

## A Weekly Analysis of the Foreign-Exchange Market

September 26, 2011

### Euro Likely to Remain Pressured vs Dollar as Equities Fall

BY DAVID POWELL

**Overview:** The euro appears poised to continue its decline versus the U.S. dollar as equity markets remain pressured and the currency pair challenges the 50 percent retracement level (1.3408) of its rally from the June 2010 low to the May 2011 high.

The U.S. dollar has become most highly correlated with global equity prices, using the S&P 500 as a proxy. The daily correlation between the percentage change of EUR/USD and that of the S&P 500 now stands at 0.76 for the past month.

Sentiment toward the U.S. dollar improved over the last week. The risk reversal skew on one-month 25-delta options on EUR/USD slipped to minus 3.6 vols from 3 vols. That is 2.1 standard deviations below the one-year average.

Speculators fled European currencies during the latest reporting period in favor of the U.S. dollar, according to weekly data from the Commodity Futures Trading Commission. They sold 23,622 contracts on the euro and 33,304 contracts on

the British pound and bought 25,964 contracts on the dollar.

**Scorecard:** The scorecard puts the euro and the U.S. dollar at the same rank of 5 out of the 10 developed-market currencies.

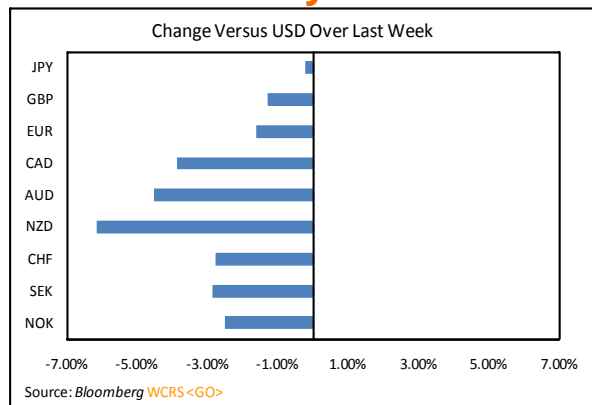
**Consensus:** The sharp decline of EUR/USD has taken analysts by surprise. Those surveyed by Bloomberg forecast the currency pair to end the quarter at 1.43 and the year at 1.39. The consensus of those analysts is for the pair to end next year at 1.43.

**Positioning:** Speculators abandoned European currencies in favor of the U.S. dollar in the week ended Sept. 20. They sold 23,622 contracts on the euro and 33,304 contracts on the British pound. Those net short positions, 75,885 contracts and 59,097 contracts, are 2.9 and 3.2 standard deviations below their one-year averages, respectively. They purchased 25,964 contracts on the dollar, bringing the net long position to 19,732 contracts, 3 standard

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### World Currency Ranker



**Currency Analyst:**

David Powell

[dpowell24@bloomberg.net](mailto:dpowell24@bloomberg.net)

+44-20-7073-3769

**Editor:**

Chris Kirkham

[ckirkham@bloomberg.net](mailto:ckirkham@bloomberg.net)

+44-20-7673-2464

deviations above the one-year average.

**Risk Reversals:** Sentiment toward the U.S. dollar improved over the last week. The risk reversal skew on one-month 25-delta options on the AUD/USD declined to minus 7 vols from minus 5.2 vols one week ago. It fell to minus 6.8 vols from 5 vols on the same options on NZD/USD and it rose to 3.3 vols from 1.9 vols on those options on USD/CAD. The risk reversal skew on those options on EUR/USD slipped to minus 3.6 vols from 3 vols. That is 2.1 standard deviations below the one-year average.

**Implied Volatility:** The prices of options on commodity currencies increased the most during the past week. Implied volatility on one-month at-the-money options on AUD/USD rose to 21.2 vols from 16.3 vols. It rose 4.8 vols on USD/CAD options and 4.6 on NZD/USD options.

**Cross-Asset Correlations:** The U.S. dollar has become most highly correlated with global equity prices, using the S&P 500 as a proxy. The daily correlation between the percentage change of EUR/USD and that of the S&P 500 now stands at 0.76 for the past month. That number for GBP/USD is 0.65, USD/NOK is minus 0.64;

USD/SEK is minus 0.6; USD/CAD is minus 0.81; AUD/USD is 0.79 and NZD/USD is 0.8.

**Carry-Trade Tracker:** The moving-average crossover technical overlay rule of the carry-trade tracker signals that CHF-funded carry trades versus a basket of the currencies of commodity-producing and emerging-market countries (AUD, BRL, MXN, NZD, TRY & ZAR) should remain opened, while those funded by JPY and USD should be kept closed.

**Valuation:** The U.S. dollar is most undervalued versus the Australian dollar and the New Zealand dollar. AUD/USD is about 28.4 percent above a Bloomberg Brief calculation of its purchasing-power-parity equilibrium level and 25.8 percent above its 10-year moving average, another measure of fair value. The equivalent numbers for NZD/USD are 26.9 percent and 17.9 percent.

**Seasonality:** During the month of October, there have been no seasonal patterns over the last 10 years. The 1.5 percent average depreciation of EUR/JPY over the last 10 years has been highly influenced by a drop of 16.2 percent in 2008. Removing that data point reduces the average monthly decline to 0.1 percent.

## Consensus Forecasts

Currency	Spot	Q3 2011	Forward	Q4 2011	Forward	Q1 2012	Forward	Q2 2012	Forward	End 2012	Forward
EUR/USD	1.3461	1.43	1.35	1.39	1.35	1.40	1.35	1.40	1.35	1.43	1.35
USD/JPY	76.39	78	76	78	76	79	76	79	76	81	76
GBP/USD	1.5501	1.63	1.55	1.59	1.55	1.60	1.55	1.63	1.55	1.66	1.54
USD/CHF	0.9080	0.79	0.91	0.86	0.91	0.85	0.90	0.85	0.90	0.87	0.90
USD/NOK	5.8286	5.42	5.83	5.53	5.85	5.46	5.88	5.25	5.90	5.40	5.94
USD/SEK	6.8665	6.35	6.87	6.54	6.89	6.45	6.91	6.25	6.93	6.30	6.95
USD/CAD	1.0306	0.97	1.03	0.98	1.03	0.98	1.03	0.97	1.03	0.98	1.04
AUD/USD	0.9753	1.08	0.98	1.04	0.96	1.04	0.96	1.05	0.95	1.05	0.93
NZD/USD	0.7728	0.85	0.77	0.82	0.77	0.83	0.76	0.85	0.76	0.86	0.75
EUR/JPY	102.83	112	103	108	103	110	103	111	102	113	102
EUR/GBP	0.8684	0.88	0.87	0.87	0.87	0.87	0.87	0.86	0.87	0.84	0.87
EUR/CHF	1.2223	1.12	1.22	1.20	1.22	1.20	1.22	1.20	1.21	1.22	1.21
EUR/NOK	7.8463	7.75	7.85	7.65	7.88	7.60	7.91	7.60	7.94	7.60	8.01
EUR/SEK	9.2430	9.00	9.24	9.00	9.28	8.91	9.31	8.90	9.33	8.90	9.37

Source: Bloomberg FXFC <GO>

Currency crosses may not equal the rate calculated from dollar-based exchange rates because the number of contributors varies for each currency pair. For example, USD/NOK forecasts may not equal (EUR/NOK)/(EUR/USD). Forecasts are end of quarter. Forward rates refer to the date in the previous column.

## Currency Scorecard

	USD	EUR	GBP	CHF	NOK	SEK	JPY	AUD	CAD	NZD
Last Interest Rate Move (Up or Down)	Down	Up	Down	Down	Up	Up	Down	Up	Up	Down
Risk-Adjusted Yields (3 Month Libor/3-Month Realized Vol)	0.03	0.11	0.06	0.00	0.25	0.19	0.02	0.31	0.10	0.17
Monetary Stance (Restrictive or Expansionary) <sup>1</sup>	Exp.	Exp.	Exp.	Exp.	Exp.	Exp.	Exp.	Res.	Exp.	Exp.
Fiscal Policy (Contractionary or Expansionary) <sup>2</sup>	Con.	Con.	Con.	Con.	Con.	Con.	Con.	Con.	Con.	Exp.
Current Account Balance (% of GDP)	-3.1	-0.5	-3.2	14.6	11.1	6.1	3.6	-2.7	-3.1	-3.7
REER Valuation <sup>3</sup>	-12.6%	-2.7%	-12.1%	19.6%	3.7%	2.6%	4.8%	22.6%	12.7%	8.8%
Distance from 10-Year Moving Average	-15.4%	0.2%	-16.1%	23.1%	3.4%	1.9%	33.2%	12.0%	12.2%	2.7%
Positioning (Z-Score)	3.1	-2.9	-3.2	-1.8	N/A	N/A	0.9	-2.0	-1.8	0.0
Sentiment (Trade-Weighted Risk Reversal Skew)	2.82	-2.23	1.12	-1.29	-1.29	-1.42	2.65	-4.84	-3.00	-4.13
<b>Ranking<sup>4</sup></b>	<b>5</b>	<b>5</b>	<b>8</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>9</b>	<b>5</b>

Source: Bloomberg

<sup>1</sup> The monetary stance is considered to be restrictive if the present level of the country's monetary conditions index is below the 10-year average and expansionary if above.

<sup>2</sup> Fiscal policy is considered to be contractionary if the International Monetary Fund's measure of the country's general government structural deficit is being reduced or if a surplus is rising. The opposite conditions are considered expansionary.

<sup>3</sup> The percent that the real effective exchange rate – a trade weighted measure of a currency adjusted for inflation – is above or below its 10-year moving average.

<sup>4</sup> A score is created by adding 1 for currency positive developments (the last interest rate move being up, a risk-adjusted yield that is above the average of the 10 currencies, a restrictive monetary stance, expansionary fiscal policy, a current-account surplus of more than 3 percent, an REER undervaluation of more than 20 percent, a distance of more than 20 percent below the 10-year moving average, a positive z-score on IMM positioning that is less than two, a negative z-score that is less than minus 2 and a positive risk reversal skew), and subtracting 1 for currency negative developments (the opposite of the above). The scores are then divided by 9 for all currencies except for NOK and SEK, which are divided by 8 to scale for the absence of IMM positioning data.

