

There is a long running debate in the trading and academic communities regarding whether currencies (or "FX") represents an "asset class" comparable to stocks and bonds – or whether currencies are simply the unit of measure for financial transactions. But regardless of where one stands in this debate, it is indisputable that FX trading represents a very important market sector and that significant profits and losses are routinely realized as a result of such activity.

Hence, one might ask - what are the basic drivers of FX market trading activity? This article provides a broad overview of this topic by reviewing the basis for fundamental exchange rate analysis; "classical" theories regarding the value of a currency including purchasing power parity and the International Fisher Effect; the so-called "carry trade" which has been a very hot topic in the FX markets over the past decade; and, finally, a discussion regarding why international capital account flows have received so much analytical attention in addition to trade or current account flows.

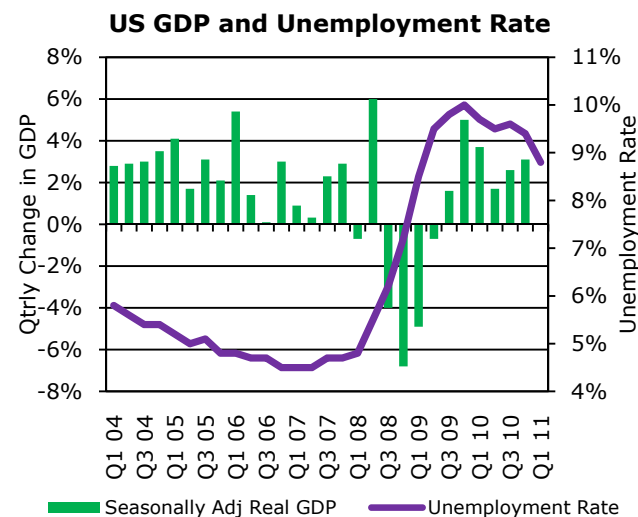
Fundamental FX Analysis – All markets are driven by the fundamentals – or the essential factors that determine the intrinsic or basic value of the item in question. Exchange rates are likewise driven by fundamental economic conditions in place in the two countries that form the currency "pairing" in question. Fundamental factors are particularly important for the long-term "position traders" albeit become progressively less important as one's "trading horizon" becomes shorter.



To illustrate a fundamental analysis, consider the exchange rate between the Brazilian real (BRL) and the U.S. dollar (USD). Note that the BRL/USD

exchange rate is generally quoted in terms of reals per one (1) U.S. dollar in the spot or "interbank" FX markets. Thus, one might quote a rate of 0.6250 or 0.6250 reals to purchase one U.S. dollar. As such, the quote will decline as BRL strengthens vs. USD; and, will advance as BRL weakens vs. USD.¹

A fundamental analysis of this exchange rate should generally include an assessment of conditions prevailing in Brazil vs. those in the United States. In particular, one should consider (1) the outlook for economic growth and inflation; (2) monetary and fiscal policies; and, (3) trade or current account balances.



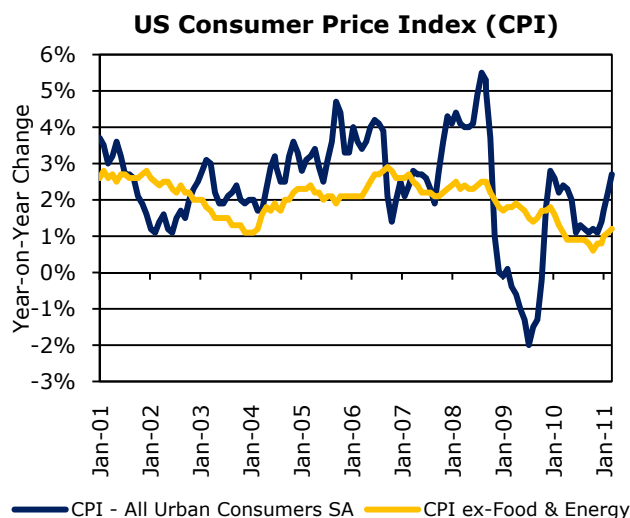
Growth and Inflation – U.S. GDP has rebounded from the 1st quarter 2009 low of -6.4% to a reasonably healthy +3.1% by the 4th quarter of 2010. Still, this figure has moderated from the +5.0% growth recorded in the 4th quarter of 2009.

