# Bloomberg

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# FX MARKET INSIGHTS

# A Review of Global Macro Themes & Currency Investment Strategies

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# The Euro's Long-Term Cycles



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#### **Overview**

#### Is the Euro Embarking on a New Long-Term Cycle of Currency Weakness?

Historically, the euro-dollar exchange rate has tended to move within long-term cycles of appreciation or depreciation, and has exhibited a tendency to overshoot its purchasing power parity (PPP) value by rather large amounts at the cyclical peaks and troughs. In a typical long-term cycle, the euro has risen or fallen for about 5-8 years with PPP overshoots of (plus or minus) 20% before reversing the trend.

Figure 1 highlights the persistent nature of these long-term upswings and downswings. As shown (using a synthetic euro derived from the European legacy currencies prior to 1999), the euro slid sharply between 1980 and 1985, then rose sharply until the ERM crisis in the fall of 1992. The euro then embarked on an eight-year downtrend, reaching a cyclical trough of 0.83 in the fall of 2000. The euro then trended higher over the next eight years, peaking at a record high of 1.60 in July 2008.

The euro is now two years into what might be another long-term downtrend. If the historical pattern of long-term swings were to continue, we might see the euro gripped in a major bear-market cycle for the next 3-5 years; one that could conceivably take the euro into deeply undervalued territory versus the dollar.

As shown in Figure 2, one of the defining characteristics of the euro's long-term cycles has been the tendency for the euro's value to overshoot its PPP value by rather large amounts at both the cyclical peaks and troughs. For example, the euro overshot to the downside versus the dollar in 1985, with the level of PPP undervaluation exceeding 50%. The euro's rise versus the dollar over the next seven-plus years drove the euro into overvalued territory to the tune of 25%. The euro's subsequent eight-year decline versus the dollar resulted in a 30% undershoot of its PPP value at its cyclical trough in 2000. The euro's advance over the 2000-08 period pushed the euro into overvalued territory to the tune of 30% at the cyclical peak in July 2008.

Since then, the euro has erased nearly two-thirds of its peak level of overvaluation, and if the euro conforms to the historical pattern of moving in long-term swings, the euro's current PPP overvaluation should be completely erased in the coming year. Taking this one step further, one would then expect to see the euro eventually falling into undervalued territory, perhaps in the second half of 2011 or 2012.

Figure 1
Long-Term Cycles in the Euro-Dollar Exchange Rate
(1975-2010)



Source: Bloomberg

Figure 2

Euro PPP Over/Undervaluation
(1975-2010)



Source: Bloomberg

Although the fundamental forces driving the euro in each of its major upswings or downswings have differed, it has been the thrust of the policy response to those fundamentals that has determined the euro's direction in each of those cycles. During the euro's slide over the 1992-2000 period, structural rigidities in the Euro-area's labor and product markets contributed to significantly weaker GDP growth in the Euro-area relative to the U.S. (see Figure 3). Indeed, U.S. productivity growth soared relative to that of the Euro-area beginning in the mid-1990s (see Figure 4) and that was one of the principal driving forces pushing the euro lower during that period (see Figure 5).

Relatively tight fiscal policies in the Euro-area in the 1990s also exerted downward pressure on the euro during that period (see Figure 6). European governments attempted to rein in budgetary imbalances in order to satisfy Maastricht Treaty criteria in the run-up to monetary union (EMU), and in response, central banks in the Euro-area felt compelled to pursue aggressively accommodative monetary policies to offset the negative effects of fiscal consolidation.

Figure 3
U.S. and German Real GDP Growth
(1996-2000)

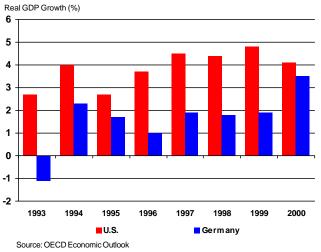


Figure 4
U.S. and Euro-Area Productivity Growth
(1991-2001)

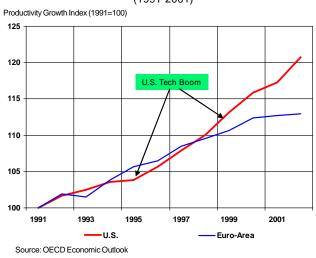


Figure 5

Euro-Area/U.S. Productivity Ratio and the Euro
(1987-2001)

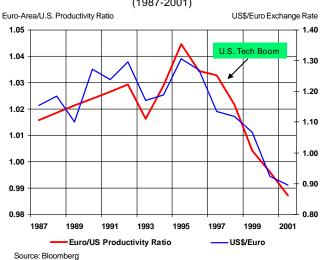
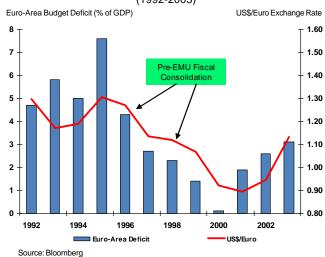


Figure 6

Euro-Area Budget Deficit and the Euro
(1992-2003)



As a result, real short-term interest rates in the Euroarea drifted lower over much of the 1990s, which contributed to the long-term decline in the euro's value (see Figure 7). Thus, Europe's overall fiscal/monetary policy mix acted as a drag on the euro's value (see Figure 8).

A strong case can be made that history might be repeating itself in the present period. Euro-area growth is once again lagging significantly behind the U.S., fiscal positions in the Euro-area are being tightened (particularly among the Euro-area periphery), and the ECB is pursuing an aggressively easy monetary policy stance, hoping to prevent Euro-area growth from slipping into negative territory. Just like in 1992-2000, this lethal (for a currency) policy mix is once again exerting downward pressure on the euro's value.