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## Positioning – Commitments of Traders Report

Contract Currency	Futures + Options*	Sentiment	1-Week Change	1-Year Average	Standard Deviation	Z-Score **	Previous Z-Score	Net Longs/Open Interest
EUR	-75,885	Bearish	-23,622	23,227	34,770	-2.9	-2.4	-0.30
JPY	44,785	Bullish	10,341	21,099	26,888	0.9	0.5	0.32
GBP	-59,097	Bearish	-33,304	4,918	19,891	-3.2	-1.8	-0.39
CHF	3,449	Bullish	-846	12,763	5,314	-1.8	-1.7	0.11
CAD	-5,029	Bearish	383	33,057	20,785	-1.8	-1.9	-0.04
AUD	24,245	Bullish	-13,437	58,490	16,706	-2.0	-1.3	0.28
NZD	13,565	Bullish	-4,099	13,819	6,367	0.0	0.6	0.61
MXN	-16,890	Bearish	-15,681	81,963	33,974	-2.9	-2.7	-0.22
Synthetic	***							
USD	22,924	Bullish	28,921	-116,449	44,574	3.1	2.6	0.05
EUR/JPY	-101,598	Bearish	-28,940	4,255	44,907	-2.4	-1.9	-
EUR/GBP	-55,686	Bearish	-15,077	19,986	28,520	-2.7	-2.3	-
EUR/CHF	-67,414	Bearish	-19,687	11,979	28,447	-2.8	-2.3	-
EUR/CAD	-62,453	Bearish	-20,520	4,001	26,336	-2.5	-1.9	-
EUR/AUD	-77,443	Bearish	-13,336	-9,301	26,105	-2.6	-2.3	-
EUR/NZD	-70,576	Bearish	-18,630	15,300	31,541	-2.7	-2.3	-
GBP/JPY	-9,300	Bearish	-5,230	813	3,194	-3.2	-1.8	-
GBP/CHF	-11,728	Bearish	-4,609	-8,007	3,776	-1.0	0.2	-
GBP/CAD	-6,767	Bearish	-5,442	-15,986	8,453	1.1	1.7	-
GBP/AUD	-21,757	Bearish	1,742	-29,287	8,285	0.9	0.6	-
GBP/NZD	-14,890	Bearish	-3,553	-4,686	4,800	-2.1	-1.5	-
CAD/CHF	-4,961	Bearish	833	7,979	9,306	-1.4	-1.5	-
CHF/JPY	-34,183	Bearish	-9,253	-7,724	22,069	-1.2	-0.8	-
CAD/JPY	-39,145	Bearish	-8,420	254	27,996	-1.4	-1.2	-
AUD/JPY	-24,155	Bearish	-15,604	13,556	26,393	-1.4	-0.9	-
AUD/CHF	10,029	Bullish	-6,351	21,280	8,021	-1.4	-0.6	-
AUD/CAD	14,990	Bullish	-7,184	13,301	9,436	0.2	1.0	-
AUD/NZD	6,867	Bullish	-5,294	24,601	9,970	-1.8	-1.2	-
NZD/JPY	-31,022	Bearish	-10,310	-11,045	19,717	-1.0	-0.5	-
NZD/CHF	3,162	Bullish	-1,057	-3,321	5,423	1.2	1.4	-
NZD/CAD	8,123	Bullish	-1,890	-11,299	12,462	1.6	1.8	-

Source: Bloomberg

\*The aggregate position of futures and options is more highly correlated with spot prices than the position in futures alone.

\*\*A z-score measures the number of standard deviations that the latest value lies from the average. The blue highlights show numbers less than 2; figures of 2 or higher are highlighted in orange.

\*\*\*Synthetic contracts for currency cross A/B are calculated as:  $((A*SA)/eA)-((B*SB)/eB)/200,000$ ; where A = Number of contracts in currency A; SA= Size of contract in currency A; eA = A/USD; B = Number of contracts in currency B; SB = Size of contract in currency B; eB = B/USD; 1 contract = \$200,000

## Sentiment – 25-Delta 1-Month Risk Reversals

Currency Cross	Risk-Reversal Skew	Present Sentiment	Z-Score*	Previous Week Risk-Reversal Skew	Previous Week Z-Score*
EUR/USD	-3.6	Bearish	-2.1	-3.0	-1.5
USD/JPY	-0.7	Bearish	0.1	-0.7	0.1
GBP/USD	-2.4	Bearish	-3.8	-2.0	-2.9
USD/CHF	2.8	Bullish	5.6	1.1	3.7
USD/NOK	2.8	Bullish	1.9	2.7	1.9
USD/SEK	2.8	Bullish	2.0	2.8	2.1
USD/CAD	3.3	Bullish	4.2	1.9	1.9
AUD/USD	-7.0	Bearish	-4.2	-5.2	-3.1
NZD/USD	-6.8	Bearish	-4.2	-5.0	-3.0
EUR/JPY	-6.0	Bearish	-3.0	-6.2	-3.5
EUR/GBP	-1.9	Bearish	-3.6	-1.6	-3.5
EUR/CHF	1.3	Bullish	3.0	-1.3	0.2
EUR/NOK	1.0	Bullish	0.7	0.3	-1.8
EUR/SEK	0.9	Bullish	0.4	0.2	-2.5
EUR/CAD	-1.1	Bearish	-1.6	-1.2	-1.7
EUR/AUD	1.5	Bullish	2.6	0.9	0.8
EUR/NZD	1.6	Bullish	3.1	0.7	0.3
GBP/JPY	-4.8	Bearish	-3.2	-4.8	-3.5
GBP/CHF	0.1	Bullish	2.4	-0.8	0.7
GBP/NOK	1.8	Bullish	2.1	1.7	2.0
GBP/SEK	1.8	Bullish	1.9	1.8	2.1
GBP/CAD	-1.4	Bearish	-3.1	-1.2	-2.6
GBP/AUD	1.9	Bullish	3.1	1.6	2.5
GBP/NZD	2.2	Bullish	3.3	1.7	2.3
NOK/SEK	0.0	Bearish	-0.4	0.3	1.3
CAD/CHF	-2.0	Bearish	-1.4	-2.0	-1.4
CHF/JPY	-3.8	Bearish	-4.9	-3.1	-4.5
CAD/JPY	-3.1	Bearish	-2.2	-2.8	-1.8
AUD/NOK	-1.2	Bearish	-2.9	-0.4	0.4
AUD/SEK	-1.2	Bearish	-3.0	-0.4	0.7
AUD/JPY	-7.7	Bearish	-3.9	-6.3	-3.2
AUD/CHF	-3.8	Bearish	-1.8	-2.4	-0.3
AUD/CAD	-1.4	Bearish	-3.0	-1.3	-2.8
AUD/NZD	-0.4	Bearish	-1.7	-0.4	-2.3
NZD/JPY	-7.2	Bearish	-4.0	-5.9	-3.4
NZD/CHF	-3.6	Bearish	-1.7	-2.2	-0.2
NZD/CAD	-1.0	Bearish	-1.8	-1.0	-1.8

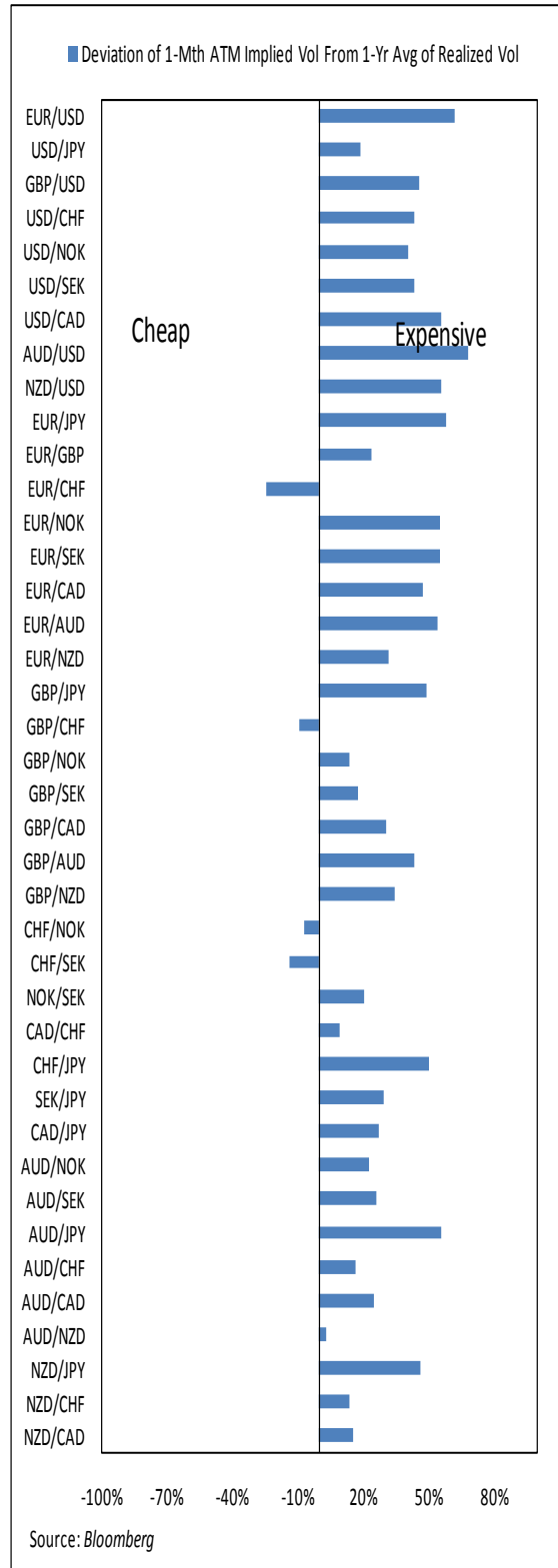
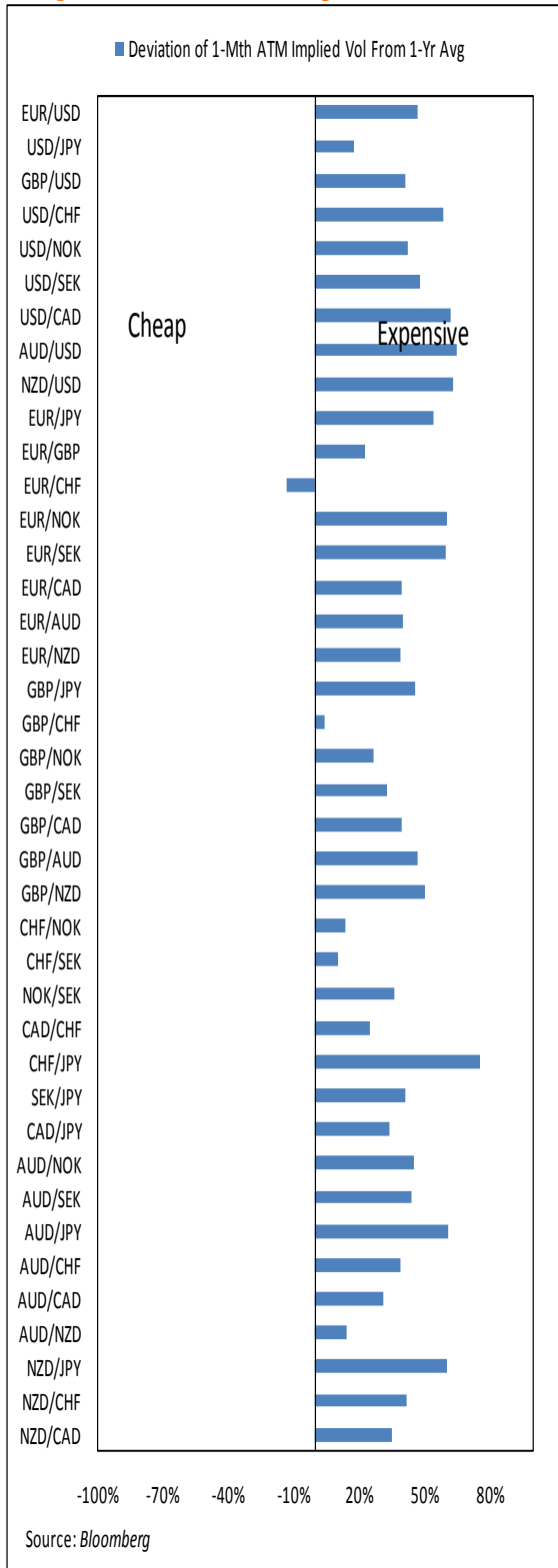
Market participants monitor risk reversals as a way to gauge whether they are collectively bearish or bullish on a currency. The number is derived by subtracting the price paid for a put (expressed in units of implied volatility) from the price of a call with the same delta and strike.

