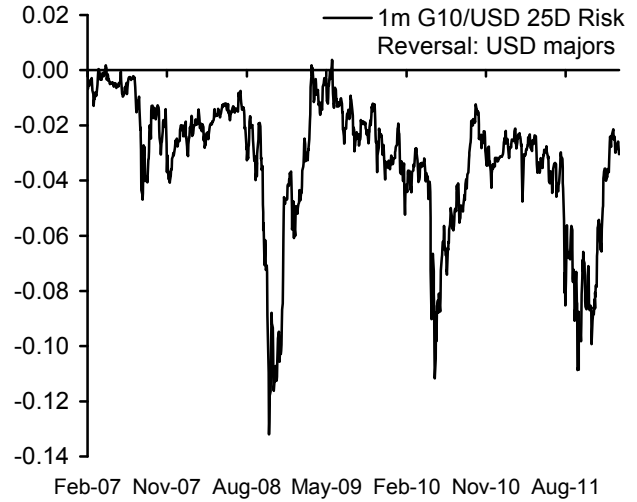
1st Principal Component Analysis Factor for 1m ATM Implieds for USD majors



Source: Credit Suisse

Exhibit 6: 1m risk reversals for USD majors

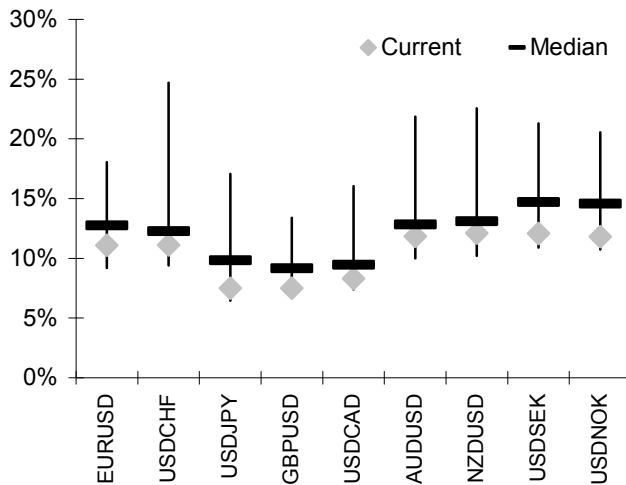
1st Principal Component Analysis Factor for 1m 25D Riskies for G10-USD majors



Source: Credit Suisse

Exhibit 7: 1m USD implied vols

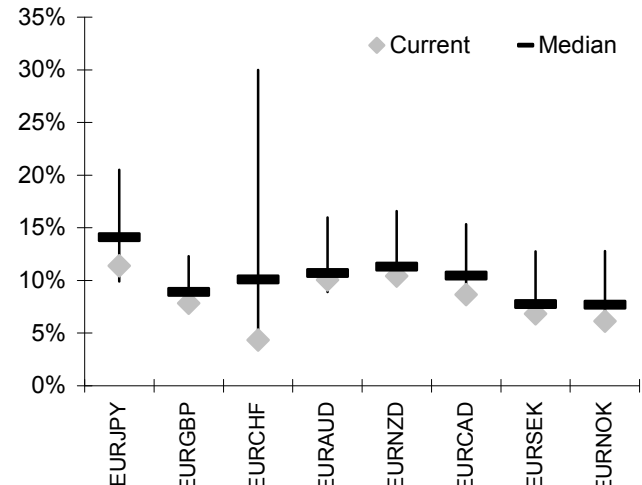
1m ATM Implied Vol; Using last 1yr history



Source: Credit Suisse Locus

Exhibit 8: 1m EUR implied vols

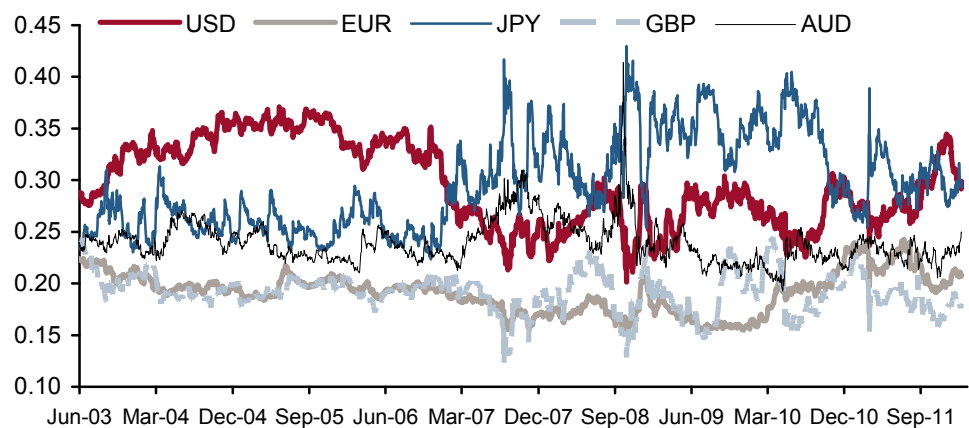
1m ATM Implied Vol; Using last 1yr history



Source: Credit Suisse

Exhibit 9: Proportion of total G10 FX variance explained by different currency pairs

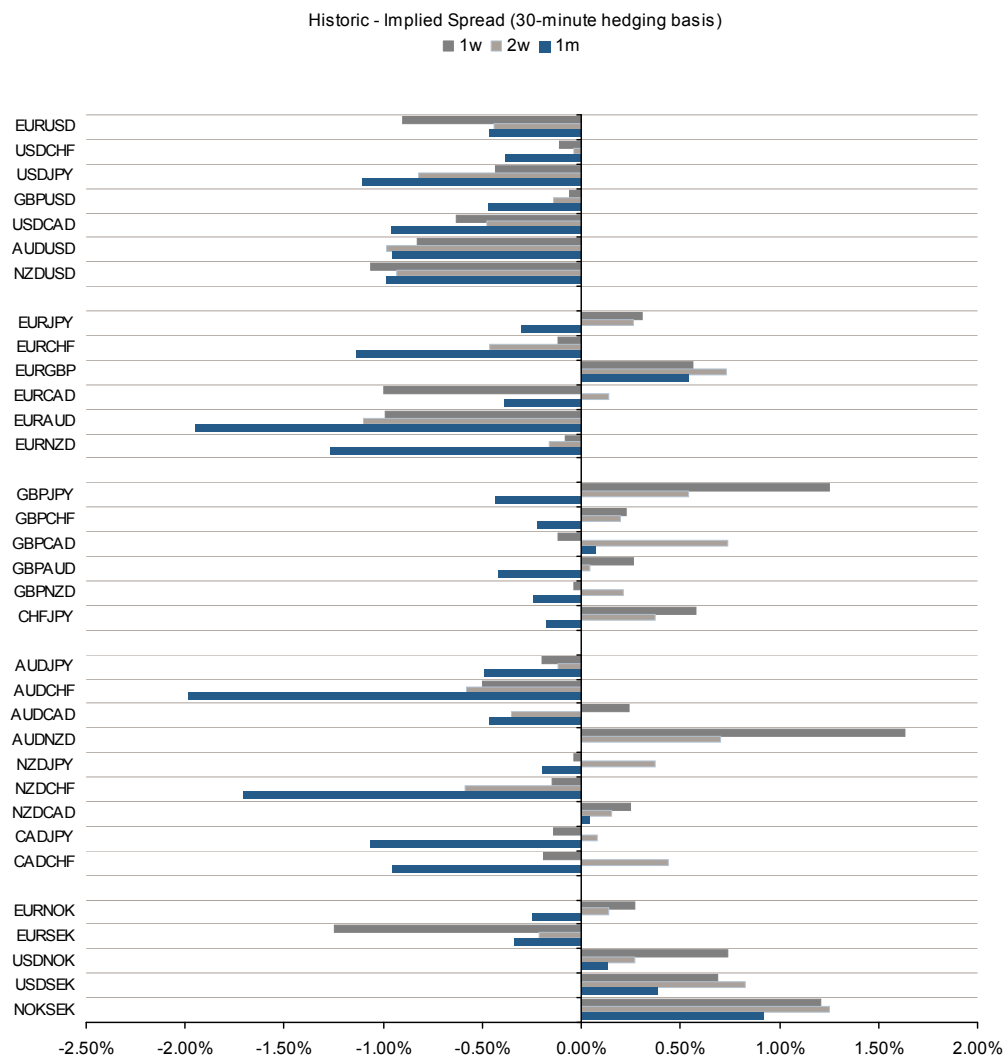
(Sum of single ccy variance) / (Sum of all ccy variances)