Figure 7

Euro-Area Real Short-Term Interest Rates and the Euro
(1992-2000)



Figure 9

U.S. Current Account as a Percent of GDP

GP
EHCAUS NY 31MAR10 00:00 MID: -2.68 Percent

GP - Line Chart Page 1/6
Range 03/31/70 03/31/10 Upper Mid Line Mov. Avgs

Period Quarterly Events

-1.00 -2.00

-2.68 -3.00

-3.00

-4.00

-5.00

-6.00

-70-74 75-79 180-184 185-189 190-194 195-199 100-104 105-109 1

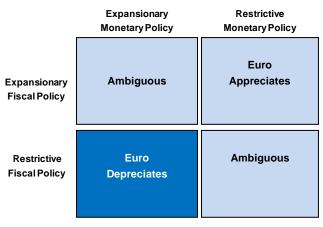
Australia Si 2 3777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7800 Germany 49 63 9204 1210 Hong Kong 852 2377 6000 Singapore 65 6212 1000 U.S. 1 212 318 2000 Singapore 65 6212 1000 U.S. 1 212 318 2000 Singapore 65 6212 1000 Singapore 65 6212 Singapore 65 621

Part of the euro's problems today can be traced to the outsized gains that it enjoyed versus the dollar over the 2000-08 period. The euro-dollar exchange rate rose from a low of 0.83 in October 2000 to a high of 1.60 in April 2008, which represented a 30% overvaluation versus the dollar at the euro's peak. Such an extreme reading made the euro ripe for a corrective downside move.

For the most part, the rise in the euro-dollar exchangerate during the 2000-08 period was more a dollar than a euro phenomenon, as several U.S.-centric forces were at work driving the dollar lower. For example, the U.S. current-account deficit widened to a record high of 6.1% (see Figure 9). Given that current-account imbalances of that magnitude are widely considered to be unsustainable, the market responded by driving the dollar sharply lower to help correct the U.S. current-account shortfall.

Figure 8

Euro-Area 1992-2000 Monetary/Fiscal Policy Mix and Its Effect on the Euro



Source: Bloomberg

In addition, the U.S. experienced persistently low or negative real short-term interest rates—which are generally negative for a currency—over much of the 2000-08 period (see Figure 10) as Federal Reserve policy was extremely accommodative. Indeed, for much of the 2000-08 period, the Fed Funds rate setting was significantly below its prescribed Taylor Rule level (see Figure 11).

Furthermore, the U.S. was at the epicenter of the 2007-09 Global Financial Crisis and the dollar was heavily sold as a result, particularly in the early stages of the crisis. With the dollar heavily oversold in the summer of 2008, the euro found itself in the precarious position of being 30% overvalued versus the dollar.

Figure 10



Figure 11

Taylor Rule Estimates of the Fed Funds Rate
(1990-2010)

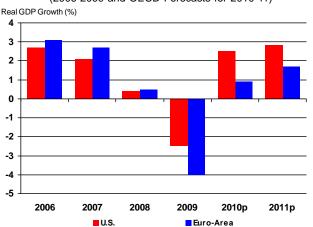


The corrective move in the euro-dollar exchange rate since its July 2008 peak has already erased roughly two-thirds of the euro's peak PPP overvaluation. We estimate that the euro is still overvalued by around 9%-10% versus the dollar and we think a strong case can be made for a further corrective slide in the euro's value, not just to our euro-dollar PPP estimate of 1.12, but to perhaps 10%-20% below fair value. We base this on several criteria.

First, Euro-area GDP growth is once again lagging considerably behind the U.S. and is expected to remain so well into the future. As Figure 12 shows, the Euro-area economy contracted more than the U.S. in 2009, despite the central role of the U.S. in the financial crisis. Furthermore, the U.S. is recovering at a faster pace than the Euro-area in 2010 and consensus forecasts are calling for a continuation of that pattern into 2011.

Figure 12

U.S. and Euro-Area Real GDP Growth
(2006-2009 and OECD Forecasts for 2010-11)



Source: OECD Economic Outlook

Second, a weaker euro could help sustain Euro-area growth in an environment of moderating global growth. There are signs that world growth might be at risk of decelerating in the near future and that could undermine European exports, which have been the principal driver of Euro-area growth. Indeed, the OECD's leading economic indicators for China and Brazil suggest that their growth cycles might be peaking (see Figures 13-14), and the recent slippage in the Economic Cycle Research Institute's weekly leading economic index suggests that U.S. growth might slow in the months ahead as well (see Figure 15).

Third, while it remains the case that on an aggregate basis the euro is presently overvalued by 9%-10%, a case could be made that a number of Euro-area members might be suffering a greater loss in competitiveness than the 9%-10% PPP overvaluation estimate suggests. As Figure 16 shows, based on relative unit labor costs, Greece, Spain, Portugal, and Ireland are considerably less competitive than Germany and France.

Fourth, euro weakness might be needed to support growth at a time when Euro-area fiscal consolidation will likely be restricting growth. Euro-area member countries, particularly in the periphery, are currently under pressure to bring their budgetary balances closer to sustainable levels.

Figure 13

OECD Leading Economic Indicator for China
(1990-2010)



Source: Bloomberg

Figure 15

ECRI Leading Economic Indicator for the U.S.

(1990-2010)



Source: Bloomberg

Figure 14

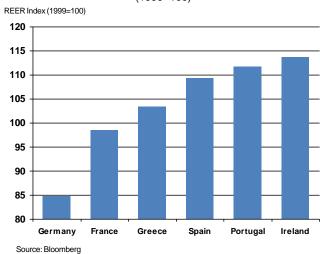
OECD Leading Economic Indicator for Brazil
(1990-2010)



Source: Bloomberg

Figure 16

Euro-Member Real Effective Exchange Rates
(1999=100)



Fifth, although long-term interest rates are presently quite low in Germany, they are actually quite high in the case of Greece, Ireland, Portugal, and Spain (see Figure 17). Those relatively high yields reflect the credit risk associated with the sovereign debt of the Euro-area periphery. Since high long-term interest rates in those countries will act as a drag on GDP growth, a weaker euro would help to offset that drag.

Finally, the Euro-area faces significant tail-risk looking forward. While both ECB and consensus economic forecasts call for positive Euro-area GDP growth in the future, the distribution of possible Euro-area economic outcomes has a fat negative tail, reflecting the economic and financial risks facing the global economy, and in particular, the Euro-area recovery.

Mohammed El-Erian of PIMCO likens the situation facing Europe and the global economy as similar to driving a car without a spare tire. Applying this analogy, global policymakers used their spare tire (massive fiscal stimulus and near-zero interest rates) in 2008 and 2009 to deal with the economic and financial crisis during that period. Unfortunately, the road ahead still appears to be rocky, but this time around there's no spare in the trunk if the world economy gets another flat!