The sentiment column refers to the base currency (on the left) relative to the quote currency (on the right). For example, with EUR/USD, EUR is the base currency and USD is the quote currency.

Source: Bloomberg

\*The z-score measures the number of standard deviations that the latest value lies above or below the one-year average. The blue highlights show numbers less than -2; figures of 2 or higher are highlighted in orange.

### Implied Volatility Valuation



A way to assess whether implied volatility is correctly valued is to compare it to its one-year average or the one-year average of realized volatility. When implied volatility - the expected standard deviation of annualized returns on the currency pair – is below one or both of those one-year averages, it is considered cheap; when it is above, it is deemed expensive.



## Cross-Asset Correlations

Currency	Rate Spread*		S&P 500		Oil	
	1-Month	3-Month	1-Month	3-Month	1-Month	3-Month
EUR/USD	0.60	0.65	0.76	0.67	0.48	0.36
USD/JPY	0.05	0.04	-0.29	-0.17	-0.07	-0.10
GBP/USD	0.21	0.28	0.65	0.52	0.34	0.27
USD/CHF	-0.37	-0.06	-0.12	0.07	-0.07	0.15
USD/NOK	0.55	0.46	-0.64	-0.62	-0.55	-0.43
USD/SEK	0.59	0.45	-0.60	-0.63	-0.47	-0.43
USD/CAD	0.77	0.73	-0.81	-0.82	-0.77	-0.58
AUD/USD	0.77	0.71	0.79	0.81	0.72	0.60
NZD/USD	0.74	0.74	0.80	0.79	0.67	0.48
EUR/JPY	0.35	0.52	0.62	0.56	0.47	0.30
EUR/GBP	0.43	0.46	0.30	0.44	0.26	0.25
EUR/CHF	-0.27	0.30	0.13	0.36	0.09	0.31
EUR/NOK	0.28	0.23	-0.19	-0.19	-0.31	-0.27
EUR/SEK	0.29	0.04	-0.18	-0.33	-0.22	-0.34
EUR/CAD	0.25	0.33	-0.12	-0.17	-0.38	-0.27
EUR/AUD	0.58	0.52	-0.39	-0.42	-0.53	-0.45
EUR/NZD	0.50	0.44	-0.38	-0.48	-0.45	-0.33
GBP/JPY	-0.14	0.29	0.39	0.33	0.26	0.17
GBP/CHF	-0.29	0.01	0.05	0.24	0.02	0.24
GBP/NOK	0.55	0.48	-0.38	-0.46	-0.46	-0.39
GBP/SEK	0.54	0.38	-0.37	-0.53	-0.39	-0.42
GBP/CAD	0.39	0.44	-0.40	-0.52	-0.62	-0.46
GBP/AUD	0.74	0.72	-0.63	-0.69	-0.76	-0.59
GBP/NZD	0.56	0.61	-0.64	-0.73	-0.68	-0.47
NOK/CHF	-0.17	-0.03	0.17	0.37	0.17	0.35
SEK/CHF	-0.22	-0.02	0.18	0.42	0.16	0.37
NOK/SEK	0.31	0.34	-0.02	-0.23	0.07	-0.16
CAD/CHF	-0.45	0.13	0.15	0.40	0.19	0.38
CHF/JPY	-0.16	-0.12	0.06	-0.13	0.06	-0.20
NOK/CAD	0.33	0.30	0.11	0.02	0.01	0.01
SEK/CAD	0.38	0.20	0.09	0.16	-0.04	0.09
CAD/JPY	0.55	0.57	0.57	0.64	0.65	0.47
AUD/NOK	0.53	0.60	0.24	0.29	0.29	0.26
AUD/SEK	0.38	0.40	0.21	0.11	0.31	0.13
AUD/JPY	0.76	0.73	0.65	0.71	0.67	0.54
AUD/CHF	0.15	0.35	0.27	0.48	0.28	0.44
AUD/CAD	0.47	0.37	0.41	0.40	0.35	0.33
AUD/NZD	0.66	0.67	-0.03	-0.19	0.08	0.08
NZD/NOK	0.45	0.53	0.20	0.36	0.18	0.16
NZD/SEK	0.44	0.36	0.18	0.21	0.20	0.06
NZD/JPY	0.68	0.73	0.72	0.75	0.68	0.46
NZD/CHF	-0.14	0.25	0.28	0.52	0.26	0.41
NZD/CAD	0.22	0.26	0.39	0.46	0.24	0.20

\* The difference between two-year swap rates for the countries of the currency pair

Source: Bloomberg

The blue highlights show correlations of -0.5 or greater; correlations of 0.5 or higher are highlighted in orange. The correlations are calculated using percentage changes for the exchange rates, oil and the S&P 500 and first differences for interest-rate spreads to minimize the influence of outliers.

## Euro & Sovereign-Bond Spread Correlations

Daily Correlations	1-Month	3-Month
	EUR/USD	EUR/USD
2-Year Euro-Area - U.S. Swap Spread	0.60	0.65
S&P 500	0.76	0.67
Oil	0.48	0.36
Greek-German 2-Year Spread	-0.19	-0.16
Greek-German 5-Year Spread	-0.31	-0.29
Greek-German 10-Year Spread	-0.19	-0.20
Irish-German 2-Year Spread	-0.36	-0.15
Irish-German 5-Year Spread	-0.29	-0.19
Irish-German 10-Year Spread	-0.33	-0.31
Portuguese-German 2-Year Spread	-0.31	-0.29
Portuguese-German 5-Year Spread	-0.13	-0.12
Portuguese-German 10-Year Spread	-0.17	-0.25
Italian-German 2-Year Spread	-0.47	-0.48
Italian-German 5-Year Spread	-0.49	-0.48
Italian-German 10-Year Spread	-0.46	-0.49
Spanish-German 2-Year Spread	-0.46	-0.42
Spanish-German 5-Year Spread	-0.46	-0.45
Spanish-German 10-Year Spread	-0.46	-0.45
French-German 2-Year Spread	-0.21	-0.47
French-German 5-Year Spread	-0.29	-0.49
French-German 10-Year Spread	-0.22	-0.47

Daily Correlations	1-Month	3-Month
	EUR/JPY	EUR/JPY
2-Year Euro-Area - Japan Swap Spread	0.35	0.52
S&P 500	0.61	0.55
Oil	0.47	0.30
Greek-German 2-Year Spread	-0.29	-0.18
Greek-German 5-Year Spread	-0.39	-0.30
Greek-German 10-Year Spread	-0.34	-0.23
Irish-German 2-Year Spread	-0.18	-0.13
Irish-German 5-Year Spread	-0.24	-0.26
Irish-German 10-Year Spread	-0.35	-0.32
Portuguese-German 2-Year Spread	-0.27	-0.21
Portuguese-German 5-Year Spread	-0.02	-0.09
Portuguese-German 10-Year Spread	-0.20	-0.13
Italian-German 2-Year Spread	0.08	-0.32
Italian-German 5-Year Spread	0.10	-0.30
Italian-German 10-Year Spread	0.06	-0.31
Spanish-German 2-Year Spread	0.15	-0.27
Spanish-German 5-Year Spread	0.06	-0.30
Spanish-German 10-Year Spread	0.06	-0.29
French-German 2-Year Spread	-0.47	-0.50
French-German 5-Year Spread	-0.40	-0.47
French-German 10-Year Spread	-0.38	-0.49

Daily Correlations	1-Month	3-Month
	EUR/GBP	EUR/GBP
2-Year Euro-Area - U.K. Swap Spread	0.43	0.46
S&P 500	0.30	0.44
Oil	0.26	0.25
Greek-German 2-Year Spread	-0.11	-0.05
Greek-German 5-Year Spread	-0.21	-0.19
Greek-German 10-Year Spread	-0.03	-0.05
Irish-German 2-Year Spread	-0.29	-0.19
Irish-German 5-Year Spread	-0.21	-0.20
Irish-German 10-Year Spread	-0.32	-0.29
Portuguese-German 2-Year Spread	-0.34	-0.19
Portuguese-German 5-Year Spread	-0.16	-0.17
Portuguese-German 10-Year Spread	-0.23	-0.21
Italian-German 2-Year Spread	-0.45	-0.33
Italian-German 5-Year Spread	-0.45	-0.38
Italian-German 10-Year Spread	-0.46	-0.37
Spanish-German 2-Year Spread	-0.47	-0.36
Spanish-German 5-Year Spread	-0.44	-0.37
Spanish-German 10-Year Spread	-0.44	-0.35
French-German 2-Year Spread	-0.44	-0.23
French-German 5-Year Spread	-0.53	-0.23
French-German 10-Year Spread	-0.59	-0.35

Daily Correlations	1-Month	3-Month
	EUR/CHF	EUR/CHF
2-Year Euro-Area - Switzerland Swap Spread	-0.27	0.30
S&P 500	0.13	0.36
Oil	0.09	0.31
Greek-German 2-Year Spread	-0.04	-0.06
Greek-German 5-Year Spread	-0.05	-0.07
Greek-German 10-Year Spread	-0.04	-0.04
Irish-German 2-Year Spread	0.15	0.01
Irish-German 5-Year Spread	0.30	0.06
Irish-German 10-Year Spread	-0.16	-0.08
Portuguese-German 2-Year Spread	0.11	-0.02
Portuguese-German 5-Year Spread	0.29	0.11
Portuguese-German 10-Year Spread	0.04	-0.06
Italian-German 2-Year Spread	-0.48	-0.38
Italian-German 5-Year Spread	-0.47	-0.48
Italian-German 10-Year Spread	-0.33	-0.42
Spanish-German 2-Year Spread	-0.52	-0.48
Spanish-German 5-Year Spread	-0.44	-0.47
Spanish-German 10-Year Spread	-0.38	-0.42
French-German 2-Year Spread	-0.39	-0.31
French-German 5-Year Spread	-0.38	-0.44
French-German 10-Year Spread	-0.19	-0.33