Source: Credit Suisse Locus

Gamma Relative Value

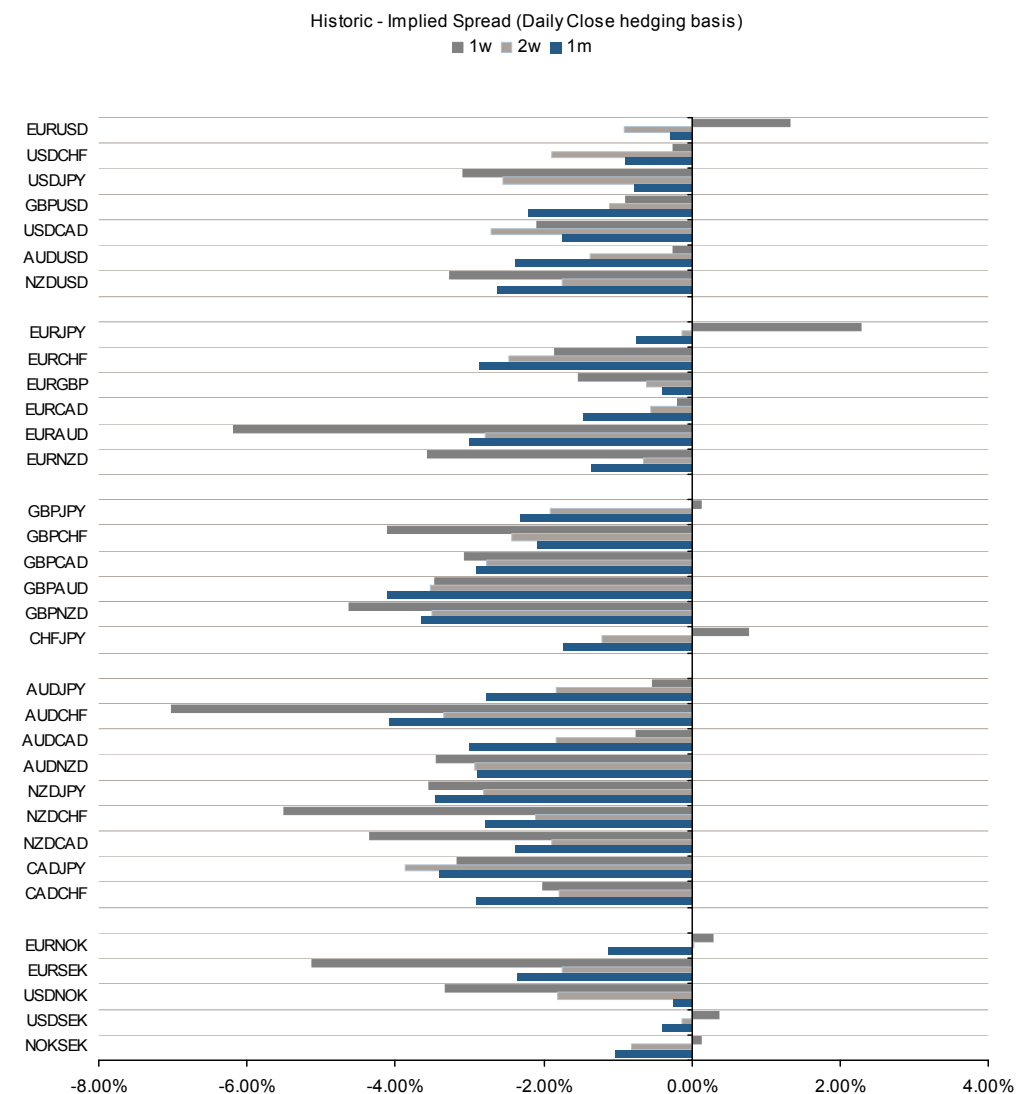
Exhibit 10: FX gamma tracker: 30-minute tick-based



Source: Credit Suisse

Exhibit 11: FX gamma tracker: Daily close

Based on 4pm London - Daily WMR fixes



Source: Credit Suisse

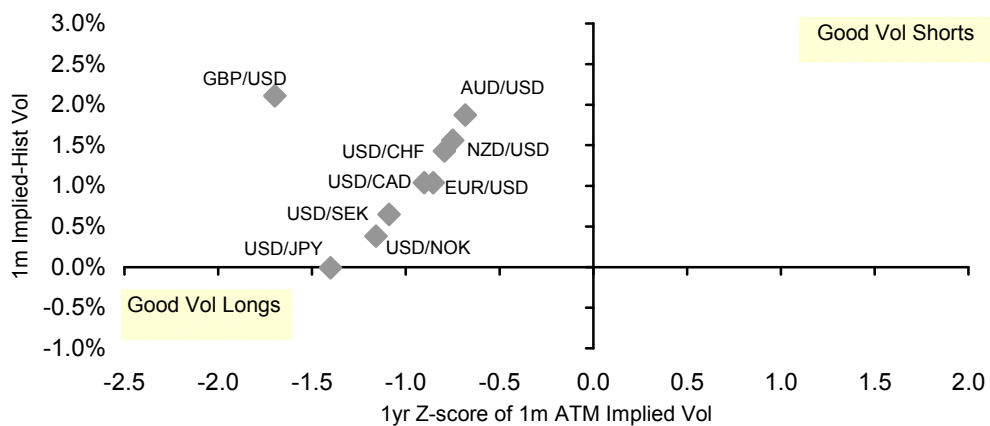
Exhibit 12: FX gamma tracker: Underlying data

RAW DATA - IMPLIEDS ARE NOT TRADABLE LEVELS, PLEASE CONTACT YOUR CS COVERAGE									
	Historics			Implieds					
	1w	2w	1m	1w	2w	1m			
EURUSD	9.85%	10.26%	10.72%	10.75%	10.70%	11.18%	EURUSD		
USDCHF	10.64%	10.66%	10.80%	10.75%	10.70%	11.18%	USDCHF		
USDJPY	6.57%	6.23%	6.39%	7.00%	7.05%	7.50%	USDJPY		
GBPUSD	7.44%	7.26%	7.23%	7.50%	7.40%	7.70%	GBPUSD		
USDCAD	7.07%	7.32%	7.34%	7.70%	7.80%	8.30%	USDCAD		
AUDUSD	10.27%	10.17%	10.95%	11.10%	11.15%	11.90%	AUDUSD		
NZDUSD	10.24%	10.47%	11.17%	11.30%	11.40%	12.15%	NZDUSD		
EURJPY	11.06%	10.86%	11.10%	10.75%	10.60%	11.40%	EURJPY		
EURCHF	3.38%	3.29%	3.31%	3.50%	3.75%	4.45%	EURCHF		
EURGBP	8.46%	8.48%	8.39%	7.90%	7.75%	7.85%	EURGBP		
EURCAD	7.35%	8.42%	8.35%	8.35%	8.28%	8.74%	EURCAD		
EURAUD	8.41%	8.43%	8.16%	9.40%	9.53%	10.11%	EURAUD		
EURNZD	9.54%	9.74%	9.20%	9.62%	9.90%	10.47%	EURNZD		
GBRJPY	9.50%	8.89%	8.97%	8.25%	8.35%	9.40%	GBRJPY		
GBPCHF	9.13%	8.95%	8.78%	8.90%	8.75%	9.00%	GBPCHF		
GBPCAD	6.97%	7.84%	7.47%	7.09%	7.10%	7.40%	GBPCAD		
GBPAUD	9.54%	9.44%	9.63%	9.28%	9.40%	10.05%	GBPAUD		
GBPNZD	9.30%	9.71%	9.96%	9.34%	9.50%	10.20%	GBPNZD		
CHFJPY	11.33%	10.97%	11.22%	10.75%	10.60%	11.40%	CHFJPY		
AUDJPY	11.30%	11.28%	11.66%	11.50%	11.40%	12.15%	AUDJPY		
AUDCHF	9.30%	9.35%	9.02%	9.80%	9.93%	11.01%	AUDCHF		
AUDCAD	7.37%	7.05%	7.56%	7.13%	7.40%	8.02%	AUDCAD		
AUDNZD	8.63%	7.50%	7.08%	7.00%	6.80%	7.08%	AUDNZD		
NZDJPY	11.46%	11.77%	11.95%	11.50%	11.40%	12.15%	NZDJPY		
NZDCHF	10.27%	10.21%	9.76%	10.42%	10.80%	11.47%	NZDCHF		
NZDCAD	7.76%	8.07%	8.36%	7.51%	7.92%	8.32%	NZDCAD		
CADJPY	9.40%	9.72%	9.26%	9.54%	9.64%	10.32%	CADJPY		
CADCHF	8.56%	9.27%	8.69%	8.75%	8.83%	9.64%	CADCHF		
EURNOK	6.18%	5.94%	5.90%	5.91%	5.80%	6.15%	EURNOK		
EURSEK	5.95%	6.58%	6.49%	7.20%	6.79%	6.83%	EURSEK		
USDNOK	11.74%	11.47%	12.05%	11.00%	11.20%	11.92%	USDNOK		
USDSEK	11.69%	12.13%	12.56%	11.00%	11.30%	12.17%	USDSEK		
NOKSEK	6.62%	6.95%	6.97%	5.41%	5.70%	6.05%	NOKSEK		

Source: Credit Suisse

Exhibit 13: USD gamma relative value

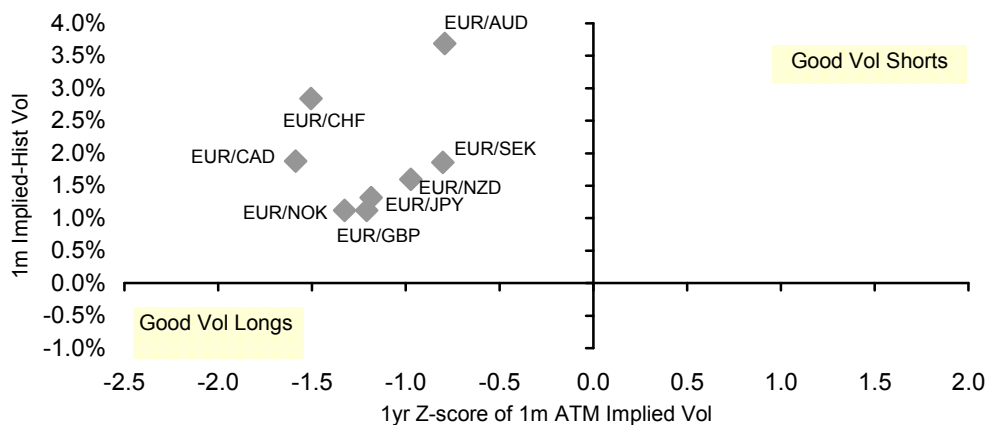
Historical Vols based on daily WMR fixes