¹ Note that CME Group currently offers futures contracts based on the BRL/USD exchange rate as well as a wide variety of other exchange rates. These products may readily be utilized to take advantage of anticipated exchange rate movements based on a review of fundamental market conditions. CME's BRL/USD futures contract is based on a unit of 100,000 BRL. It is cash settled to Central Bank of Brazil's PTAX rate on last day of month prior to contract month and is available for trade some 10 years into the future. However, it is important to be cognizant of quote conventions in use. In particular, CME's BRL/USD contract is quoted in "reciprocated" terms of USD per BRL. Thus, a quote of 0.6250 in the interbank market is reciprocated to 1.6 BRL per USD (=1/0.6250). The minimum price increment or "tick size" is \$0.00005 per BRL (or \$5 per 100,000 BRL contract).

The general consensus of economists suggests that Q1 2011 growth might moderate further to +2.5%.

While U.S. unemployment has backed off from the 26-year high of 10.1% recorded in October 2009, it remains high at 8.8% in March 2011. Further, the housing market remains depressed with no signs of near-term recovery. Unemployment and a weak housing market represent ongoing sources of concern to the extent that the American consumer had represented the driving force behind domestic and global economic expansion for the last several decades.

Modest economic growth coupled with alarming advances in commodity prices has coupled to create a muted inflationary environment. Multiple "cross-currents" impact the inflation outlook including a bloated Fed balance sheet fueled by fiscal stimulus measures and the Fed's quantitative easing or QE2 program.

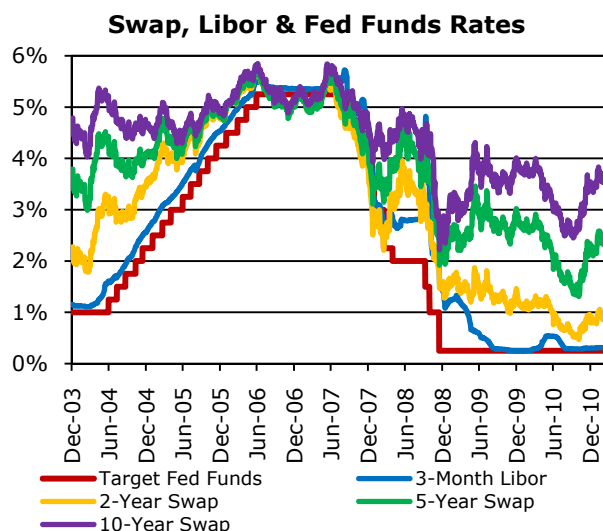


Still, these concerns seem to have resulted in more inflationary fears than actual realized inflation. In particular, the U.S. consumer's conservative response to the subprime mortgage crisis has resulted in a net "debt destruction" as private debts are drawn down while public debts pile up.

As such, the seasonally adjusted (SA) Consumer Price Index for all urban consumers (CPI-U) was pegged at 2.70% on an annual basis in March 2011. The CPI figure excluding volatile food and energy prices came in at only 1.20% in March 2011 but this does not reflect the more recent surge in crude oil prices to levels well in excess of \$100/bbl.

Monetary and Fiscal Policy – The target Fed Funds rate, the prime monetary policy tool of the Federal Open Market Committee (FOMC), remains at 0-0.25%. This Fed administered rate anchors the short end of the yield curve. Most analysts believe that the Fed will continue to be very accommodative until well into 2012.

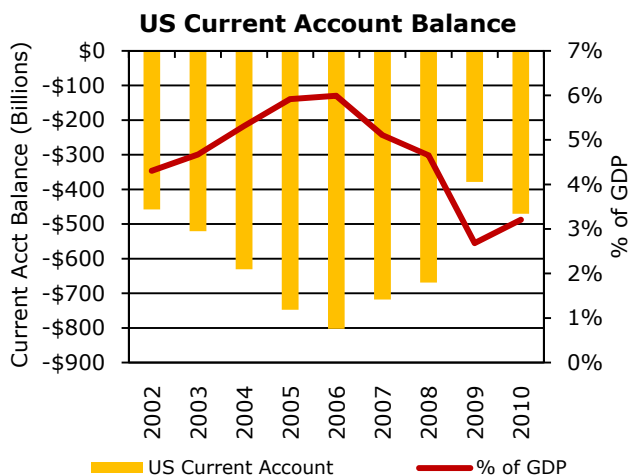
In particular, the Fed's QE2 program, per which the Fed has purchased significant volumes of Mortgage Backed Securities (MBS) and U.S. Treasuries, remains in place. However, there have been signals that this program will be scaled back later in 2011. Federal spending is expected to be pared back as political conservatives have won a larger voice as we approach the 2012 U.S. national elections. Still, the expected modest fiscal tightening is expected to fall far short of the major fiscal tightening that many believe is necessary.