Daily Correlations	1-Month	3-Month
	EUR/NOK	EUR/NOK
2-Year Euro-Area - Norway Swap Spread	0.29	0.23
S&P 500	-0.19	-0.19
Oil	-0.31	-0.27
Greek-German 2-Year Spread	0.38	0.28
Greek-German 5-Year Spread	0.35	0.24
Greek-German 10-Year Spread	0.54	0.42
Irish-German 2-Year Spread	0.00	0.05
Irish-German 5-Year Spread	0.08	0.03
Irish-German 10-Year Spread	0.19	0.08
Portuguese-German 2-Year Spread	0.03	0.06
Portuguese-German 5-Year Spread	-0.01	-0.08
Portuguese-German 10-Year Spread	0.07	0.00
Italian-German 2-Year Spread	-0.04	-0.08
Italian-German 5-Year Spread	-0.12	-0.11
Italian-German 10-Year Spread	0.01	-0.06
Spanish-German 2-Year Spread	-0.03	-0.05
Spanish-German 5-Year Spread	-0.03	-0.09
Spanish-German 10-Year Spread	-0.10	-0.13
French-German 2-Year Spread	-0.22	-0.13
French-German 5-Year Spread	-0.14	-0.17
French-German 10-Year Spread	0.15	-0.02

Daily Correlations	1-Month	3-Month
	EUR/SEK	EUR/SEK
2-Year Euro-Area - Sweden Swap Spread	0.29	0.04
S&P 500	-0.18	-0.33
Oil	-0.22	-0.34
Greek-German 2-Year Spread	0.31	0.25
Greek-German 5-Year Spread	0.15	0.16
Greek-German 10-Year Spread	0.44	0.36
Irish-German 2-Year Spread	0.11	0.06
Irish-German 5-Year Spread	0.29	0.11
Irish-German 10-Year Spread	0.30	0.18
Portuguese-German 2-Year Spread	-0.14	0.12
Portuguese-German 5-Year Spread	-0.05	-0.01
Portuguese-German 10-Year Spread	-0.05	0.13
Italian-German 2-Year Spread	-0.10	-0.15
Italian-German 5-Year Spread	0.27	-0.06
Italian-German 10-Year Spread	0.29	-0.08
Spanish-German 2-Year Spread	0.27	-0.17
Spanish-German 5-Year Spread	0.20	-0.17
Spanish-German 10-Year Spread	0.13	-0.14
French-German 2-Year Spread	0.03	-0.17
French-German 5-Year Spread	-0.01	-0.01
French-German 10-Year Spread	-0.06	-0.16

Daily Correlations	1-Month	3-Month
	EUR/AUD	EUR/AUD
2-Year Euro-Area - Australia Swap Spread	0.58	0.52
S&P 500	-0.39	-0.42
Oil	-0.53	-0.45
Greek-German 2-Year Spread	0.24	0.13
Greek-German 5-Year Spread	0.18	0.10
Greek-German 10-Year Spread	0.35	0.21
Irish-German 2-Year Spread	0.03	0.02
Irish-German 5-Year Spread	0.26	-0.04
Irish-German 10-Year Spread	0.16	-0.05
Portuguese-German 2-Year Spread	0.16	-0.06
Portuguese-German 5-Year Spread	0.29	-0.11
Portuguese-German 10-Year Spread	0.24	-0.05
Italian-German 2-Year Spread	-0.43	-0.43
Italian-German 5-Year Spread	-0.24	-0.44
Italian-German 10-Year Spread	-0.19	-0.43
Spanish-German 2-Year Spread	-0.36	-0.46
Spanish-German 5-Year Spread	-0.45	-0.46
Spanish-German 10-Year Spread	-0.38	-0.46
French-German 2-Year Spread	-0.24	-0.29
French-German 5-Year Spread	-0.32	-0.03
French-German 10-Year Spread	-0.38	-0.40

Daily Correlations	1-Month	3-Month
	EUR/NZD	EUR/NZD
2-Year Euro-Area - New Zealand Swap Spread	0.50	0.44
S&P 500	-0.38	-0.48
Oil	-0.45	-0.33
Greek-German 2-Year Spread	0.09	0.03
Greek-German 5-Year Spread	0.00	0.02
Greek-German 10-Year Spread	0.11	0.05
Irish-German 2-Year Spread	0.17	-0.09
Irish-German 5-Year Spread	0.24	-0.07
Irish-German 10-Year Spread	0.13	-0.09
Portuguese-German 2-Year Spread	0.26	-0.09
Portuguese-German 5-Year Spread	0.46	-0.16
Portuguese-German 10-Year Spread	0.39	-0.04
Italian-German 2-Year Spread	-0.49	-0.43
Italian-German 5-Year Spread	-0.64	-0.54
Italian-German 10-Year Spread	-0.66	-0.48
Spanish-German 2-Year Spread	-0.55	-0.45
Spanish-German 5-Year Spread	-0.61	-0.51
Spanish-German 10-Year Spread	-0.70	-0.46
French-German 2-Year Spread	-0.44	-0.34
French-German 5-Year Spread	-0.13	-0.18
French-German 10-Year Spread	-0.59	-0.36

Daily Correlations	1-Month	3-Month
	EUR/CAD	EUR/CAD
2-Year Euro-Area - Canada Swap Spread	0.25	0.34
S&P 500	-0.12	-0.17
Oil	-0.38	-0.27
Greek-German 2-Year Spread	0.03	-0.06
Greek-German 5-Year Spread	-0.21	-0.13
Greek-German 10-Year Spread	0.01	0.03
Irish-German 2-Year Spread	-0.19	0.02
Irish-German 5-Year Spread	0.02	0.09
Irish-German 10-Year Spread	0.03	0.12
Portuguese-German 2-Year Spread	0.02	-0.08
Portuguese-German 5-Year Spread	0.07	-0.02
Portuguese-German 10-Year Spread	0.11	0.04
Italian-German 2-Year Spread	0.08	-0.12
Italian-German 5-Year Spread	0.06	-0.17
Italian-German 10-Year Spread	0.07	-0.21
Spanish-German 2-Year Spread	-0.01	-0.24
Spanish-German 5-Year Spread	0.02	-0.15
Spanish-German 10-Year Spread	0.01	-0.23
French-German 2-Year Spread	0.02	-0.19
French-German 5-Year Spread	-0.05	0.10
French-German 10-Year Spread	-0.26	-0.22

The highlighted cells indicate the variable most highly correlated with the exchange rate. The color orange signals a positive correlation and a blue a negative correlation. The correlations are calculated using percentage changes for the exchange rates, oil and the S&P 500 and first differences for interest-rate spreads to minimize the influence of outliers.

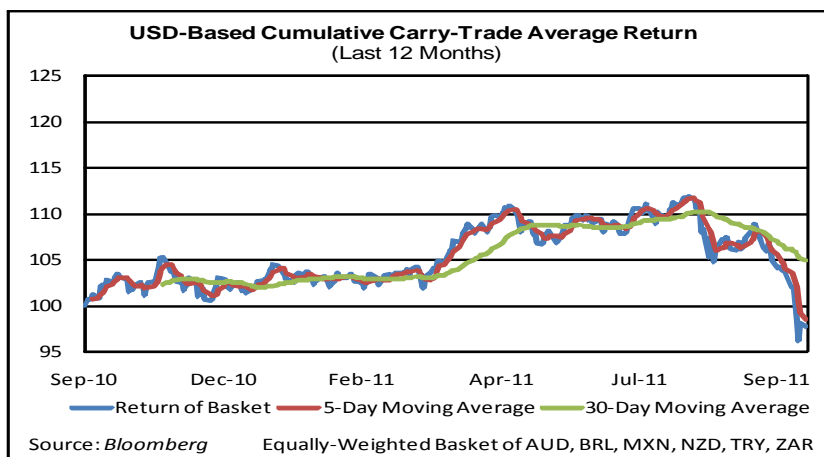


### Carry-Trade Tracker

USD-Based Carry-Trade Performance							Strategy:
Long Currency	AUD	BRL	MXN	NZD	TRY	ZAR	Average
Short Currency	USD	USD	USD	USD	USD	USD	
<b>Year-to-Date Return (Dec. 31, 2010-Sep. 26, 2011)</b>							
Spot Return	-4.8%	-9.4%	-9.0%	-0.9%	-16.7%	-18.6%	-9.9%
Interest Rate Return	3.5%	5.7%	2.4%	2.0%	5.4%	4.0%	3.8%
<b>Carry-Trade Return</b>	<b>-1.4%</b>	<b>-4.2%</b>	<b>-6.8%</b>	<b>1.1%</b>	<b>-12.2%</b>	<b>-15.5%</b>	<b>-6.5%</b>
<b>Risk/Return for the Last 12 Months (Sep. 26, 2010-Sep. 26, 2011)</b>							
Carry Trade Return	6.3%	0.7%	-4.3%	8.3%	-14.8%	-9.2%	-2.2%
<b>5-Day Average</b>							<b>-1.5%</b>
<b>30-Day Average</b>							<b>4.9%</b>
Standard Deviation	13.0%	13.5%	12.2%	14.4%	12.4%	16.3%	13.6%
Sharpe Ratio	0.49	0.05	-0.35	0.57	-1.19	-0.57	-0.17
Spot Return	1.4%	-6.7%	-7.3%	5.2%	-20.6%	-13.9%	-7.0%
Interest Rate Return	4.8%	7.9%	3.2%	2.8%	7.3%	5.5%	5.2%