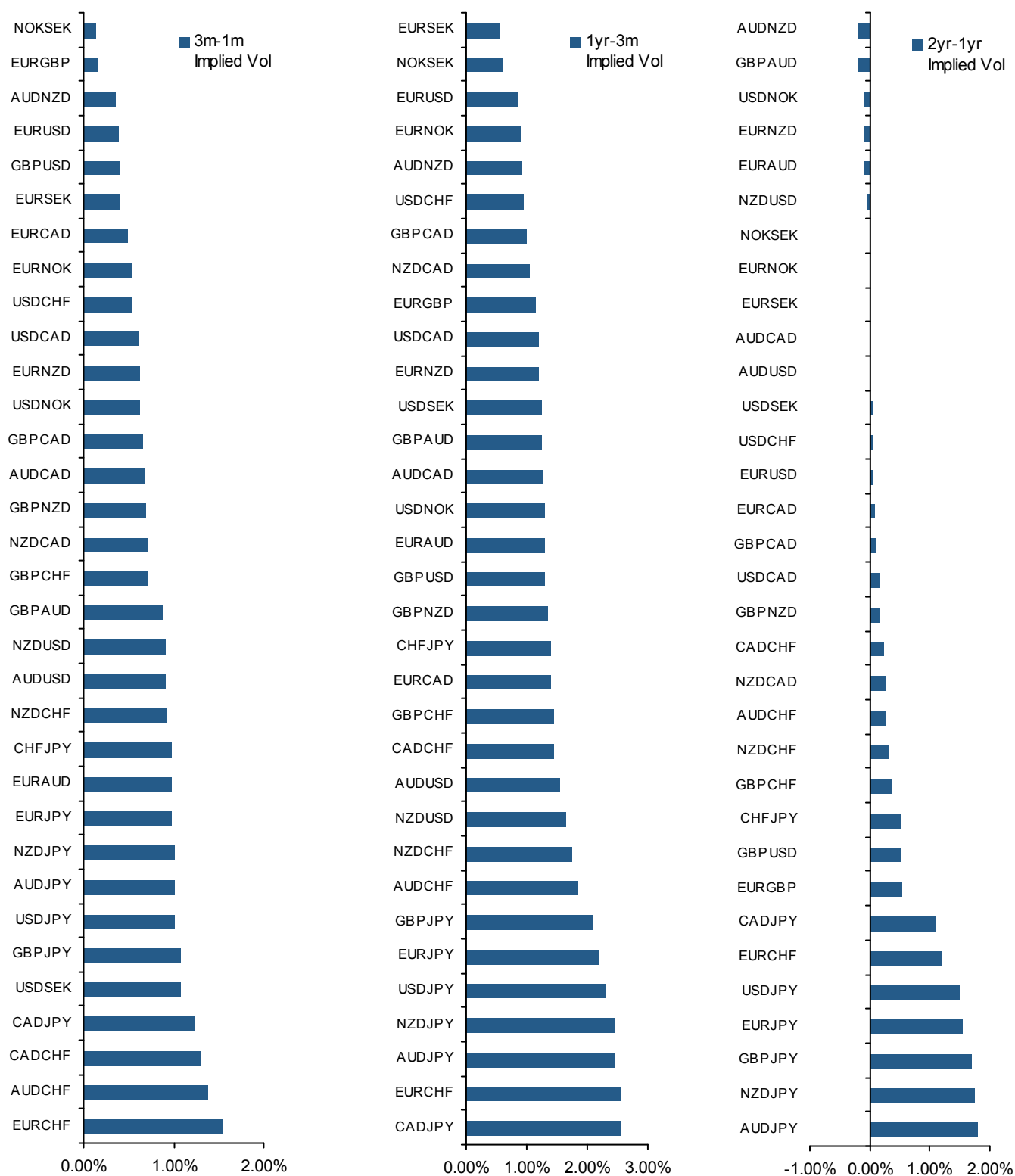
Source: Credit Suisse Locus

Exhibit 14: EUR gamma relative value

Historical Vols based on daily WMR fixes



Source: Credit Suisse Locus

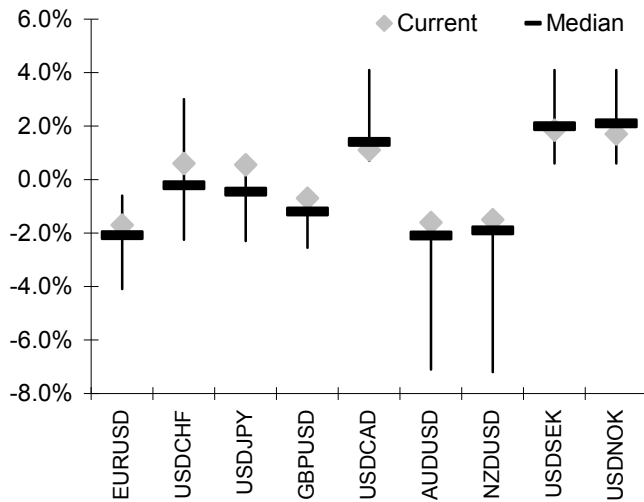
Exhibit 15: Implied volatility term structure