On the policy front, the Euro-area appears to be operating with far fewer degrees of freedom than the U.S. at the present time. GDP growth in the U.S. is running considerably faster than the Euro-area, plus the market appears especially concerned by the deterioration in the credit quality of peripheral Euro-area sovereign debt instruments. The wide level in credit default swap spreads, despite the recent EU/IMF package, is evidence of such concern (see Figure 18).

Overall, the current sluggish pace of Euro-area growth, the relatively tight-fiscal/easy-monetary policy mix currently being pursued in Europe, the rising risk premium associated with Euro-area assets, and a still overvalued euro are eerily reminiscent of the fundamental forces that helped contribute to a weaker euro over the 1992-2000 period. It would thus appear that the ducks are lining up for a repeat performance that could see the euro decline on a trend basis in the coming years.

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Figure 17

Euro-Member Long-Term Interest Rates
(10-Year Government Bond Yields)

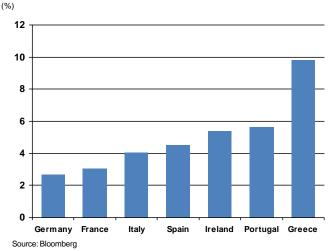
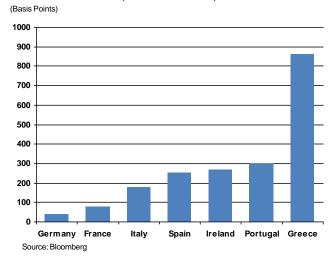


Figure 18

Euro-Member Credit Default Swap Rates
(5-Year CDS Rates)



# **U.S. Economic Outlook**

U.S. Economic Indicator May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Apr-10 May-10

Real GDP (qoq % saar)		-0.7			2.2			5.6			2.7		
Consumer Price Index (yoy %)	-1.3	-1.4	-2.1	-1.5	-1.3	-0.2	1.8	2.7	2.6	2.1	2.3	2.2	2.0
Core CPI (yoy %)	1.8	1.7	1.5	1.4	1.5	1.7	1.7	1.8	1.6	1.3	1.1	0.9	0.9
Producer Price Index (yoy %)	-4.8	-4.4	-6.9	-4.4	-4.9	-2.0	2.2	4.3	4.5	4.4	6.0	5.5	5.3
Unemployment Rate (%)	9.4	9.5	9.4	9.7	9.8	10.1	10.0	10.0	9.7	9.7	9.7	9.9	9.7
Industrial Production (yoy %)	-1.1	-0.5	1.2	1.2	0.6	0.2	0.7	0.7	1.1	-0.1	0.3	0.7	1.2
Leading Indicator (yoy %)	-1.9	-1.3	0.9	2.2	3.4	4.9	6.7	8.0	8.9	9.9	11.6	10.4	9.2
Purchasing Managers Index	43.2	45.3	49.1	52.8	52.4	55.2	53.7	54.9	58.4	56.5	59.6	60.4	59.7
Housing Starts (000)	550.0	583.0	587.0	585.0	586.0	529.0	589.0	576.0	612.0	605.0	634.0	659.0	593.0
Retail Sales (yoy %)	0.7	1.2	0.1	2.1	-2.2	1.5	1.6	0.1	0.3	0.6	2.1	0.6	-1.2
Consumer Confidence	54.8	49.3	47.4	54.5	53.4	48.7	50.6	53.6	56.5	46.4	52.3	57.7	63.3
Personal Income (yoy %)	-1.7	-2.6	-2.3	-2.3	-2.3	-2.0	-1.4	-0.6	1.0	1.9	2.8	2.5	
Trade Balance (US\$ bn)	-24.9	-27.1	-33.1	-31.1	-35.2	-32.3	-35.3	-37.1	-35.1	-40.1	-40.0	-40.3	
Gov't Surplus/Deficit (% of GDP	) -7.9	-8.8	-9.3	-9.3	-10.0	-10.1	-10.1	-10.3	-10.2	-10.3	-9.4	-9.8	0.0
M2 Money Supply (yoy %)	8.8	9.0	8.2	8.1	7.1	6.0	5.8	3.7	2.2	2.4	1.4	1.6	1.7

#### U.S. Real GDP Growth

(Quarter-over-Quarter Seasonally Adjusted Annualized Rate)



GDP CQOQ Index GP <go>

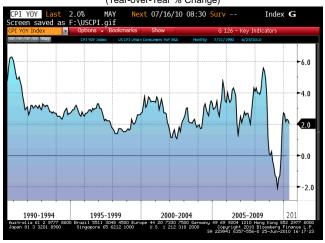
# U.S. Unemployment Rate



USURTOT Index GP <go>

#### **U.S. Consumer Price Inflation Rate**

(Year-over-Year % Change)



CPI YOY Index GP<go>

#### **U.S. Current-Account Balance**

(% of GDP)



EHCAUS Index GP<go>

## U.S. Dollar at a Glance

#### **U.S. Dollar Index** (DXY Index)



DXY Index GP <go>

#### U.S. Dollar PPP % Over/Undervaluation

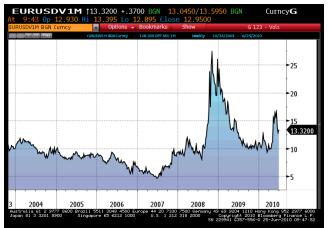
(Based on Bloomberg's Long-Term Averaging Methodology)



.PPPUSD G Index GP <go>

#### **Euro-Dollar Implied Volatility**

(One-Month Implied Volatility)



EURUSDV1M BGN Index GP <go>

#### **U.S. Short-Term Interest Rate**

(Three-Month Deposit Rate)



USDRC BDSR Curncy GP <go>

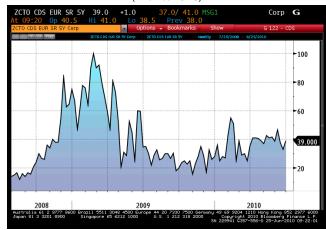
#### **U.S. Cumulative Carry Return**

(Long-Dollar/Short-Euro Carry Return)



USDEURCR Index GP<go>

#### **U.S. Credit Default Swap Spread**



ZCTO CDS EUR SR 5Y MSG1 Curncy GP<go>

#### **Euro-Area Economic Outlook**

Euro-Area Economic IndicatorsMay-09Jun-09Jul-09Aug-09 Sep-09 Oct-09 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Apr-10 May-10