FLAT\*

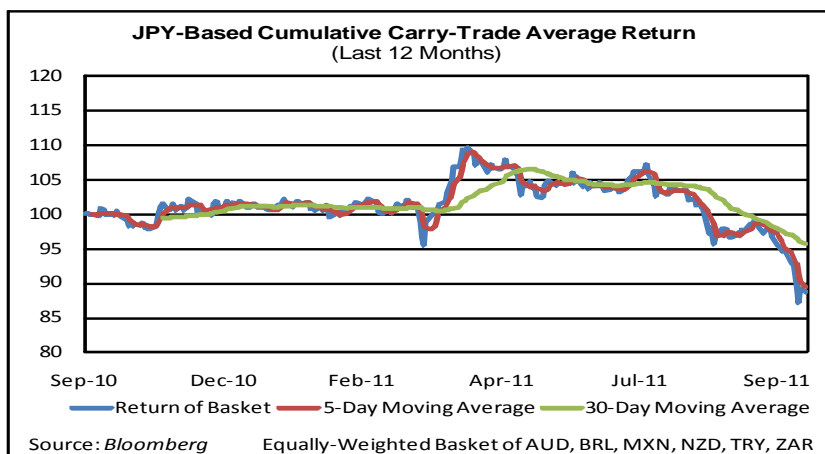
Source: Bloomberg FXCT <GO>



JPY-Based Carry-Trade Performance							Strategy:
Long Currency	AUD	BRL	MXN	NZD	TRY	ZAR	Average
Short Currency	JPY	JPY	JPY	JPY	JPY	JPY	
<b>Year-to-Date Return (Dec. 31, 2010-Sep. 26, 2011)</b>							
Spot Return	-10.4%	-14.7%	-14.4%	-6.7%	-21.7%	-23.4%	-15.2%
Interest Rate Return	3.6%	5.9%	2.5%	2.1%	5.5%	4.1%	3.9%
<b>Carry-Trade Return</b>	<b>-7.1%</b>	<b>-9.7%</b>	<b>-12.2%</b>	<b>-4.8%</b>	<b>-17.3%</b>	<b>-20.3%</b>	<b>-11.9%</b>
<b>Risk/Return for the Last 12 Months (Sep. 26, 2010-Sep. 26, 2011)</b>							
Carry Trade Return	-3.6%	-8.7%	-13.2%	-1.8%	-22.7%	-17.6%	-11.3%
<b>5-Day Average</b>							<b>-10.5%</b>
<b>30-Day Average</b>							<b>-4.3%</b>
Standard Deviation	14.1%	15.7%	15.3%	15.1%	14.7%	18.0%	15.5%
Sharpe Ratio	-0.25	-0.55	-0.86	-0.12	-1.55	-0.98	-0.72
Spot Return	-8.1%	-15.5%	-16.0%	-4.6%	-28.1%	-22.0%	-15.7%
Interest Rate Return	0.05	0.08	0.03	0.03	0.07	0.06	0.05

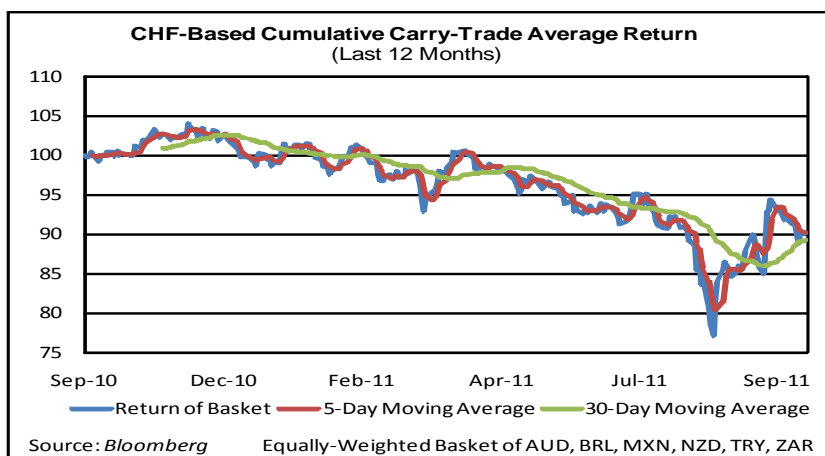
FLAT\*

Source: Bloomberg FXCT <GO>



CHF-Based Carry-Trade Performance							Strategy:	
Long Currency	AUD	BRL	MXN	NZD	TRY	ZAR	Average	LONG*
Short Currency	CHF	CHF	CHF	CHF	CHF	CHF		
Year-to-Date Return (Dec. 31, 2010-Sep. 26, 2011)								
Spot Return	-7.5%	-12.0%	-11.6%	-3.7%	-19.1%	-20.9%	-12.5%	
Interest Rate Return	3.6%	5.8%	2.4%	2.0%	5.5%	4.0%	3.9%	
<b>Carry-Trade Return</b>	<b>-4.2%</b>	<b>-6.9%</b>	<b>-9.4%</b>	<b>-1.7%</b>	<b>-14.7%</b>	<b>-17.8%</b>	<b>-9.1%</b>	
Risk/Return for the Last 12 Months (Sep. 26, 2010-Sep. 26, 2011)								
<b>Carry Trade Return</b>	<b>-1.9%</b>	<b>-7.1%</b>	<b>-11.7%</b>	<b>-0.1%</b>	<b>-21.4%</b>	<b>-16.2%</b>	<b>-9.7%</b>	
<b>5-Day Average</b>							<b>-9.7%</b>	
<b>30-Day Average</b>							<b>-10.6%</b>	
Standard Deviation	19.0%	19.4%	20.0%	20.1%	20.1%	21.3%	20.0%	
Sharpe Ratio	-0.10	-0.37	-0.59	0.00	-1.06	-0.76	-0.48	
Spot Return	-6.5%	-14.0%	-14.5%	-2.9%	-26.8%	-20.6%	-14.2%	
Interest Rate Return	4.9%	8.0%	3.2%	2.9%	7.4%	5.6%	5.3%	

Source: Bloomberg FXCT <GO>



\*The long/flat signal is provided by a moving-average crossover technical overlay rule. The investor goes “long” the carry-trade basket when the five-day moving average of the cumulative returns is above the 30-day moving average, and then closes that position and goes “flat” when the five-day moving average falls below the 30-day moving average. See: Rosenberg, Michael R., Bloomberg FX Market Insights, July 8, 2009. FXMI <GO>

## Valuation – Purchasing Power Parity

Currency	Current	PPP	Valuation	10-Year MA	Valuation
EUR/USD	1.3456	1.2734	5.7%	1.2661	6.3%
USD/JPY	76.34	85.23	-10.4%	107.02	-28.7%
GBP/USD	1.5497	1.7571	-11.8%	1.7174	-9.8%
USD/CHF	0.9084	1.1572	-21.5%	1.2132	-25.1%
USD/NOK	5.8331	6.2886	-7.2%	6.4921	-10.2%
USD/SEK	6.8818	6.2292	10.5%	7.5693	-9.1%
USD/CAD	1.0304	0.9942	3.6%	1.2065	-14.6%
AUD/USD	0.9756	0.7596	28.4%	0.7755	25.8%
NZD/USD	0.7737	0.6107	26.7%	0.657	17.8%
EUR/JPY	102.73	106.38	-3.4%	134	-23.3%
EUR/GBP	0.8683	0.7103	22.2%	0.7401	17.3%
EUR/CHF	1.2224	1.4443	-15.4%	1.5072	-18.9%
EUR/NOK	7.8489	7.8490	0.0%	8.081	-2.9%
EUR/SEK	9.2602	8.2880	11.7%	9.4127	-1.6%
EUR/CAD	1.3866	1.2409	11.7%	1.4986	-7.5%
EUR/AUD	1.3793	1.6431	-16.1%	1.65229	-16.5%
EUR/NZD	1.7392	2.0438	-14.9%	1.9428	-10.5%
GBP/JPY	118.31	149.75	-21.0%	184.32	-35.8%
GBP/CHF	1.4077	2.0326	-30.7%	2.0754	-32.2%
GBP/NOK	9.0389	11.0495	-18.2%	11.0598	-18.3%
GBP/SEK	10.6644	10.3036	3.5%	12.8663	-17.1%
GBP/CAD	1.5969	1.7469	-8.6%	2.0575	-22.4%
GBP/AUD	1.5884	2.3132	-31.3%	2.2744	-30.2%
GBP/NZD	2.003	2.8773	-30.4%	2.661	-24.7%
CHF/NOK	6.4212	5.4344	18.2%	5.3876	19.2%
CHF/SEK	7.5754	6.2319	21.6%	6.2787	20.7%
NOK/SEK	1.1798	0.9811	20.2%	1.1656	1.2%
CAD/CHF	0.8815	1.1639	-24.3%	1.0081	-12.6%
CHF/JPY	84.05	73.65	14.1%	88.75	-5.3%
NOK/CAD	0.1767	0.1581	11.8%	0.1856	-4.8%
SEK/CAD	0.1498	0.2048	-26.9%	0.1595	-6.1%
SEK/JPY	11.09	10.44	6.3%	14.28	-22.3%
CAD/JPY	74.08	85.73	-13.6%	89.62	-17.3%
AUD/NOK	5.6903	4.7770	19.1%	4.9234	15.6%
AUD/SEK	6.7136	4.3001	56.1%	5.7331	17.1%
AUD/JPY	74.48	64.74	15.0%	81.51	-8.6%
AUD/CHF	0.8862	0.8790	0.8%	0.9157	-3.2%
AUD/CAD	1.0053	0.7552	33.1%	0.9104	10.4%
AUD/NZD	1.261	1.2439	1.4%	1.1787	7.0%
NZD/NOK	4.5127	3.8402	17.5%	4.1845	7.8%
NZD/SEK	5.3243	3.7063	43.7%	4.8667	9.4%
NZD/JPY	59.066	52.05	13.5%	69.463	-15.0%
NZD/CHF	0.7028	0.7067	-0.5%	0.7801	-9.9%
NZD/CAD	0.7973	0.6071	31.3%	0.7748	2.9%

Source: Bloomberg

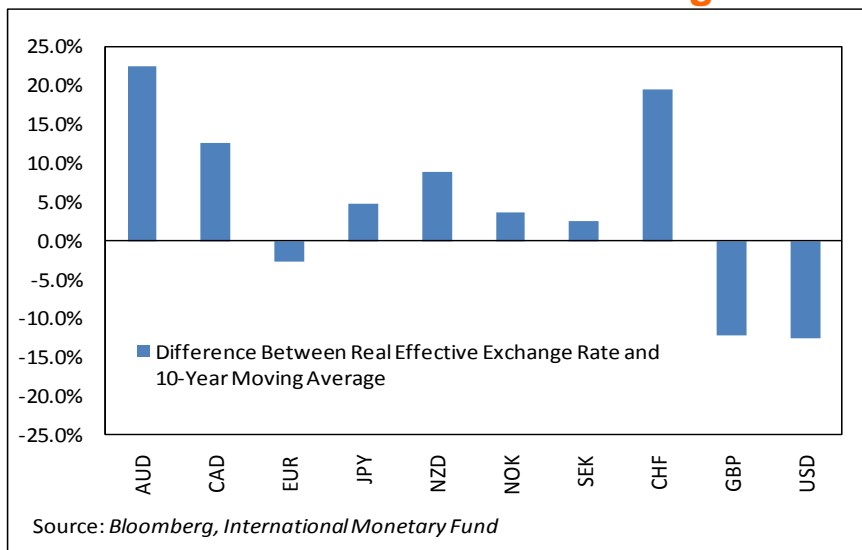
The blue highlights show undervaluations of less than -20 percent; overvaluations of 20 percent or higher are highlighted in orange.

Purchasing-power-parity models calculate equilibrium exchange rates, based on the theory that the long-term exchange rate is determined by the ratio of prices between two countries. A higher (lower) level of inflation in one country relative to another will lead to a weaker (stronger) currency.