Source: Credit Suisse Locus

Skew drivers

Exhibit 16: USD risk reversals

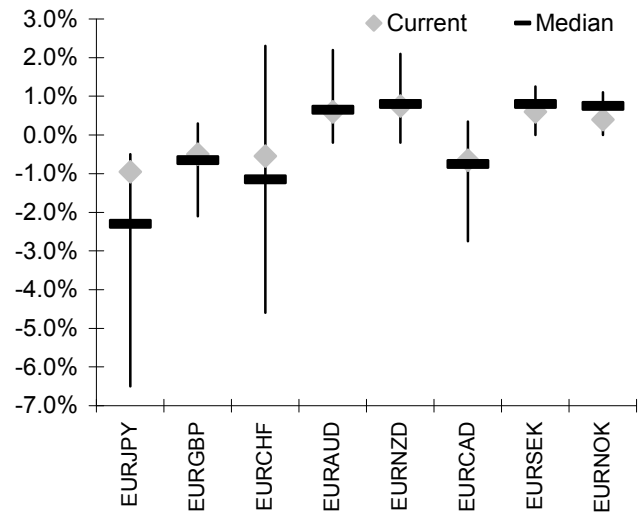
1m 25D Risk Reversals, 1yr history



Source: Credit Suisse Locus

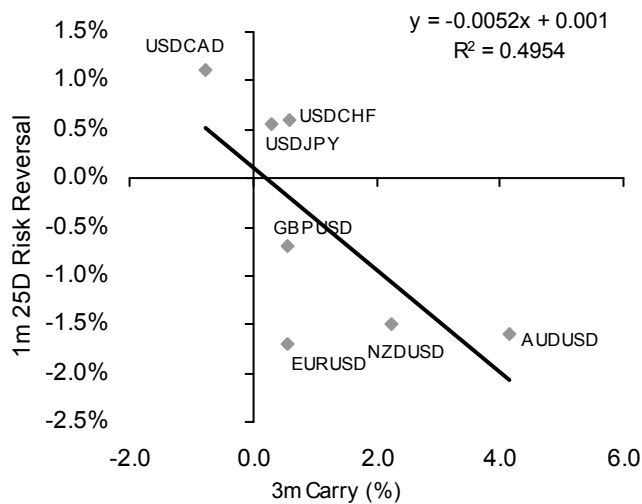
Exhibit 17: EUR risk reversals

1m 25D Risk Reversals, 1yr history



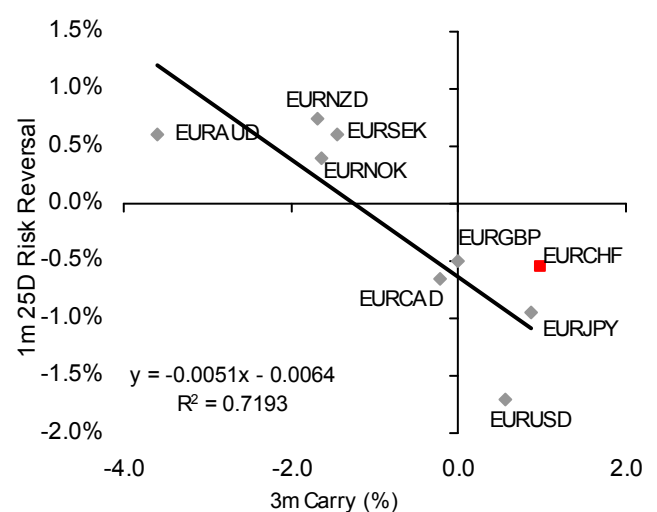
Source: Credit Suisse

Exhibit 18: USD: Carry versus skews



Source: Credit Suisse Locus

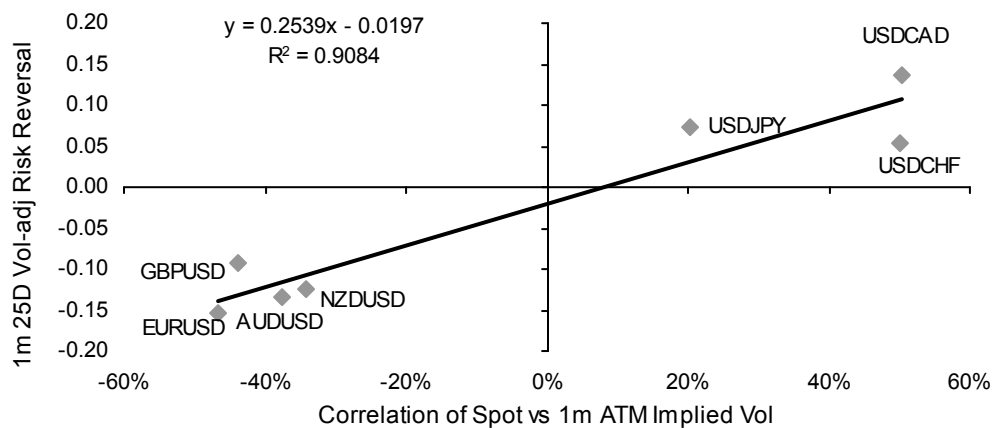
Exhibit 19: EUR: Carry versus skews



Source: Credit Suisse

Exhibit 20: Risk reversals vs spot/vol correlation: USD majors

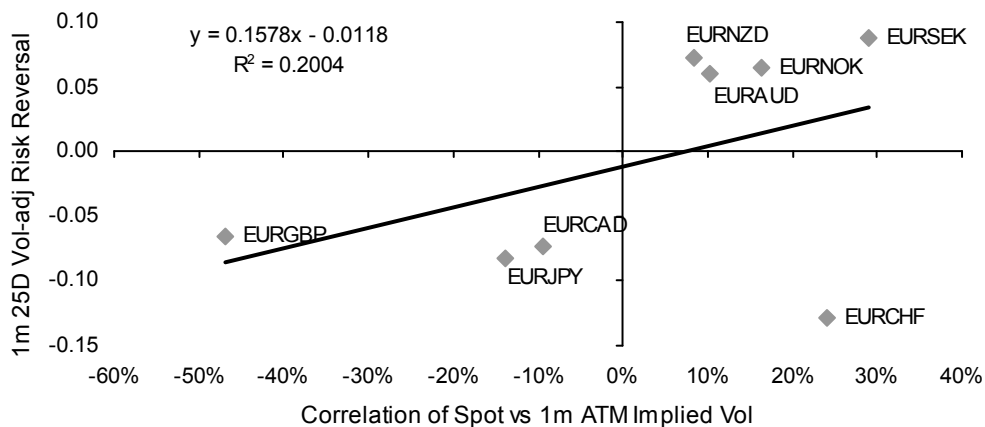
Using 3m correlation of spot/ implied vols



Source: Credit Suisse Locus

Exhibit 21: Risk reversals vs spot/vol correlation: EUR crosses

Using 3m correlation of spot/ implied vols

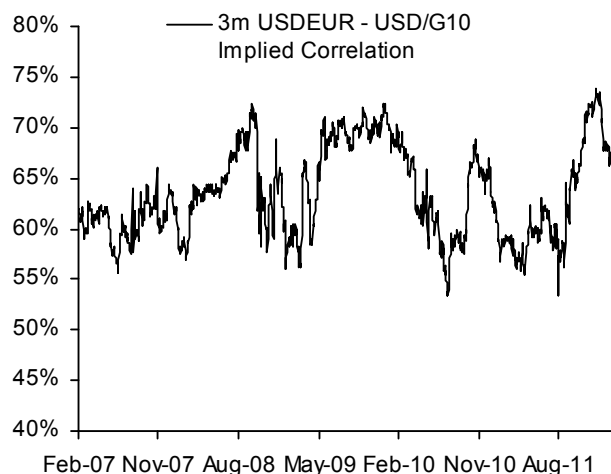


Source: Credit Suisse Locus

Correlation Tracker

Exhibit 22: USDEUR/USD-G10 correlation

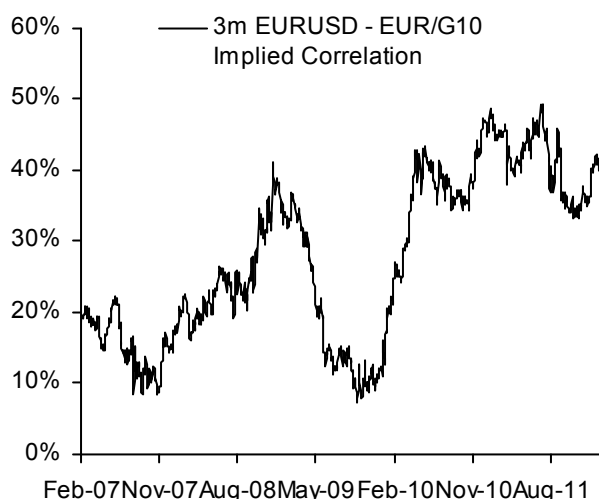
Average of 3m implied USDEUR correlation to other USD/majors



Source: Credit Suisse Locus

Exhibit 23: EURUSD/EUR-G10 correlation

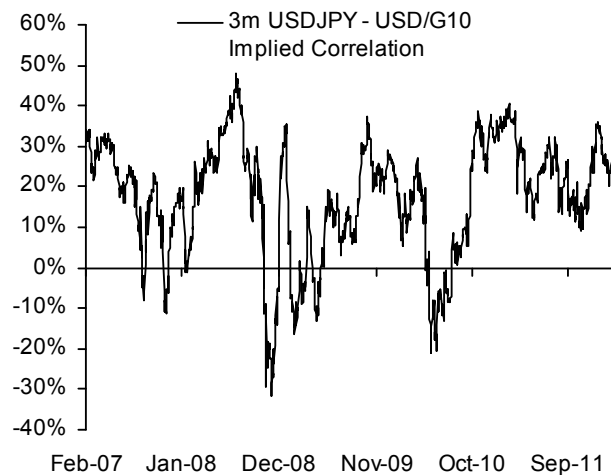
Average of 3m implied EURUSD correlation to other EUR/majors



Source: Credit Suisse

Exhibit 24: USDJPY/USD-G10 correlation

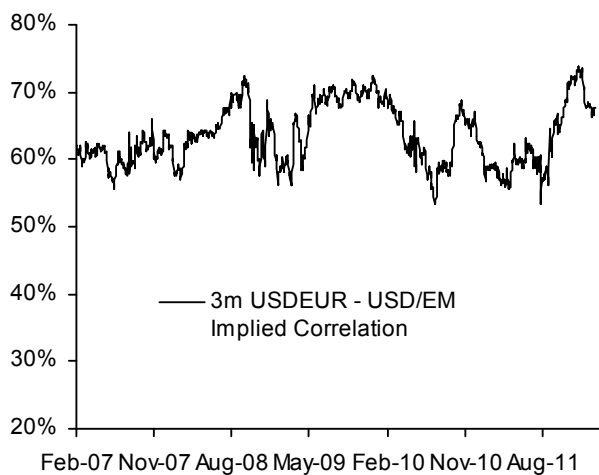
Average of 3m implied USDJPY correlation to other USD/majors



Source: Credit Suisse Locus

Exhibit 25: USDEUR/USD-EM correlation

Average of 3m implied USDEUR correlation to select USD-EM currency pairs



Source: Credit Suisse

Exhibit 26: USD-pivoted implied G10 correlations

3m Correlation Matrix

	EUR	GBP	CHF	AUD	NZD	CAD	JPY	SEK	NOK
EUR		0.73	0.87	0.58	0.60	0.62	0.31	0.85	0.86
GBP	0.73		0.60	0.52	0.56	0.56	0.25	0.70	0.68
CHF	0.87	0.60		0.48	0.51	0.48	0.34	0.74	0.79
AUD	0.58	0.52	0.48		0.83	0.73	0.32	0.67	0.66
NZD	0.60	0.56	0.51	0.83		0.72	0.35	0.65	0.63
CAD	0.62	0.56	0.48	0.73	0.72		0.12	0.74	0.67
JPY	0.31	0.25	0.34	0.32	0.35	0.12		0.25	0.24
SEK	0.85	0.70	0.74	0.67	0.65	0.74	0.25		0.89
NOK	0.86	0.68	0.79	0.66	0.63	0.67	0.24	0.89	

Implied Correlation, Tenor: 3M, Trader Quotation


 Cheap (-2) Rich (2)

Source: Credit Suisse Locus

Source: Credit Suisse Locus

Exhibit 27: EUR-pivoted implied G10 correlations

3m Correlation Matrix

	GBP	CHF	AUD	NZD	CAD	JPY	SEK	NOK	USD
GBP		0.08	0.38	0.39	0.57	0.55	0.18	0.20	0.71
CHF	0.08		0.02	0.05	0.03	0.25	0.04	0.19	0.21
AUD	0.38	0.02		0.78	0.66	0.40	0.41	0.40	0.38
NZD	0.39	0.05	0.78		0.62	0.39	0.34	0.30	0.35
CAD	0.57	0.03	0.66	0.62		0.45	0.43	0.34	0.66
JPY	0.55	0.25	0.40	0.39	0.45		0.03	0.06	0.74
SEK	0.18	0.04	0.41	0.34	0.43	0.03		0.61	0.05
NOK	0.20	0.19	0.40	0.30	0.34	0.06	0.61		0.12
USD	0.71	0.21	0.38	0.35	0.66	0.74	0.05	0.12	