Real GDP (yoy %)		-4.9			-4.1			-2.1			0.6		
Consumer Price Index (yoy %)	0.0	-0.1	-0.7	-0.2	-0.3	-0.1	0.5	0.9	1.0	0.9	1.4	1.5	1.6
Core CPI (yoy %)	1.5	1.4	1.3	1.3	1.2	1.2	1.0	1.1	0.9	0.9	1.0	0.8	0.8
Producer Price Index (yoy %)	-5.9	-6.5	-8.4	-7.5	-7.6	-6.6	-4.4	-2.9	-1.0	-0.4	0.9	2.8	
Unemployment Rate (%)	9.3	9.4	9.6	9.7	9.8	9.8	9.8	9.9	9.9	10.0	10.0	10.1	
Industrial Production (yoy %)	-18.1	-17.0	-15.9	-15.1	-12.8	-11.3	-7.0	-4.0	1.7	4.1	7.8	9.6	
Leading Indicator (yoy %)	-8.0	-5.8	-3.3	-0.7	1.9	4.4	6.6	8.2	9.2	9.5	9.1	8.2	
Business Confidence Index	-3.2	-2.9	-2.6	-2.0	-1.8	-1.5	-1.2	-0.8	-0.7	-0.5	-0.2	0.3	0.3
Retail Sales (yoy %)	-3.4	-2.2	-1.6	-2.2	-3.0	-1.1	-2.1	0.1	-0.7	0.1	1.6	-1.8	
Consumer Confidence Index	-28.2	-25.1	-23.1	-22.1	-19.1	-17.7	-17.3	-16.1	-15.8	-17.4	-17.3	-15.0	-17.8
Consumer Credit (yoy %)	632.3	639.1	636.0	631.2	631.8	630.0	628.9	632.3	624.1	619.8	619.8	621.6	
Trade Balance (EUR bn, sa)	1995.0	1971.1	4693.5	418.6	680.3	3456.4	3608.7	2953.4	863.4	2422.8	-26.0	1396.8	
M2 Money Supply (yoy %)	5.1	4.9	4.6	4.4	3.5	2.4	1.8	1.6	1.9	1.6	1.4	1.3	

#### **Euro-Area Real GDP Growth**

(Year-over-Year % Change)



EUGNEMUY Index GP <go>

# Euro-Area Unemployment Rate



UMRTEMU Index GP <go>

#### **Euro-Area Consumer Price Inflation Rate**

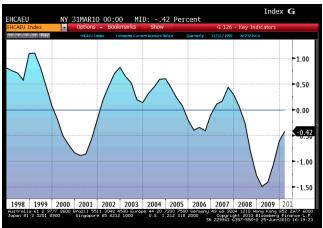
(Year-over-Year % Change)



ECCPEMUY Index GP<go>

#### **Euro-Area Current-Account Balance**

(% of GDP)



EHCAEU Index GP<go>

#### **Euro at a Glance**

#### U.S. Dollar/Euro Exchange Rate

(Spot Rate)



#### DXY Index GP <go>

#### **Euro PPP % Over/Undervaluation**

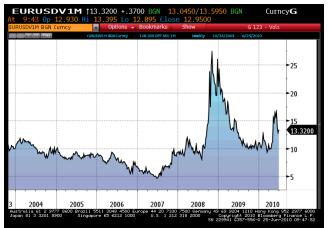
(Based on Bloomberg's Long-Term Averaging Methodology)



.PPPEUR G Index GP <go>

#### **Euro Implied Volatility**

(One-Month Implied Volatility)



EURUSDV1M BGN Index GP <go>

#### **Euro Short-Term Interest Rate**

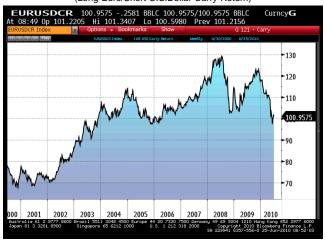
(Three-Month Deposit Rate)



.USDRC BDSR Curncy GP <go>

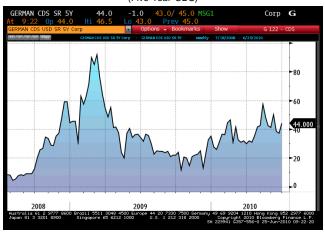
#### **Euro Cumulative Carry Return**

(Long-Euro/Short-U.S.Dollar Carry Return)



USDEURCR Index GP<go>

#### **Germany Credit Default Swap Spread**



ZCTO CDS EUR SR 5Y MSG1 Curncy GP<go>

# **Japan Economic Outlook**

Japan Economic Indicators May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Apr-10 May-10

Real GDP (yoy %)		-5.7			-5.2			-1.1			4.6		
Consumer Price Index (yoy %)	-0.8	-1.5	-1.8	-1.7	-2.1	-2.4	-2.2	-2.2	-2.1	-1.8	-1.7	-1.5	-1.4
Core CPI (yoy %)	-0.7	-1.3	-1.7	-1.9	-2.1	-2.2	-1.9	-1.9	-2.0	-1.8	-1.8	-1.9	-1.5
Producer Price Index (yoy %)	-3.1	-3.3	-3.6	-3.8	-3.5	-2.6	-2.3	-1.6	-1.3	-1.3	-1.2	-1.1	-0.8
Unemployment Rate (%)	5.1	5.3	5.6	5.4	5.3	5.2	5.3	5.2	4.9	4.9	5.0	5.1	
Industrial Production (yoy %)	-29.0	-22.5	-22.3	-18.3	-17.5	-14.4	-2.9	6.4	18.9	31.3	31.8	25.9	
Leading Indicator (yoy %)	-13.1	-11.8	-10.1	-8.0	-5.6	-2.8	0.3	3.3	5.9	7.9	8.9	9.1	
Business Confidence Index	34.1	38.0	41.1	41.8	43.5	43.4	43.0	40.4	41.3	42.3	45.8	46.8	46.7
Retail Sales (yoy %)	-2.7	-2.4	-1.8	-1.8	-1.3	-1.0	-1.1	-0.2	2.3	4.2	4.7	4.9	
Consumer Confidence Index	36.3	38.1	39.7	40.4	40.7	40.8	39.9	37.9	39.4	40.0	41.0	42.1	42.7
Overall Household Spending (yo	oy %)0.3	0.2	-2.0	2.6	1.0	1.6	2.2	2.1	1.7	-0.5	4.4	-0.7	
Trade Balance (EUR bn, sa)	239.8	412.1	328.6	383.3	375.2	599.2	529.1	603.1	638.8	558.1	700.6	507.7	416.1
M2+CD Money Supply (yoy %)	2.7	2.5	2.7	2.8	3.0	3.4	3.3	3.1	3.0	2.7	2.7	2.9	3.1