These PPP calculations use June 1991 as a base period because global imbalances (the sum of the absolute value of the current-account deficits and surpluses, as percentages of gross domestic product, of Australia, Canada, Germany, Japan, Norway, Switzerland, the U.K. and the U.S.) were smaller at that time than during any other quarter since data for those countries has been available. That suggests exchange rates in the G-10 were closest to their equilibrium values in the second quarter of 1991.

The problem of choosing the correct base period can be circumvented by using a 10-year moving average of the exchange rate as an equilibrium rate. Academic studies have shown that most deviations from the level implied by PPP should be removed over the course of 10 years. The average value during this period should act as an anchor.

## Valuation – Real Effective Exchange Rates



For the currencies of developed economies, real effective exchange rates (the trade-weighted exchange rate adjusted for inflation) tend to revert to a long-term mean, such as the ten-year moving average. Deviations from that average are considered by economists to represent over- or undervaluation.

## Fiscal and Monetary Policy Mix

	Structural Budget Balance (% of Potential GDP)		Fiscal Conditions	Monetary Conditions
	2010	2011	2011	2011*
Australia	-4.40%	-2.45%	Contractionary	-0.69%
Canada	-3.40%	-1.95%	Contractionary	-2.11%
Euro Area	-4.55%	-3.57%	Contractionary	-1.39%
Japan	-7.55%	-7.18%	Contractionary	0.06%
New Zealand	-1.98%	-3.28%	Expansionary	-9.42%
Norway	-6.95%	-6.36%	Contractionary	-0.27%
Sweden	-0.35%	0.82%	Contractionary	0.23%
Switzerland	-0.30%	-0.20%	Contractionary	-0.40%
U.K.	-7.93%	-6.20%	Contractionary	-3.40%
U.S.	-7.99%	-7.06%	Contractionary	-2.87%

Orange = currency positive; blue = currency negative

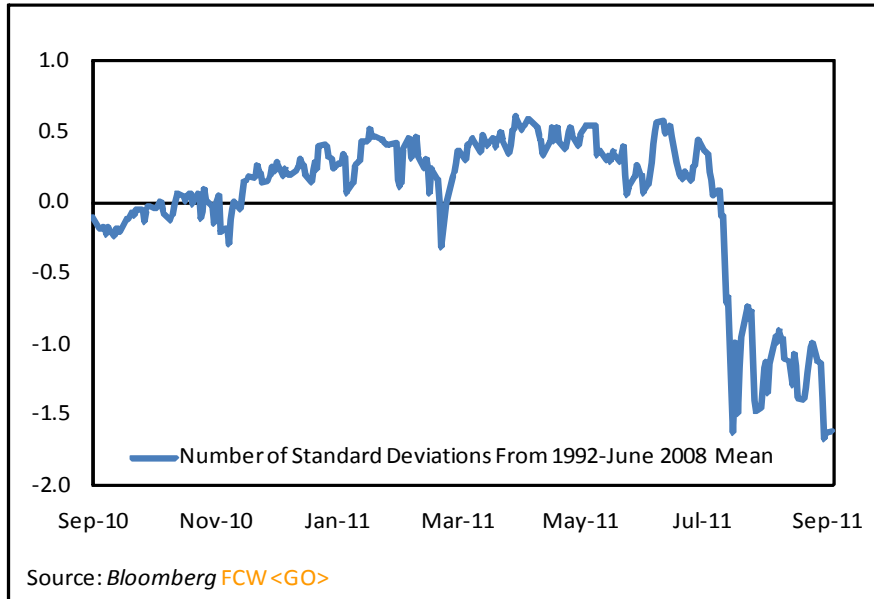
\*Percent difference between level of the index and the 10-year average; positive = expansionary, negative = restrictive

Source: Bloomberg, International Monetary Fund

The most positive combination for a currency is restrictive monetary policy and expansionary fiscal conditions, and the most negative mix is expansionary monetary policy and restrictive fiscal conditions. The effects of other combinations (such as expansionary monetary policy and expansionary fiscal policy) are ambiguous because they have offsetting effects.

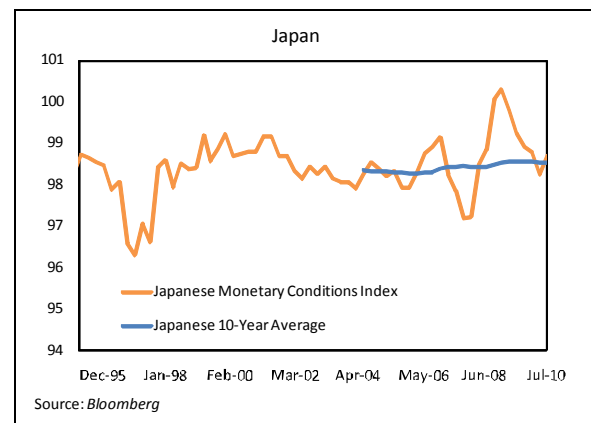
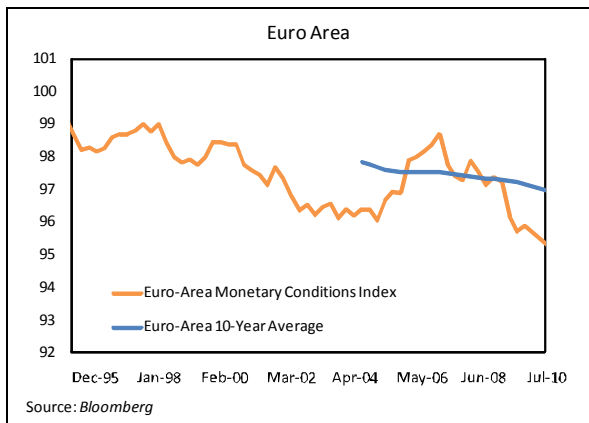
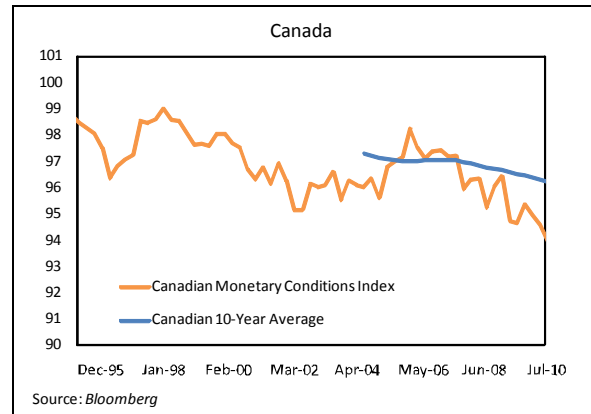
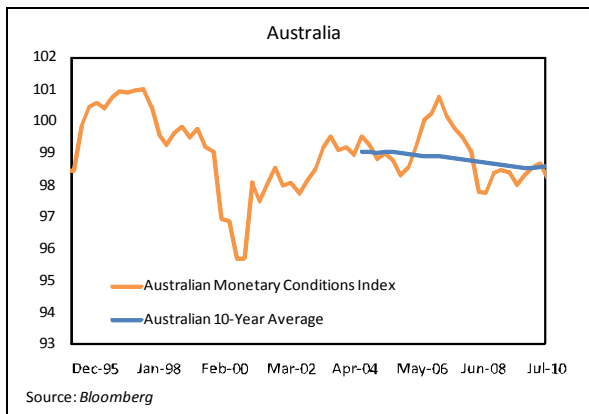


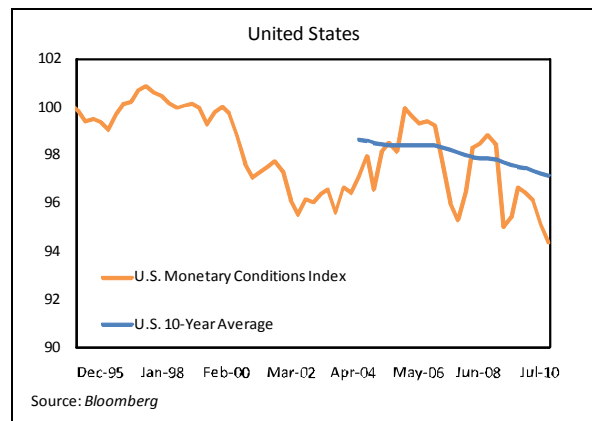
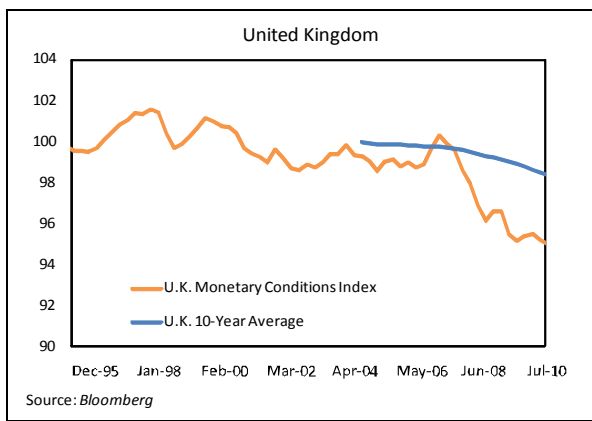
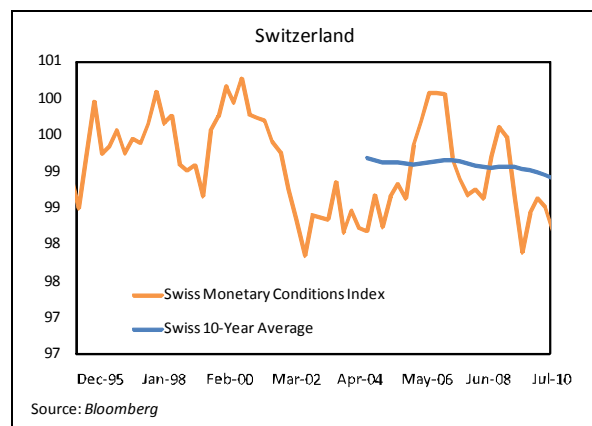
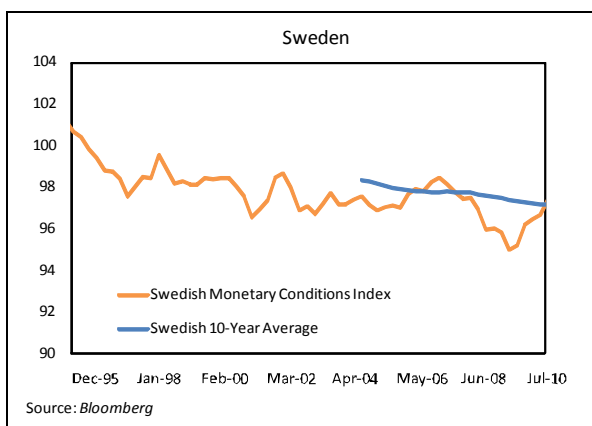
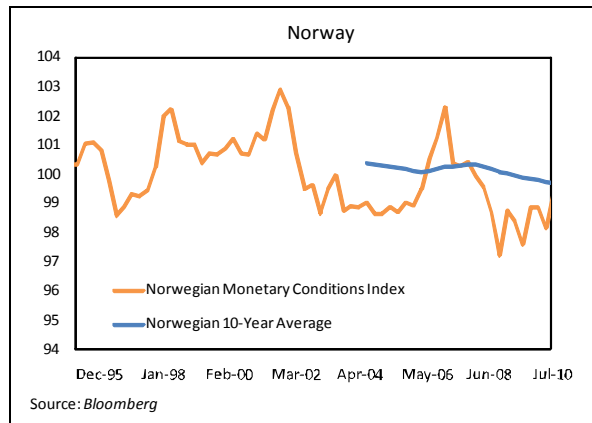
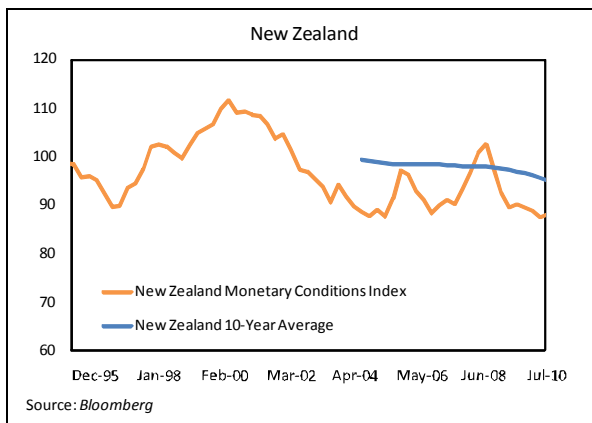
## U.S. Financial Conditions Index