Implied Correlation, Tenor: 3M, Trader Quotation

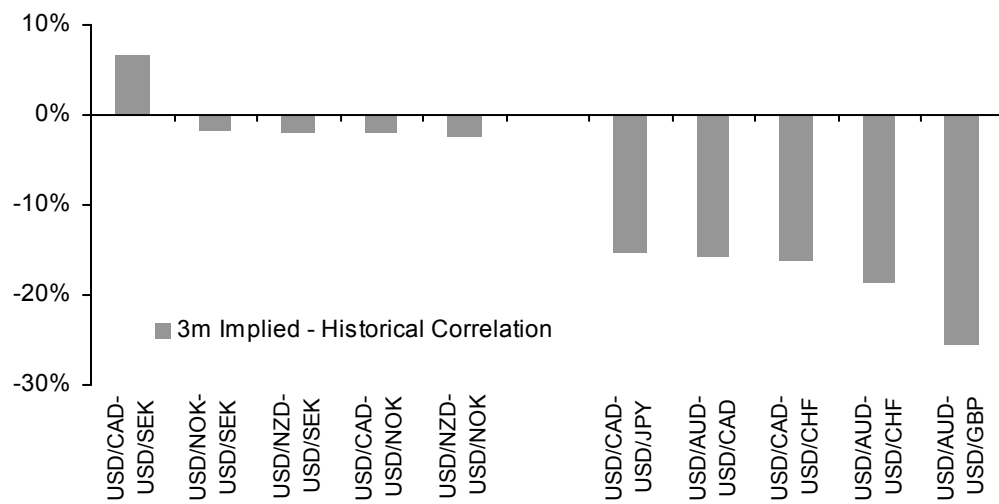

 Cheap (-2) Rich (2)

Source: Credit Suisse Locus

Source: Credit Suisse Locus

Exhibit 28: USD-pivoted correlation ranker (top and bottom five)

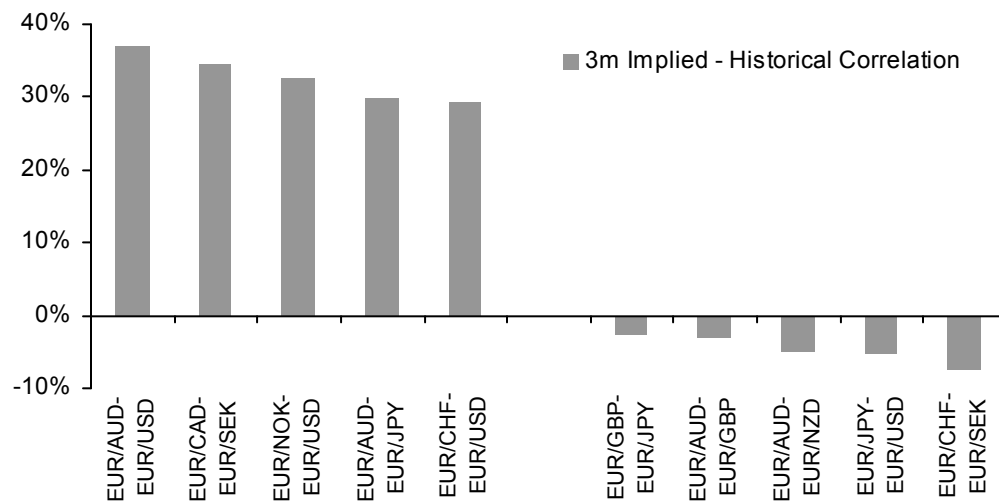
3m Implied – Historical Correlation



Source: Credit Suisse Locus

Exhibit 29: EUR-pivoted correlation ranker (top and bottom five)

3m Implied – Historical Correlation

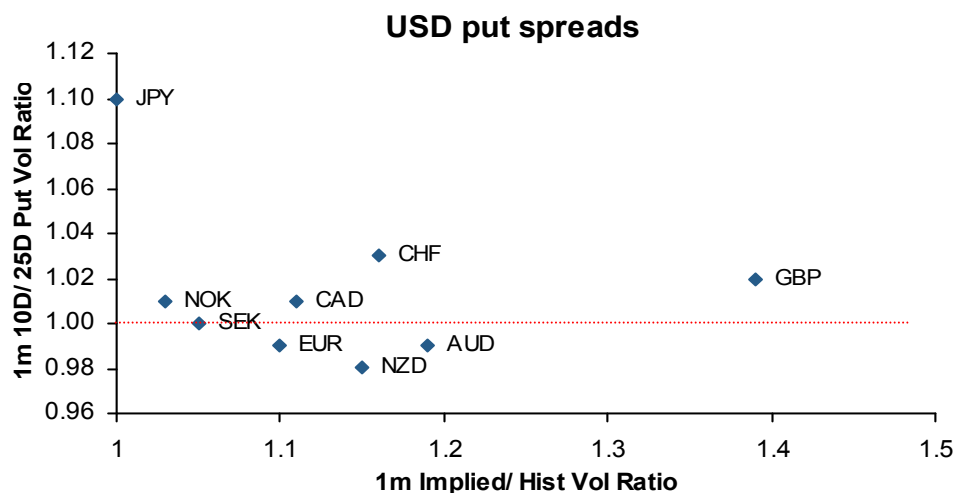


Source: Credit Suisse Locus

Call/ Put Spread Options – G10

Exhibit 30: USD put spreads (bearish USD)

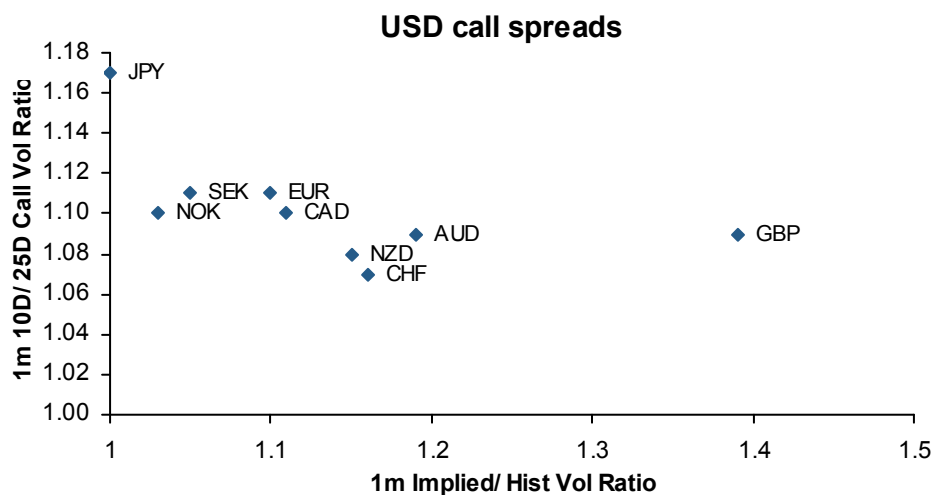
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 31: USD call spreads (bullish USD)

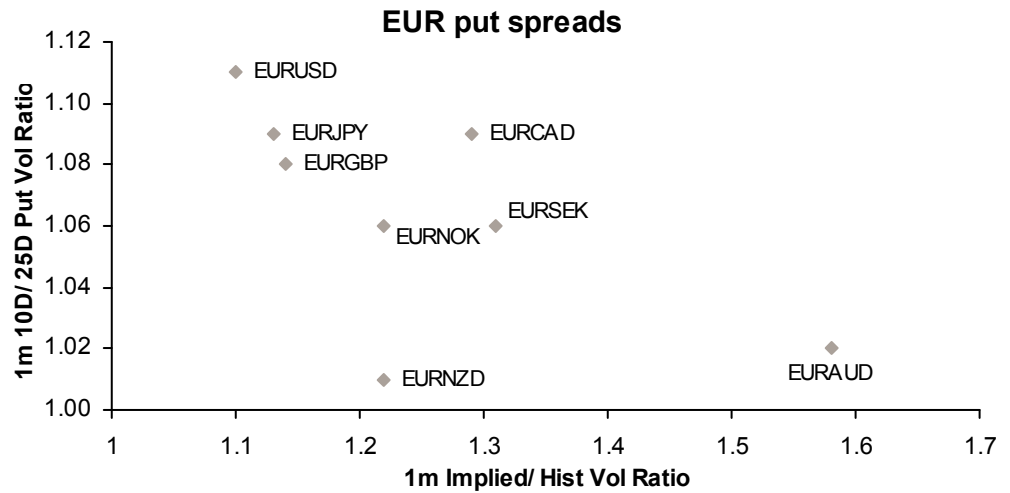
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 32: EUR put spreads (bearish EUR)