#### Japan Real GDP Growth

(Year-over-Year % Change)



JGDPNSAQ Index GP <go>

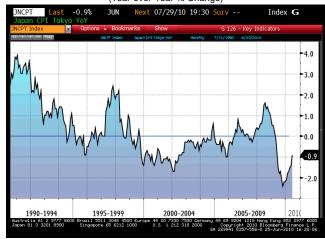
# Japan Unemployment Rate



JNUE Index GP <go>

#### **Japan Consumer Price Inflation Rate**

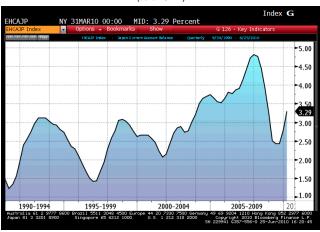
(Year-over-Year % Change)



JNCPT Index GP<go>

#### **Japan Current-Account Balance**

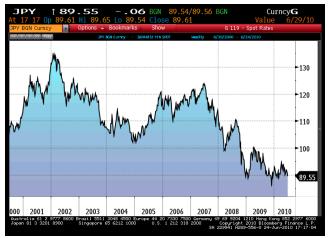
(% of GDP)



EHCAJP Index GP<go>

# Japanese Yen at a Glance

#### Japanese Yen/U.S. Dollar Exchange Rate (Spot Rate)



JPY Curncy GP <go>

#### Japanese Yen PPP % Over/Undervaluation

(Based on Bloomberg's Long-Term Averaging Methodology)



.PPPJPY G Index GP <go>

#### Yen Implied Volatility

(One-Month Implied Volatility)



USDJPYV1M BGN Index GP <go>

#### Japan Short-Term Interest Rate

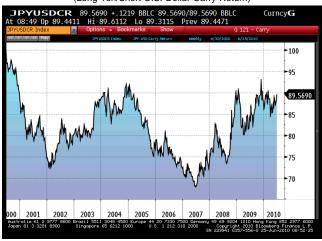
(Three-Month Deposit Rate)



JYDRC BDSR Curncy GP <go>

#### **Japanese Yen Cumulative Carry Return**

(Long-Yen/Short-U.S. Dollar Carry Return)



JPYUSDCR Index GP<go>

#### **Japan Credit Default Swap Spread**



JGB CDS USD SR 5Y Corp GP<go>

# **U.K. Economic Outlook**

U.K. Economic Indicators May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Apr-10 May-10

Real GDP (qoq % saar)		-5.9			-5.3			-3.1			-0.2		
Retail Price Index (yoy %)	-1.1	-1.6	-1.4	-1.3	-1.4	-0.8	0.3	2.4	3.7	3.7	4.4	5.3	5.1
Core RPI (yoy %)	1.6	1.0	1.2	1.4	1.3	1.9	2.7	3.8	4.6	4.2	4.8	5.4	5.1
Producer Price Index (yoy %)	-8.8	-12.0	-12.2	-7.7	-6.2	0.5	4.2	7.4	7.7	7.7	10.5	13.1	11.2
Unemployment Rate (%)	7.6	7.8	7.9	7.9	7.8	7.9	7.8	7.8	7.8	8.0	8.0	7.9	
Industrial Production (yoy %)	-12.5	-11.0	-9.8	-12.1	-11.0	-8.5	-5.9	-3.5	-1.6	0.1	2.6	2.1	
Leading Indicator (yoy %)	-7.1	-5.1	-2.8	-0.4	2.0	4.1	5.8	6.9	7.6	7.8	7.5	6.6	
Economic Sentiment Index	73.6	75.9	79.8	87.7	88.1	91.3	88.9	95.0	98.2	98.3	100.9	101.7	102.4
Mortgage Approvals (000)	46.5	50.5	53.0	52.8	55.6	56.8	59.5	58.3	48.0	46.9	49.0	49.9	
Retail Sales (yoy %)	-2.5	2.5	3.4	2.4	2.9	4.0	3.9	2.7	-0.1	3.6	3.1	2.4	3.4
Consumer Confidence	-27.0	-25.0	-25.0	-25.0	-16.0	-13.0	-17.0	-19.0	-17.0	-14.0	-15.0	-16.0	-18.0
Consumer Credit (GBP bn)	0.2	0.1	-0.3	-0.4	-0.2	-0.5	-0.4	0.3	0.3	0.6	0.1	-0.1	
Trade Balance (US\$ bn)	-6362.0	-6534.0	-6561.0	-6224.0	-7036.0	-7173.0	-6868.0	-7067.0	-8104.0	-6294.0	-7259.0	-7279.0	
Gov't Surplus/Deficit (% of GD	P)	-6.1			-8.0			-8.7			-9.6		
M4 Money Supply (yoy %)	15.7	13.6	14.2	12.8	12.0	11.1	9.4	6.7	4.9	3.8	3.4	3.2	2.8

#### U.K. Real GDP Growth

(Year-over-Year % Change)



UKGRABIY Index GP <go>

# U.K. Unemployment Rate



UKUEILOR Index GP <go>

#### **U.K. Retail Price Inflation Rate**

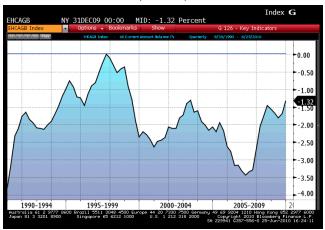
(Year-over-Year % Change)



UKRPYOY Index GP<go>

#### **U.K. Current-Account Balance**

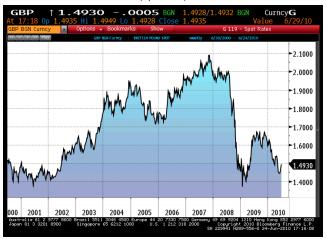
(% of GDP)