The Bloomberg Financial Conditions Index combines yield spreads and indexes from the bond market, equity market, and money markets into a normalized index. A full explanation of the methodology can be found in Bloomberg's 'Financial Conditions Watch' by typing FCW<GO>.

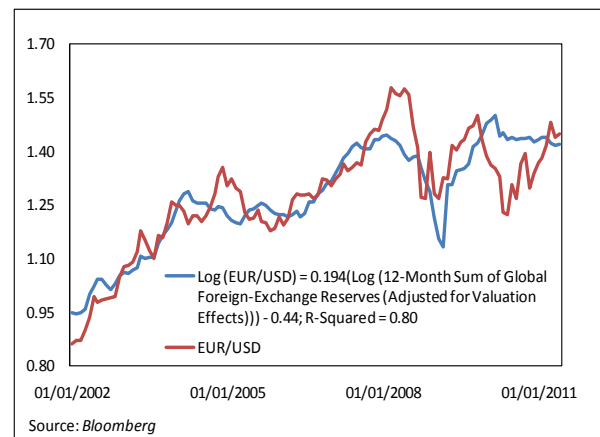
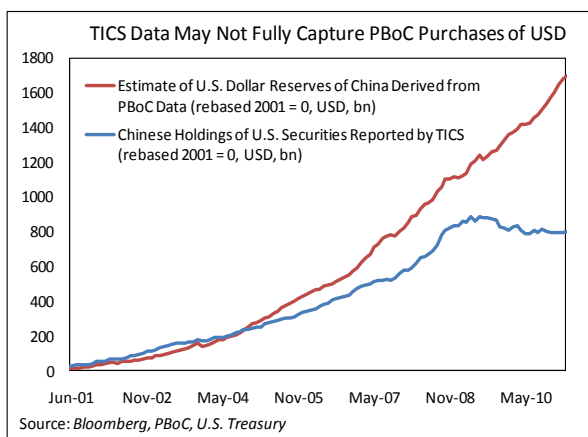
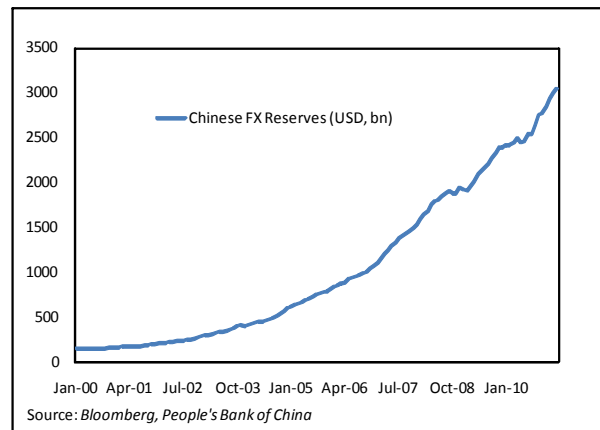
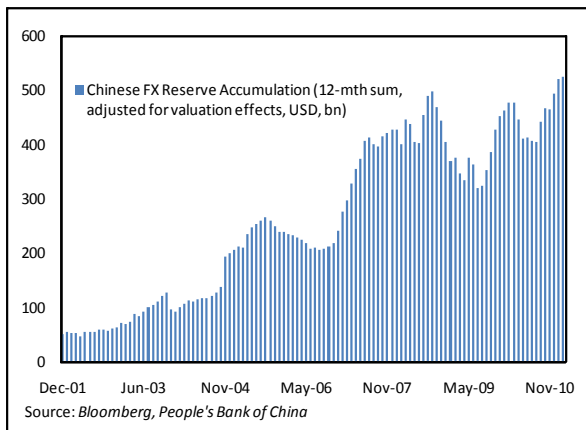
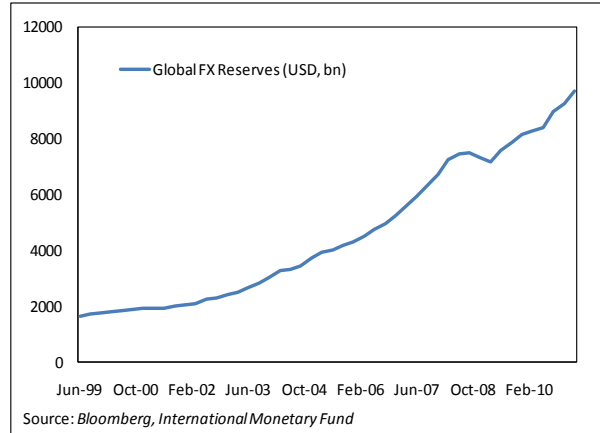
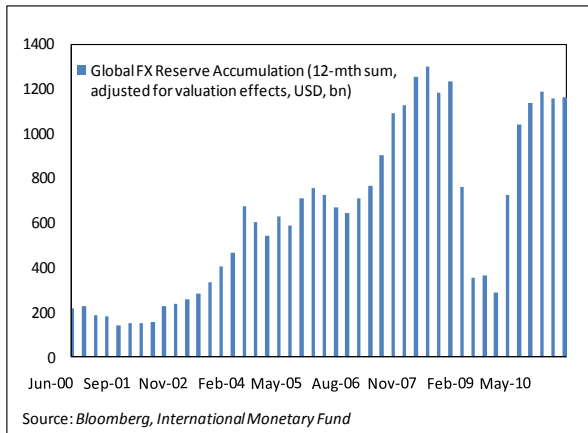
## Monetary Conditions Indexes

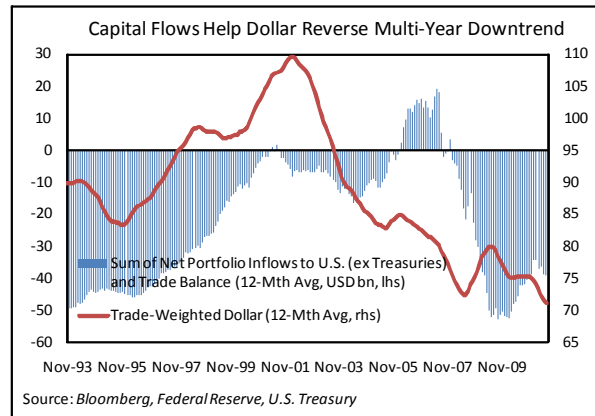
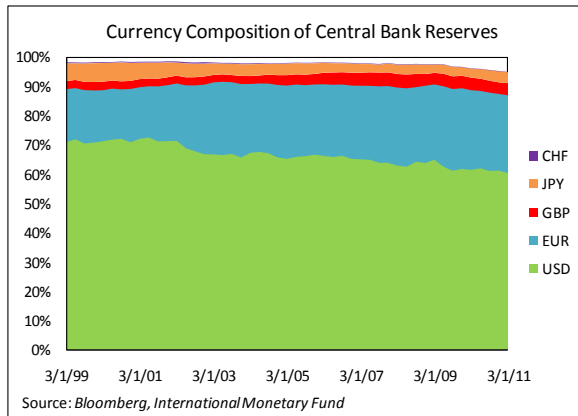




The Monetary Conditions Indexes have been created by measuring the changes in the real three-month interest rate and the real effective exchange rate. Each component is weighted by the openness of the economy to imports and exports. Mathematically, the indexes are expressed as  $MCI_1 = \alpha(r_t - r_0) + \beta((e_t/e_0) - 1) + 100$ , where:  $r$  is the three-month interest rate deflated by the consumer price index;  $e$  is the real effective exchange rate as calculated by the International Monetary Fund;  $\beta = ((\text{imports plus exports})/2)/\text{nominal GDP}$ ;  $\alpha = 1 - \beta$ ; the base period is the first quarter of 1995. The exchange- and interest-rate weightings are created using the framework proposed by Adrien Verdelhan in "Construction d'un indicateur des conditions monétaires pour la zone euro", Bulletin de la Banque de France, no. 58, October 1998.