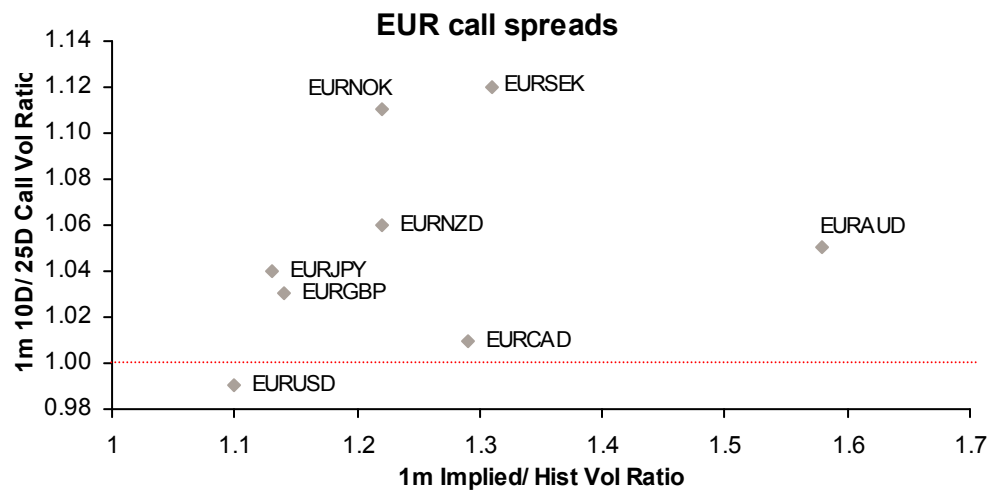
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 33: EUR call spreads (bullish EUR)

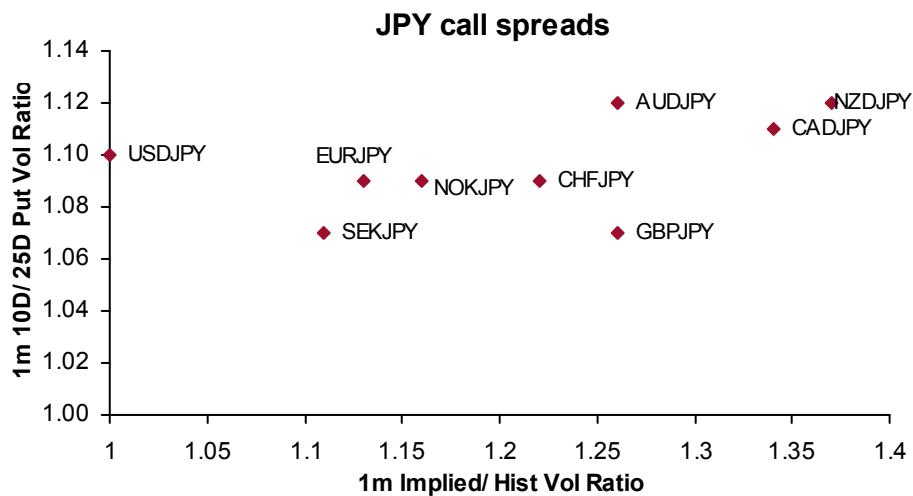
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 34: JPY call spreads (bullish JPY)

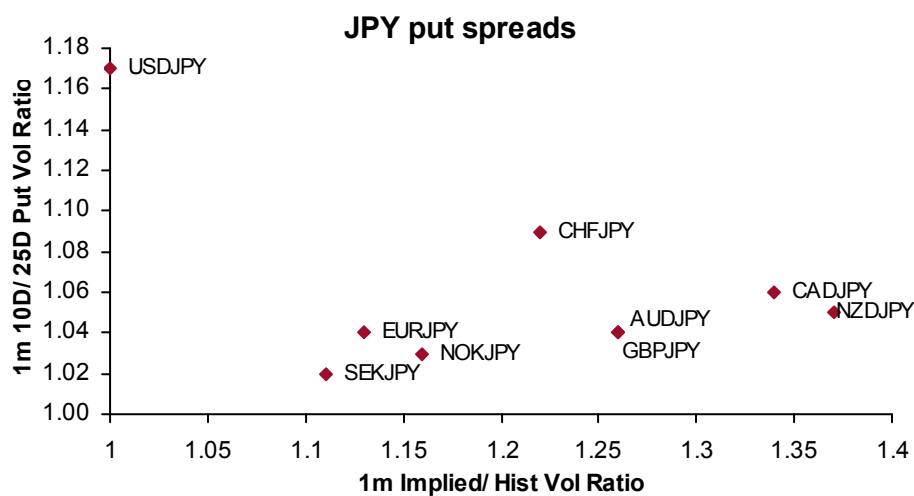
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 35: JPY put spreads (bearish JPY)

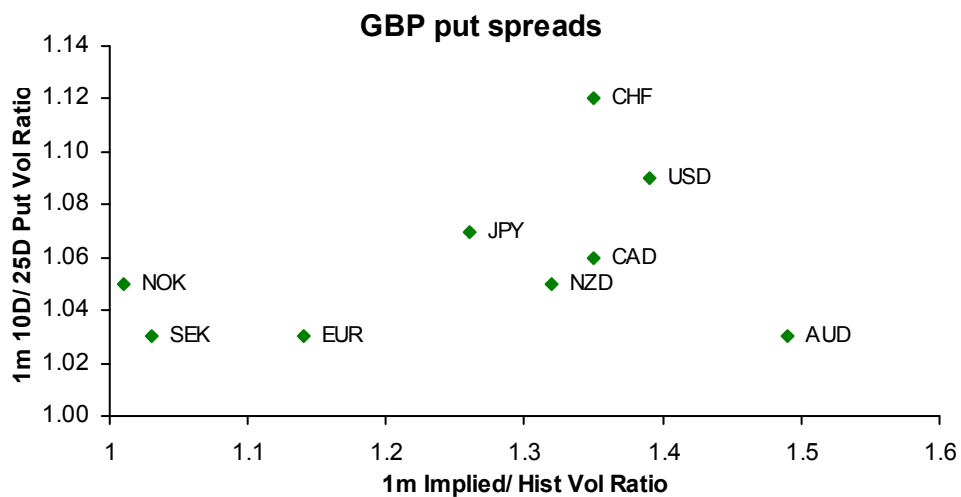
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 36: GBP put spreads (bearish GBP)

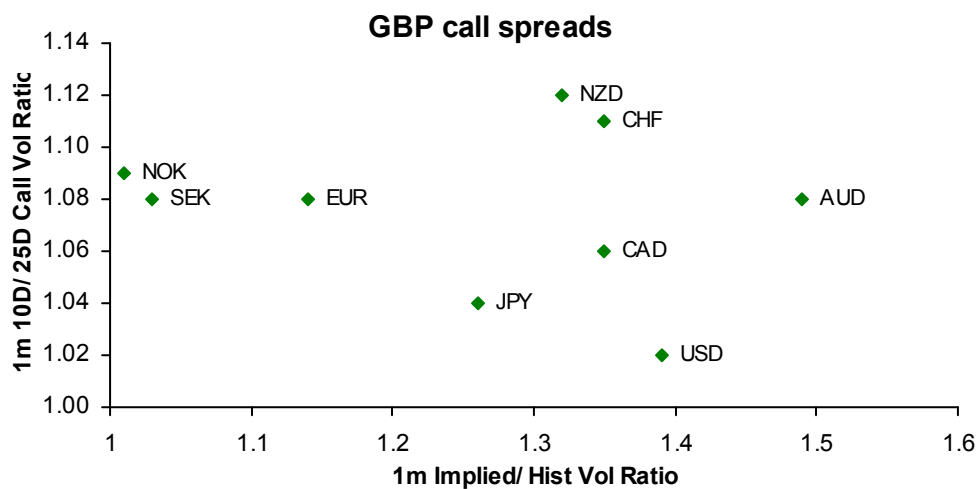
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 37: GBP call spreads (bullish GBP)

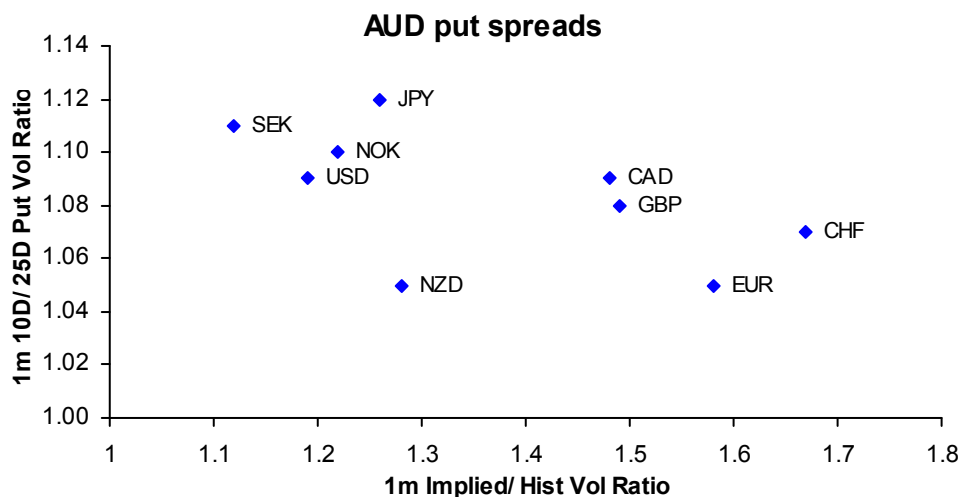
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 38: AUD put spreads (bearish AUD)