Current Account – The U.S. international trade deficit reflected in the U.S. current account deficit was \$470 trillion or 3.2% of GDP in 2010. This represents an improvement over the \$803 trillion deficit realized in 2006. Still, the United States is running the worst balance of payments (BOP) of all G10 nations as proportion of GDP.²

² Actually, we are guilty here of the common mistake of referring to the trade or current account deficit as the balance of payments or BOP. The BOP should reflect a balance between flows in a nation's "current account" and "capital account." The current account reflects the balance of trade, or exports (a credit entry) vs. imports (debit entry). The current account is sometimes broken down into physical goods vs. intangible services. It is further adjusted by the receipt of earnings on foreign investment vs. payment of earnings to foreign investors;

There are many explanations for the large U.S. current account deficit. Most focus on trade and a presumed inability of U.S. corporations effectively to compete. Other explanations point to an overly strong U.S. dollar or the U.S. consumer's historic lack of concern about accumulating debt to service current personal consumption.



Whatever the cause, high current account deficits are conventionally regarded as a source of concern that may negatively impact currency values. This view was articulated by Warren Buffet in 2008 when he remarked that "if our current account deficit keeps running at present levels, the dollar I think is almost certain to be worth less five to ten years from now compared to other major currencies."³

We have confined our discussion above to U.S. economic conditions. But by comparing relative economic conditions in the two currencies that comprise an exchange rate pairing, e.g., BRL vs. USD, an analyst may gain an appreciation for possible future movements in that currency pairing. Please refer to Exhibit 1 in our appendix which provides a comparative summary of economic conditions in the United States vs. Brazil.

and, cash transfers. A nation's capital or financial account reflects changes in foreign ownership of domestic assets vs. domestic ownership of foreign assets. The capital account may further be broken down into foreign direct investment (FDI); portfolio investment in equity shares or fixed income securities; other investments; and, activity in the central bank's reserve account. Technically, a nation's current account and capital account must balance although some "balancing factors" are often necessary to offset accounting anomalies such as double counting of certain items.

³ Berkshire Hathaway CEO Warren Buffet speaking at a Business Wire Canada event (February 6, 2008).

Classic Exchange Rate Theories – In addition to a fundamental economic analysis impacting currency pairs, consider some "classic" economic theories that address why exchange rates trade at particular levels.

The theory of purchasing power parity (PPP) dates to the 16th century and the School of Salamanca but was further developed in the early 20th century by economist Gustav Cassel.⁴ The theory is based upon the assumption that exchange rates are in equilibrium when purchasing power is equivalent in the two countries.

On a granular level, PPP is based on the "law of one price" or the notion that identical products should be priced at the same level in different national markets adjusted for exchange rates. Typically, this law is qualified by the absence of significant trade barriers or other artificial constraints on commerce.

But the theory of PPP expands the application of the law of one price from any single good or product to generalized prices in any particular economy as measured by inflation indexes, e.g., Consumer Price Index (CPI) or Producer Price Index (PPI). The implication of this theory is that inflation rates and exchange rates should exhibit negative correlation.

If inflation increases	➔	Currency value should decline
If inflation decreases	➔	Currency value should advance

Thus, if inflation as measured by an inflation index increases, the value of the currency should generally decline to maintain price equilibrium. Similarly, if inflation declines, the value of the currency should advance.

The theory of PPP is closely related to another classic theory that addresses exchange rate values known as the International Fisher Effect (IFE). This theory suggests that the disparity between nominal interest rates in two countries drive the future path of exchange rates. Per this theory, one might expect that the value of a currency with a low nominal interest rate might increase into the future. Or that the value of a currency with high nominal rate might decline.