## Global Foreign-Exchange Reserve Monitor





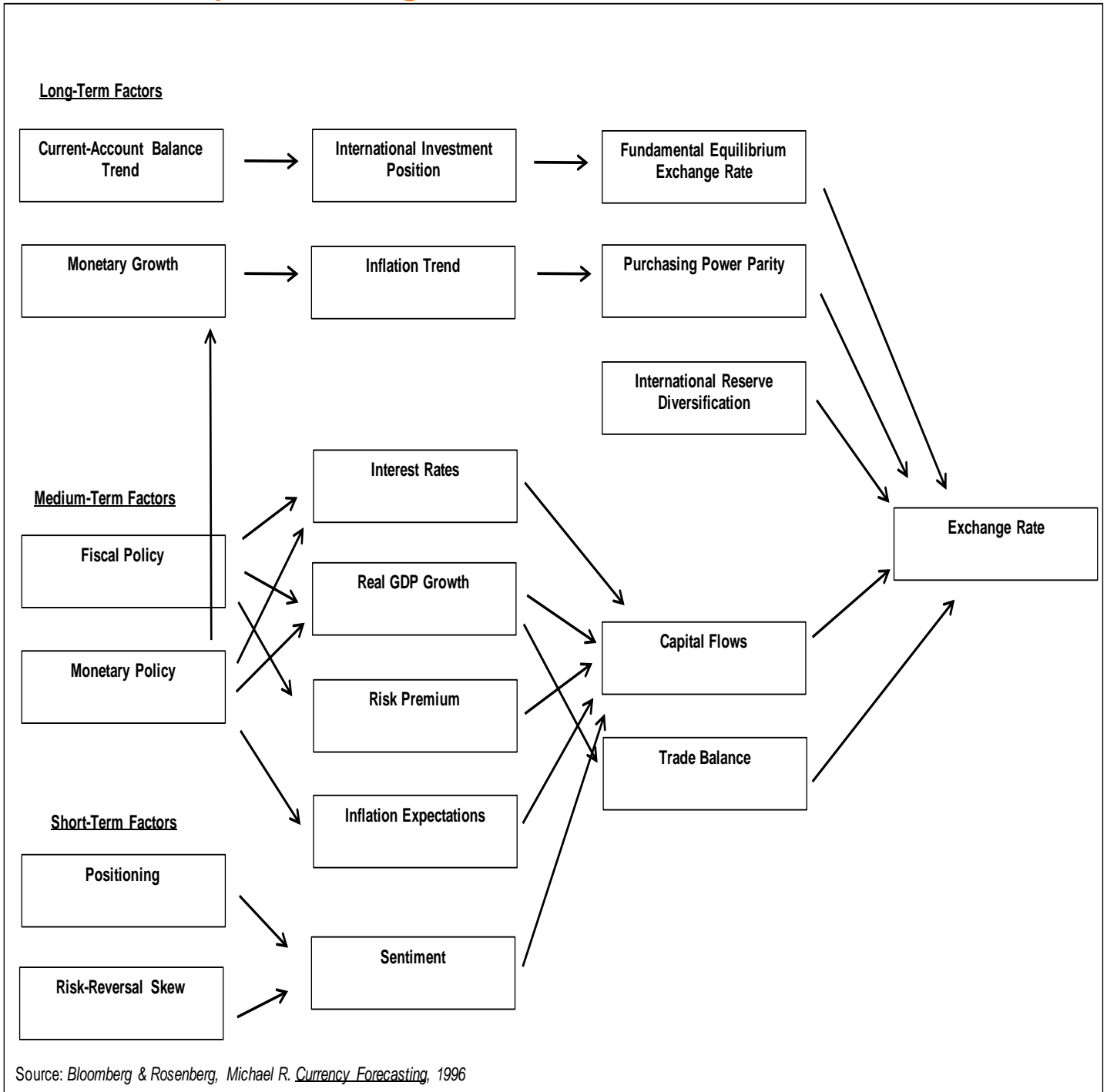
### Seasonality - Average Monthly Return from 2000-2010

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
EUR/USD	-1.6%	0.0%	0.2%	0.3%	0.3%	0.4%	0.3%	-0.6%	1.3%	-0.7%	0.7%	2.6%
USD/JPY	0.2%	0.6%	0.2%	0.6%	-0.7%	0.2%	0.2%	-1.7%	-0.3%	-0.9%	-0.5%	0.5%
GBP/USD	0.0%	-1.0%	-0.4%	0.9%	0.2%	0.9%	0.5%	-1.3%	0.6%	-0.1%	-0.6%	0.3%
USD/CHF	1.8%	-0.2%	-0.3%	0.2%	-0.3%	-0.8%	0.0%	0.2%	-1.3%	0.3%	-0.9%	-2.8%
USD/NOK	-0.2%	-0.4%	-1.4%	-0.1%	0.4%	-0.7%	0.7%	-1.3%	1.0%	0.2%	-1.7%	0.0%
USD/SEK	1.6%	0.3%	-0.3%	-1.1%	0.1%	0.2%	-0.5%	0.7%	-1.2%	1.2%	-0.4%	-2.1%
USD/CAD	0.3%	0.1%	-0.2%	-1.0%	-1.7%	0.3%	0.1%	-0.2%	-1.2%	0.5%	0.3%	-0.2%
AUD/USD	-0.5%	0.6%	-0.2%	1.7%	0.4%	0.7%	0.2%	-0.9%	0.6%	0.2%	0.4%	1.7%
NZD/USD	-1.1%	0.1%	0.1%	0.9%	0.6%	0.4%	-0.4%	-0.1%	0.7%	0.2%	0.9%	2.5%
EUR/JPY	-1.5%	0.6%	0.3%	0.8%	-0.4%	0.7%	0.5%	-2.3%	1.0%	-1.5%	0.2%	3.0%
EUR/GBP	-1.6%	1.0%	0.6%	-0.6%	0.2%	-0.5%	-0.2%	0.7%	0.8%	-0.6%	1.3%	2.3%
EUR/CHF	0.0%	-0.2%	-0.1%	0.4%	-0.1%	-0.4%	0.3%	-0.5%	-0.1%	-0.4%	-0.3%	-0.4%
EUR/NOK	-0.4%	-0.2%	-0.3%	-1.3%	0.1%	0.8%	-0.5%	0.0%	-0.1%	0.2%	0.8%	0.8%
EUR/SEK	-0.1%	0.3%	-0.2%	-0.9%	0.2%	0.6%	-0.3%	0.0%	0.0%	0.4%	0.2%	0.3%
EUR/CAD	-1.3%	0.1%	0.0%	-0.8%	-1.5%	0.7%	0.4%	-0.8%	0.1%	-0.3%	1.0%	2.3%
EUR/AUD	-1.1%	-0.5%	0.5%	-1.4%	0.0%	-0.2%	0.1%	0.2%	0.9%	-0.7%	0.3%	0.9%
EUR/NZD	-0.4%	-0.1%	0.3%	-0.6%	-0.1%	0.0%	0.7%	-0.4%	0.8%	-0.8%	-0.1%	0.1%
GBP/JPY	0.1%	-0.4%	-0.2%	1.5%	-0.6%	1.2%	0.6%	-3.0%	0.2%	-1.0%	-1.1%	0.9%
GBP/CHF	1.7%	-1.2%	-0.7%	1.0%	-0.2%	0.1%	0.5%	-1.2%	-0.8%	0.2%	-1.5%	-2.4%
GBP/NOK	1.3%	-1.2%	-0.8%	-0.6%	0.0%	1.3%	-0.3%	-0.7%	-0.7%	0.8%	-0.5%	-1.3%
GBP/SEK	1.6%	-0.7%	-0.7%	-0.2%	0.1%	1.1%	-0.1%	-0.7%	-0.7%	1.0%	-1.0%	-1.8%
GBP/CAD	0.3%	-0.9%	-0.6%	-0.2%	-1.6%	1.2%	0.6%	-1.5%	-0.6%	0.3%	-0.4%	0.1%
GBP/AUD	0.6%	-1.5%	0.0%	-0.8%	-0.1%	0.3%	0.3%	-0.4%	0.3%	-0.1%	-1.0%	-1.2%
GBP/NZD	1.3%	-1.1%	-0.2%	0.1%	-0.3%	0.6%	0.3%	-1.1%	0.1%	-0.2%	-1.4%	-2.0%
NOK/CHF	0.4%	-0.1%	0.2%	1.7%	-0.3%	-1.2%	0.8%	-0.4%	0.0%	-0.6%	-1.0%	-1.1%
SEK/CHF	-0.1%	-0.4%	0.1%	1.3%	-0.3%	-1.0%	0.6%	-0.5%	0.0%	-0.8%	-0.5%	-0.5%
NOK/SEK	0.4%	0.4%	0.2%	0.4%	0.1%	-0.1%	0.2%	0.0%	0.1%	0.2%	-0.6%	-0.4%
CAD/CHF	1.4%	-0.3%	0.0%	1.3%	1.5%	-1.0%	0.0%	0.4%	-0.1%	0.0%	-1.1%	-2.6%
CHF/JPY	-1.5%	0.9%	0.5%	0.4%	-0.3%	1.2%	0.2%	-1.8%	1.1%	-1.1%	0.5%	3.5%
NOK/CAD	-0.9%	0.2%	0.3%	0.5%	-1.6%	0.0%	0.9%	-0.8%	0.2%	-0.4%	0.2%	1.5%
SEK/CAD	-1.2%	-0.1%	0.2%	0.0%	-1.7%	0.2%	0.7%	-0.8%	0.1%	-0.8%	0.8%	1.9%
CAD/JPY	-0.3%	0.6%	0.4%	1.8%	0.9%	0.1%	0.4%	-1.8%	1.1%	-1.3%	-0.6%	0.9%
AUD/NOK	0.6%	0.5%	-0.7%	0.1%	0.3%	1.0%	-0.5%	-0.3%	-0.7%	0.8%	0.5%	0.0%
AUD/SEK	0.8%	0.9%	-0.5%	0.6%	0.4%	0.8%	-0.4%	-0.2%	-0.8%	1.1%	-0.1%	-0.3%
AUD/JPY	-0.4%	1.2%	-0.1%	2.3%	-0.3%	1.0%	0.4%	-2.6%	0.2%	-0.6%	-0.1%	2.2%
AUD/CHF	1.1%	0.3%	-0.6%	1.9%	0.0%	-0.1%	0.1%	-0.7%	-0.8%	0.4%	-0.5%	-1.3%
AUD/CAD	-0.2%	0.7%	-0.5%	0.6%	-1.5%	1.0%	0.2%	-1.0%	-0.7%	0.5%	0.6%	1.4%
AUD/NZD	0.8%	0.5%	-0.2%	0.8%	-0.1%	0.4%	0.5%	-0.7%	0.0%	-0.2%	-0.2%	-0.9%
NZD/NOK	0.0%	0.1%	-0.3%	-0.8%	0.3%	0.9%	-1.1%	0.5%	-0.7%	0.9%	0.9%	0.8%
NZD/SEK	-0.1%	0.7%	-0.2%	-0.3%	0.6%	0.4%	-0.9%	0.6%	-0.7%	1.3%	0.1%	0.5%
NZD/JPY	-1.0%	0.7%	0.2%	1.4%	-0.2%	0.6%	-0.2%	-1.8%	0.3%	-0.7%	0.4%	3.0%
NZD/CHF	0.4%	-0.2%	-0.3%	1.1%	0.1%	-0.4%	-0.4%	0.0%	-0.7%	0.5%	-0.2%	-0.4%
NZD/CAD	-0.9%	0.2%	-0.2%	-0.1%	-1.3%	0.6%	-0.3%	-0.1%	-0.8%	0.7%	1.0%	2.2%

Source: Bloomberg SEAG <GO>

The blue highlights show numbers less than -1.5 percent; figures of 1.5 percent or higher are highlighted in orange.

## Roadmap to Exchange-Rate Determination



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