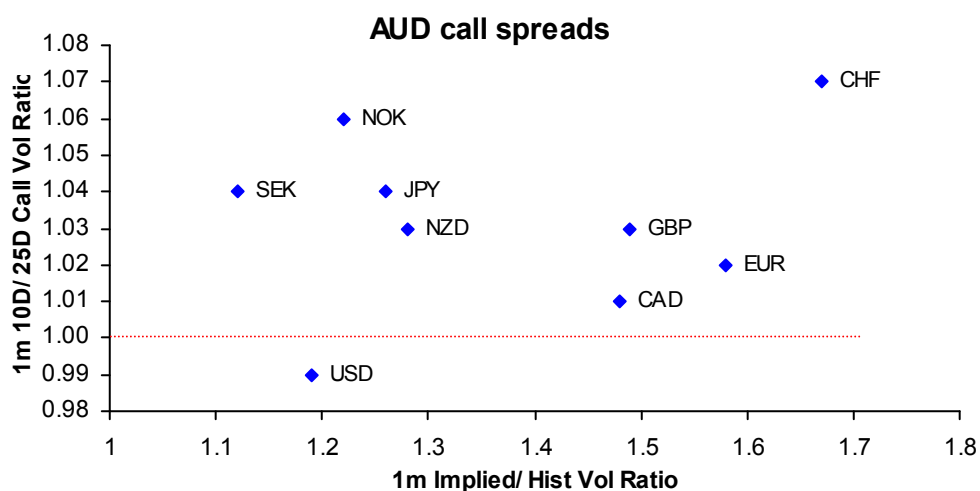
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 39: AUD call spreads (bullish AUD)

Historical Volatility calculated using daily WMR fixing

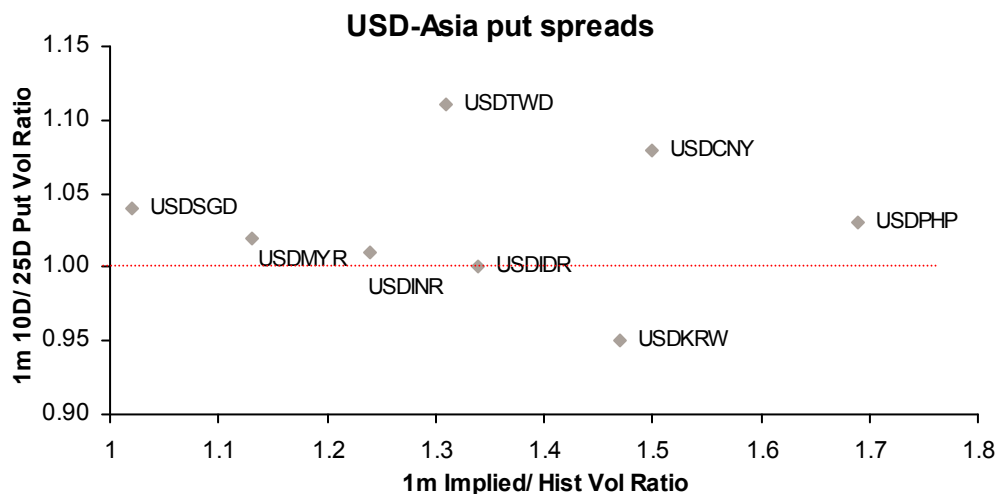


Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Call/ Put Spread Options – EM

Exhibit 40: USD-Asia put spreads (Bullish Asia)

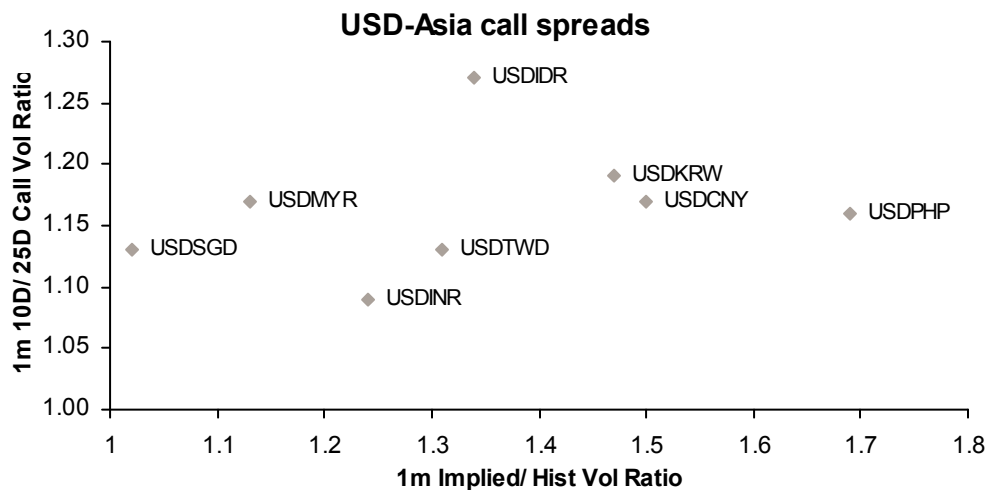
SGD: WMR fixing; KRW: KFTC30 fixing; INR: RBIB fixing; TWD, IDR, CNY, PHP and MYR are NDF fixings



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 41: USD-Asia call spreads (Bearish Asia)

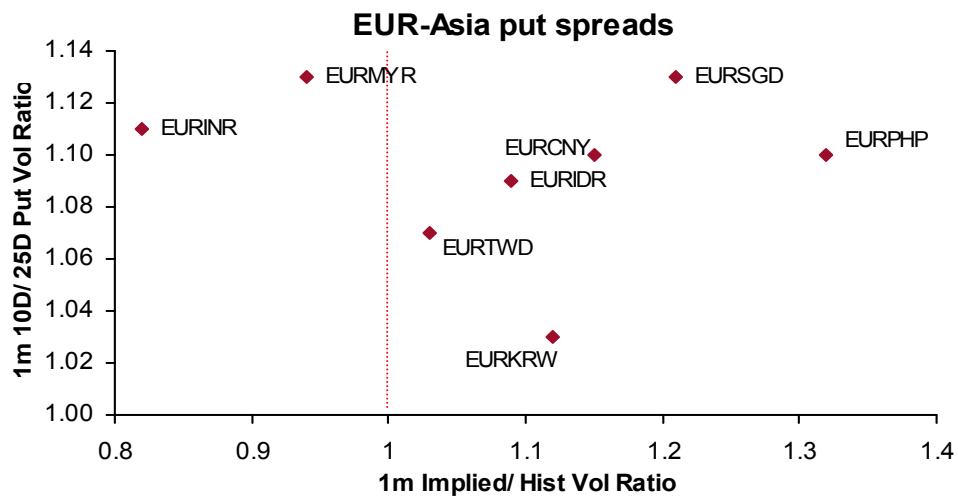
SGD: WMR fixing; KRW: KFTC30 fixing; INR: RBIB fixing; TWD, IDR, CNY, PHP and MYR are NDF fixings



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 42: EUR-Asia put spreads (Bullish Asia)

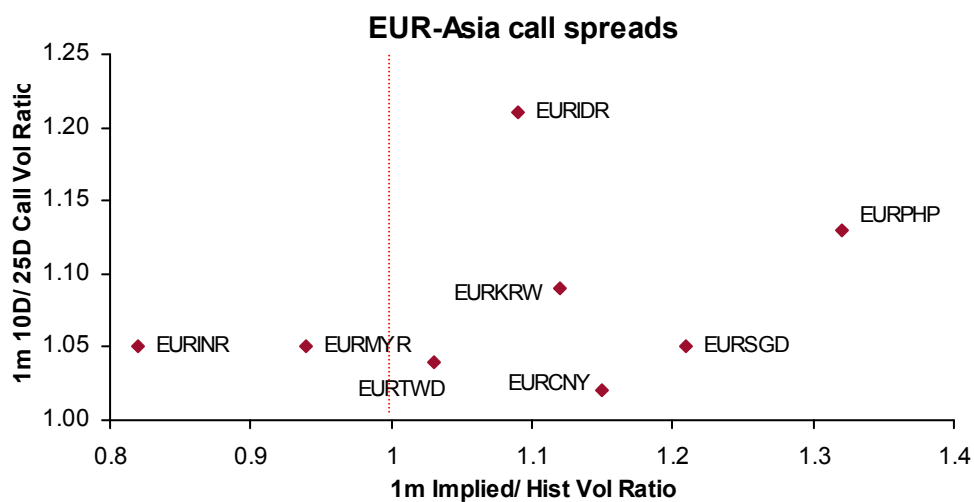
SGD: WMR fixing; KRW: KFTC30 fixing; INR: RBIB fixing; TWD, IDR, CNY, PHP and MYR are NDF fixings



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 43: EUR-Asia call spreads (Bearish Asia)

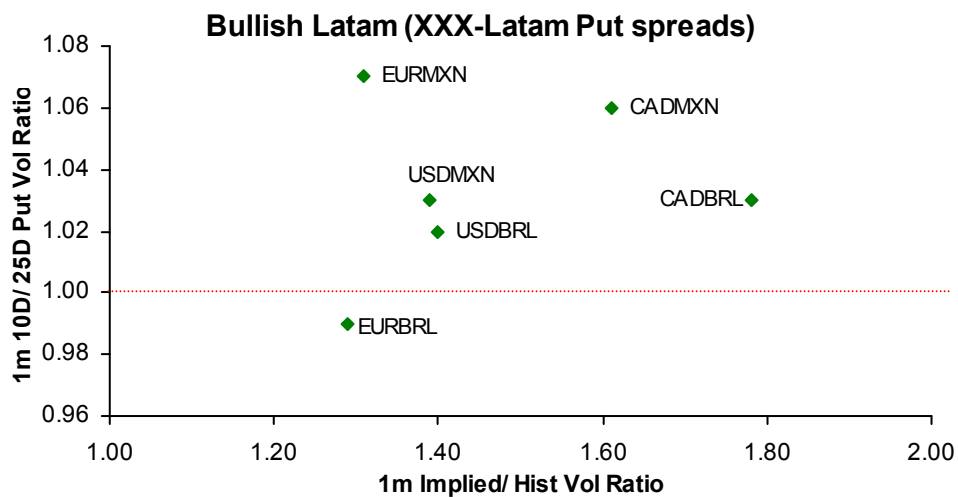
SGD: WMR fixing; KRW: KFTC30 fixing; INR: RBIB fixing; TWD, IDR, CNY, PHP and MYR are NDF fixings