EHCAUK Index GP<go>

#### **British Pound at a Glance**

# U.S. Dollar/British Pound Exchange Rate (Spot Rate)



GBP Curncy GP <go>

#### **British Pound PPP % Over/Undervaluation**

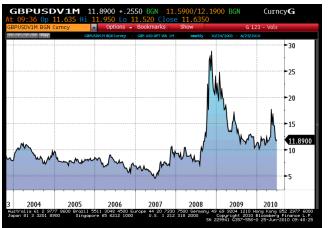
(Based on Bloomberg's Long-Term Averaging Methodology)



.PPPGBP G Index GP <go>

#### **British Pound Implied Volatility**

(One-Month Implied Volatility)



GBPUSDV1M BGN Index GP <go>

#### **U.K. Short-Term Interest Rate**

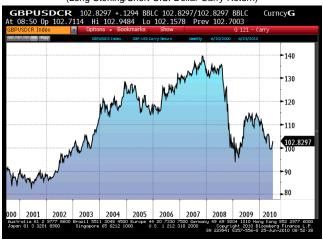
(Three-Month Deposit Rate)



BPDRC BDSR Curncy GP <go>

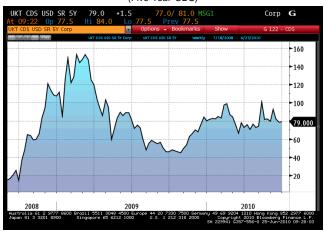
#### **British Pound Cumulative Carry Return**

(Long-Sterling/Short-U.S. Dollar Carry Return)



GBPUSDCR Index GP<go>

#### **U.K. Credit Default Swap Spread**



UKT CDS USD SR 5Y MSG1 Curncy GP<go>

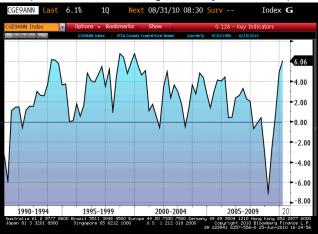
# Canada Economic Outlook

Canada Economic IndicatorsMay-09Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Apr-10 May-10

Real GDP (qoq % saar)		-2.8			0.9			4.9			6.1		
Consumer Price Index (yoy %)	0.1	-0.3	-0.9	-0.8	-0.9	0.1	1.0	1.3	1.9	1.6	1.4	1.8	1.4
Core RPI (yoy %)	1.3	1.3	1.0	0.9	0.9	1.3	0.8	0.6	1.2	1.4	0.9	1.2	1.0
Producer Price Index (yoy %)	-4.5	-5.7	-7.2	-6.7	-6.2	-6.5	-2.9	-0.6	-0.2	-0.5	-1.2	-0.4	
Unemployment Rate (%)	8.5	8.6	8.6	8.7	8.3	8.4	8.4	8.4	8.3	8.2	8.2	8.1	8.1
Industrial Production (yoy %)	-14.2	-14.2	-15.0	-12.8	-11.7	-10.2	-7.5	-4.3	0.2	1.4	4.7		
Leading Indicator (yoy %)	-10.9	-8.9	-6.5	-3.9	-1.0	2.0	4.8	7.4	9.2	10.1	10.0	9.1	
Purchasing Managers Index	48.4	58.2	51.8	55.7	61.7	61.2	55.9	48.4	50.8	51.9	57.8	58.7	62.7
Housing Starts (saar, 000s)	127.6	143.4	139.1	162.2	166.3	188.1	175.6	175.7	193.2	201.8	197.6	201.8	189.1
Retail Sales (yoy %)	-4.6	-4.5	-4.0	-2.9	-3.2	-1.6	2.3	6.4	6.9	7.0	9.1	6.6	
Consumer Confidence	71.8	74.2	74.7	83.9	87.9	87.1	81.3	85.1	99.4	91.1	95.0	87.6	91.5
Trade Balance (US\$ bn)	-1.4	-0.1	-0.9	-1.7	-0.8	0.4	-0.2	0.2	0.9	0.7	-0.2	0.2	
M2 Money Supply (yoy %)	14.2	13.8	14.7	14.6	13.8	12.6	11.0	9.3	8.0	7.8	6.7	6.1	

#### **Canada Real GDP Growth**

(Quarter-over-Quarter % Change, Seasonally Annualized Rate)



CNGDPYOY Index GP <go>

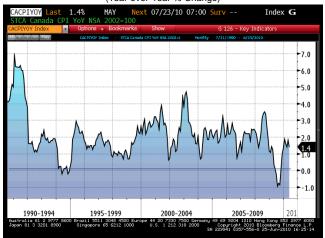
# Canada Unemployment Rate



CNUERATE Index GP <go>

#### **Canada Consumer Price Inflation Rate**

(Year-over-Year % Change)



CNCPIYOY Index GP<go>

## Canada Current-Account Balance

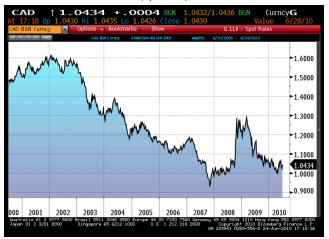
(% of GDP)



EHCACNY Index GP<go>

## Canadian Dollar at a Glance

# Canadian Dollar/U.S. Dollar Exchange Rate (Spot Rate)



CAD Curncy GP <go>

#### Canadian Dollar PPP % Over/Undervaluation

(Based on Bloomberg's Long-Term Averaging Methodology)



.PPPCAD G Index GP <go>

#### **Canadian Dollar Implied Volatility**

(One-Month Implied Volatility)



USDCADV1M BGN Index GP <go>

#### **Canadian Short-Term Interest Rate**

(Three-Month Deposit Rate)



CDDRC BDSR Curncy GP <go>

#### **Canadian Dollar Cumulative Carry Return**

(Long-C\$/Short-US\$ Carry Return)



CADUSDCR Index GP<go>

#### Australian Dollar at a Glance

# U.S. Dollar/Australian Dollar Exchange Rate (Spot Rate)



AUD Curncy GP <go>

#### Australian Dollar PPP % Over/Undervaluation

(Based on Bloomberg's Long-Term Averaging Methodology)