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 44: XXX-Latam put spreads (Bullish Latam)

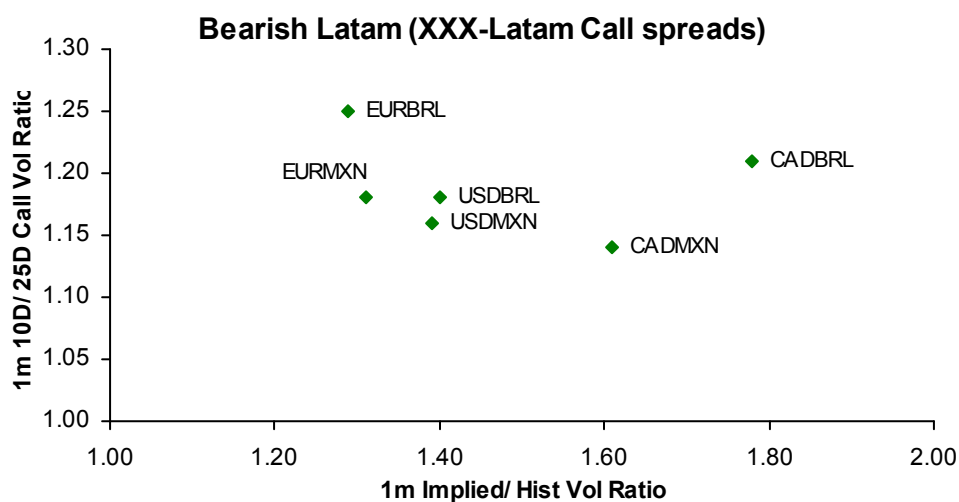
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 45: XXX-Latam call spreads (Bearish Latam)

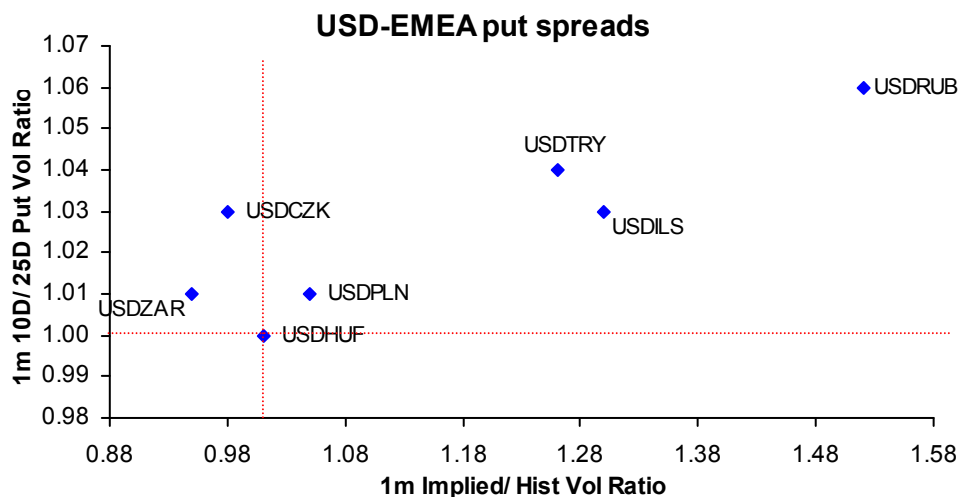
Historical Volatility calculated using daily WMR fixing



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 46: USD-EMEA put spreads (Bullish EMEA)

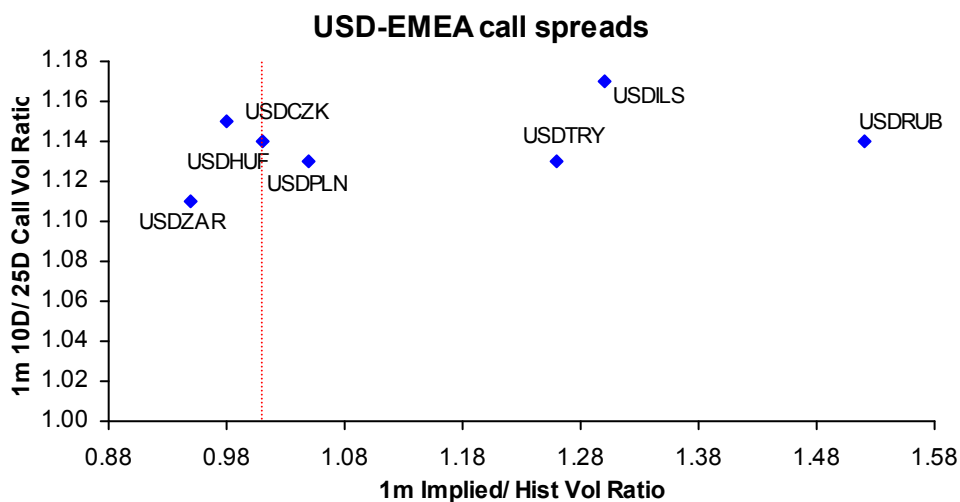
TRY: ECB37 fixing; RUB: EMTA fixing; ILS: FXIL fixing; PLN, CZK, HUF and ZAR are WMR fixings



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 47: USD-EMEA call spreads (Bearish EMEA)

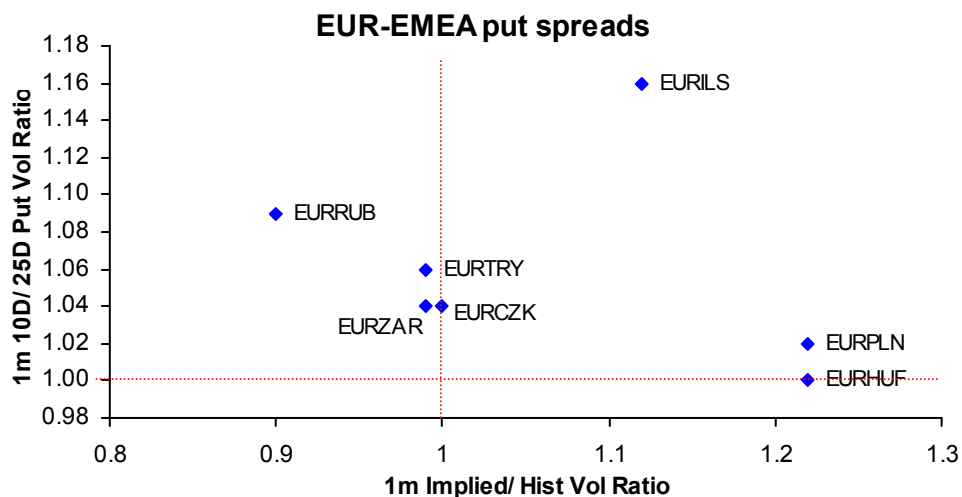
TRY: ECB37 fixing; RUB: EMTA fixing; ILS: FXIL fixing; PLN, CZK, HUF and ZAR are WMR fixings



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 48: EUR-EMEA put spreads (Bullish EMEA)

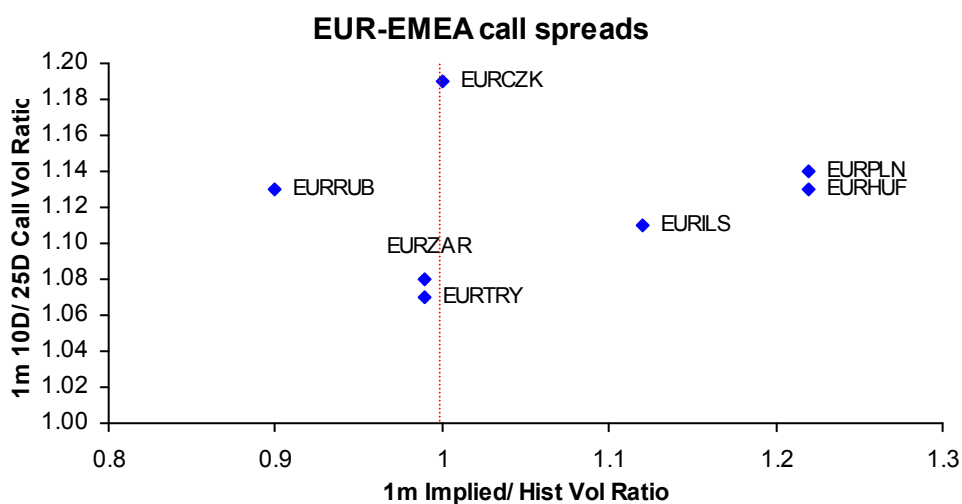
TRY: ECB37 fixing; RUB: EMTA fixing; ILS: FXIL fixing; PLN, CZK, HUF and ZAR are WMR fixings



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

Exhibit 49: EUR-EMEA call spreads (Bearish EMEA)

TRY: ECB37 fixing; RUB: EMTA fixing; ILS: FXIL fixing; PLN, CZK, HUF and ZAR are WMR fixings



Source: Credit Suisse Locus, the BLOOMBERG PROFESSIONAL™ service

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