.PPPAUD G Index GP <go>

#### **Australian Dollar Implied Volatility**

(One-Month Implied Volatility)



AUDUSDV1M BGN Index GP <go>

#### **Australia Short-Term Interest Rate**

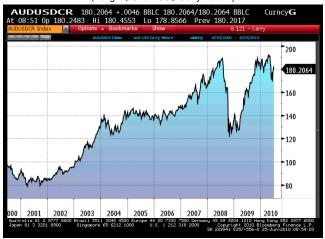
(Three-Month Deposit Rate)



ADDRC BDSR Curncy GP <go>

#### **Australian Dollar Cumulative Carry Return**

(Long-A\$/Short-US\$ Carry Return)



AUDUSDCR Index GP<go>

#### **Australia Credit Default Swap Spread**



AUSTLA CDS USD SR 5Y MSG1 Curncy GP<go>

#### New Zealand Dollar at a Glance

# U.S. Dollar/New Zealand Dollar Exchange Rate (Spot Rate)



NZD Curncy GP <go>

#### New Zealand Dollar PPP % Over/Undervaluation

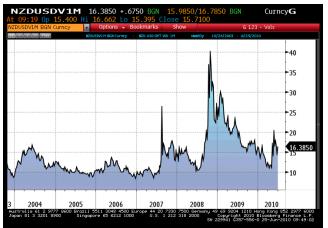
(Based on Bloomberg's Long-Term Averaging Methodology)



.PPPNZD G Index GP <go>

#### **New Zealand Dollar Implied Volatility**

(One-Month Implied Volatility)



NZDUSDV1M BGN Index GP <go>

#### **New Zealand Short-Term Interest Rate**

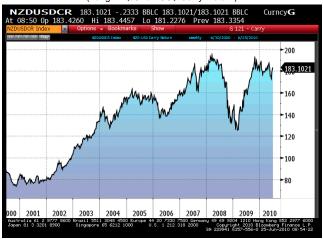
(Three-Month Deposit Rate)



NDDRC BDSR Curncy GP <go>

#### **New Zealand Dollar Cumulative Carry Return**

(Long-NZ\$/Short-US\$ Carry Return)



NZDUSDCR Index GP<go>

#### **New Zealand Credit Default Swap Spread**



NZ CDS USD SR 5Y MSG1 Curncy GP<go>

#### Swiss Franc at a Glance

## Swiss Franc/U.S. Dollar Exchange Rate

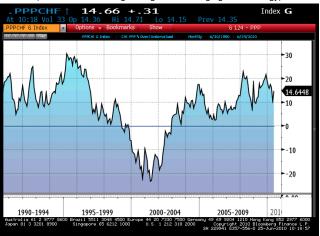
(Spot Rate)



CHF Curncy GP <go>

#### Swiss Franc PPP % Over/Undervaluation

(Based on Bloomberg's Long-Term Averaging Methodology)



.PPPCHF G Index GP <go>

#### **Swiss Franc Implied Volatility**

(One-Month Implied Volatility)



USDCHFV1M BGN Index GP <go>

#### **Switzerland Short-Term Interest Rate**

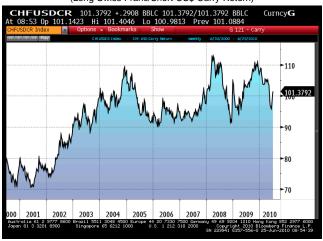
(Three-Month Deposit Rate)



SFDRC BDSR Curncy GP <go>

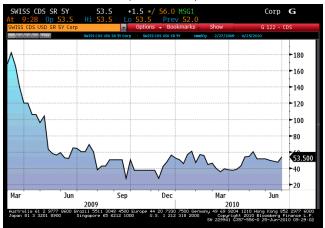
#### **Swiss Franc Cumulative Carry Return**

(Long-Swiss Franc/Short-US\$ Carry Return)



CHFUSDCR Index GP<go>

#### **Switzerland Credit Default Swap Spread**



SWISS CDS USD SR 5Y MSG1 Curncy GP<go>

## Danish Krone at a Glance

#### Danish Krone/U.S. Dollar Exchange Rate

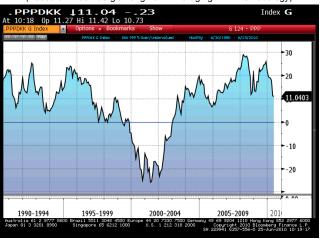
(Danish Krone/U.S. Dollar Spot Rate)



DKK Curncy GP <go>

#### Danish Krone PPP % Over/Undervaluation

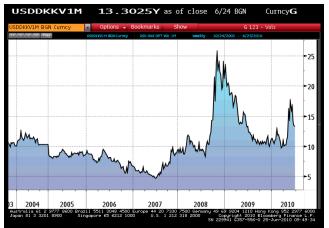
(Based on Bloomberg's Long-Term Averaging PPP Methodology)



.PPPDKK G Index GP <go>

#### **Danish Krone Implied Volatility**

(One-Month Implied Volatility)



USDDKKV1M BGN Index GP <go>

#### **Denmark Short-Term Interest Rate**

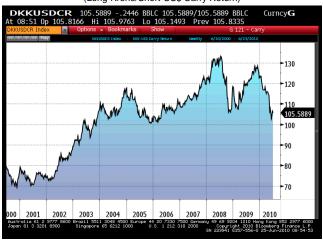
(Three-Month Deposit Rate)



DKDRC BDSR Curncy GP <go>

#### **Danish Krone Cumulative Carry Return**

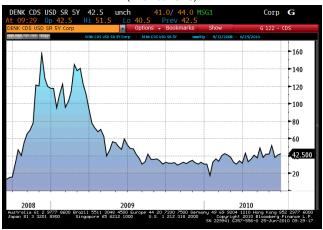
(Long-Krone/Short-US\$ Carry Return)



DKKUSDCR Index GP<go>

#### **Denmark Credit Default Swap Spread**

(Five-Year CDS)



DENK CDS USD SR 5Y MSG1 Curncy GP<go>

# Norwegian Krone at a Glance

#### Norwegian Krone/U.S. Dollar Exchange Rate

(Norwegian Krone/U.S. Dollar Spot Rate)



NKR Curncy GP <go>

#### Norwegian Krone PPP % Over/Undervaluation

(Based on Bloomberg's Long-Term Averaging PPP Methodology)



.PPPNOK G Index GP <go>

#### Norwegian Krone Implied Volatility

(One-Month Implied Volatility)



USDNOKV1M BGN Index GP <go>

#### **Norway Short-Term Interest Rate**

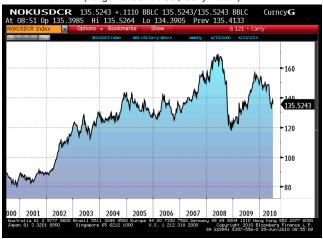
(Three-Month Deposit Rate)



NKDRC BDSR Curncy GP <go>

#### Norwegian Krone Cumulative Carry Return

(Long-Krone/Short-US\$ Carry Return)



NOKUSDCR Index GP<go>

#### **Norway Credit Default Swap Spread**



BODO CDS USD SR 5Y MSG1 Curncy GP<go>

#### Swedish Krona at a Glance

#### Swedish Krona/U.S. Dollar Exchange Rate

(Swedish Krona/U.S. Dollar Spot Rate)



SEK Curncy GP <go>

#### Swedish Krona PPP % Over/Undervaluation

(Based on Bloomberg's Long-Term Averaging PPP Methodology)



.PPPSEK G Index GP <go>

#### **Swedish Krona Implied Volatility**

(One-Month Implied Volatility)



USDSEKV1M BGN Index GP <go>

#### **Sweden Short-Term Interest Rate**

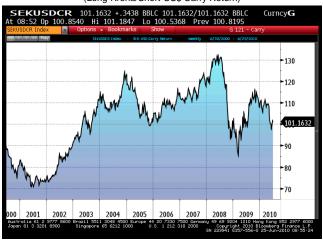
(Three-Month Deposit Rate)



SKDRC BDSR Curncy GP <go>

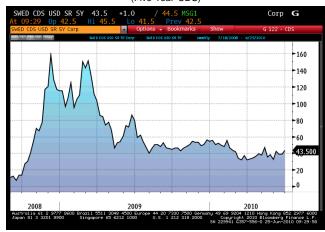
#### **Swedish Krona Cumulative Carry Return**

(Long-Krona/Short-US\$ Carry Return)



SEKUSDCR Index GP<go>

#### **Sweden Credit Default Swap Spread**



SWED CDS USD SR 5Y MSG1 Curncy GP<go>

# **China Economic Outlook**

China Economic Indicators May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Apr-10 May-10

Real GDP (yoy %)		7.9			9.1			10.7			11.9		
Consumer Price Index (yoy %)	-1.4	-1.7	-1.8	-1.2	-0.8	-0.5	0.6	1.9	1.5	2.7	2.4	2.8	3.1
Industrial Product Price Index	(yoy %)-7	.2 -7.8	-8.2	-7.9	-7.0	-5.8	-2.1	1.7	4.3	5.4	5.9	6.8	7.1
Unemployment Rate (%)		4.3			4.3			4.3			4.2		
Industrial Production (yoy %)	8.9	10.7	10.8	12.3	13.9	16.1	19.2	18.5	12.8	18.1	17.8	16.5	
Leading Indicator (yoy %)	17.1	19.3	21.4	23.3	24.9	26.0	26.3	25.7	24.2	22.1	19.7	17.6	
Manufacturing PMI	53.1	53.2	53.3	54.0	54.3	55.2	55.2	56.6	55.8	52.0	55.1	55.7	53.9
Retail Sales (yoy %)	15.2	15.0	15.2	15.4	15.5	16.2	15.8	17.5	18.2	22.1	18.0	18.5	18.7
Consumer Confidence Index	101.2	101.0	102.1	102.7	102.8	103.2	103.3	103.9	104.7	104.2	107.9	106.6	
Trade Balance (US\$ bn, sa)	13.4	8.3	10.6	15.7	12.9	24.0	19.1	18.4	14.2	7.6	-7.2	1.7	19.5
M2 Money Supply (yoy %)	25.7	28.5	28.4	28.5	29.3	29.5	29.6	28.4	26.0	25.5	22.5	21.5	21.0
Official Reserve Assets (US\$	bn.)2089	2132	2175	2211	2273	2328	2389	2399	2415	2425	2447		
·	•												

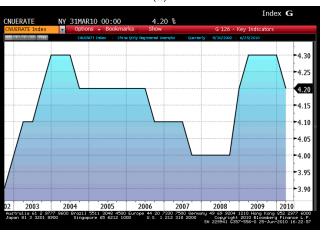
#### **China Real GDP Growth**

(Year-over-Year % Change)



CNGDPYOY Index GP <go>

# **China Unemployment Rate**



CNUERATE Index GP <go>

#### **China Consumer Price Inflation Rate**

(Year-over-Year % Change)



CNCPIYOY Index GP<go>

#### **China Current-Account Balance**

(% of GDP)



EHCACNY Index GP<go>

#### Chinese Renminbi at a Glance

#### Chinese Renminbi/U.S. Dollar Exchange Rate

(Chinese Renminbi/U.S. Dollar Spot Rate)



CNY Curncy GP <go>

#### China Foreign Exchange Reserves

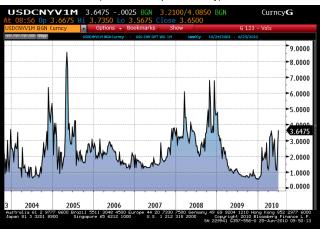
(Official Reserve Assets, US\$ bn.)



CADUSDCR Index GP<go>

#### **Chinese Renminbi Implied Volatility**

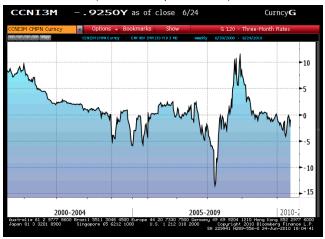
(One-Month Implied Volatility)



USDCADV1M BGN Index GP <go>

#### **China Short-Term Interest Rate**

(Three-Month Implied NDF Rate)



CCNI3M Curncy GP <go>

#### **China Credit Default Swap Spread**

(Five-Year CDS)



CHINAGOV CDS USD SR 5Y Corp GP <go>

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