IFE further assumes that real interest rates (*i.e.*, the risk-free interest rate less inflation) should generally

⁴ See Cassel, Gustav, "Abnormal Deviations in International Exchanges" (December 1918).

be equal across countries. This implies that nominal interest rates and inflation are positively correlated.

If inflation increases → **Rates increase** → **Currency value should decline**
If inflation decreases → **Rates decrease** → **Currency value should advance**

The IFE suggests interest rates and exchange negatively correlated. Similarly, PPP suggests inflation and exchange rates negatively correlated. As such, the IFE theory is generally consistent with the PPP theory.

Putting the classic theory of purchasing power parity into practice requires a measurement of inflation in order to calculate the proportion by which any particular currency is (theoretically) over- or under-valued relative to the norm. There are three popular methodologies that have been referenced in this regard.

- *OECD* - The Organization for Economic Cooperation and Development (OECD) provides data that is useful in this regard by comparing price changes in a representative basket of goods in various countries.
- *Bloomberg* - Bloomberg offers an analytical tool that is grounded in a very long-term assessment of inflation, as measured by either CPI or PPI in various countries extending from January 1982 through June 2000.
- *Big Mac* - Finally, the Economist's "Big Mac PPP" methodology compares the price of a (almost) universally available product with verifiable pricing in the form of the McDonald's Big Mac hamburger in various countries.

Actually, all three methodologies may readily be referenced on Bloomberg quotation devices. Exhibit 2 in our appendix below provides data from all three methods. Further, we have taken the average of the three assessments (where available) for a variety of national currencies and rank-ordered the set from most over-valued to most under-valued.

Note that the NOK, CH, BRL and SEK are assessed as highly over-valued while the HKD, CNY, MXN and PLN are assessed as under-valued per this analysis. Presumably, a FX trader might buy under-valued and sell over-valued currencies as a long-term strategy.

Actually, one might recommend creating "baskets" of several currencies to buy and sell on the basis of this analysis in order to diversify risks to a certain extent.

However, it is important to recognize that currencies might remain in apparent states of over- or under-valuation for extended periods of time. In fact, one of the most popular of currency trading practices over the past decade takes a completely opposite approach to these classical theories of exchange rate valuation as described below.

The Carry Trade – One of the most popular long-term FX trading strategies over the past decade is known simply as the "carry trade." This practice simply suggests that one might exploit "cost of carry" by borrowing in countries with low nominal interest rates to invest in countries with high nominal interest rates. Thus, one might sell the "low-rate" currency and buy the "high-rate" currency.

Carry trade → **Sell low-rate currency & buy high-rate currency**

By so doing, one hopes to capitalize on discrepant interest rates, and by implication, divergent investment opportunities, in the two countries. This strategy further recognizes that total currency return consists of 2 components, specifically, exchange rate or price movement plus the accrual of interest.

Total Currency Return = **Price Movement + Interest**

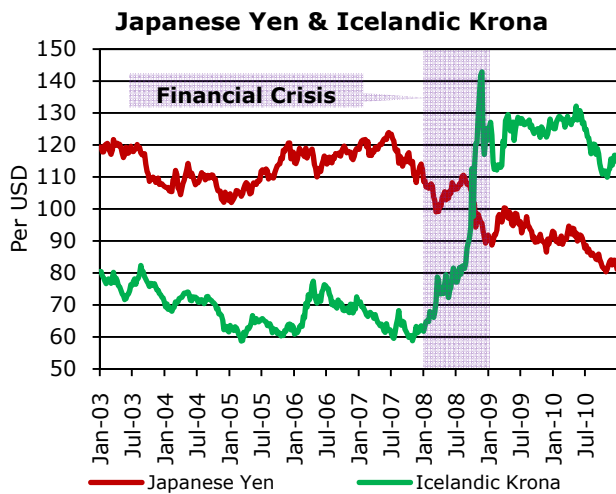
The implicit assumption is that this interest rate disequilibrium will endure. As such, carry traders implicitly discount classical exchange rate theories by assuming that disequilibriums may endure over extended periods of time. *I.e.*, that low-rate currency that are sold will not advance; and, that high-rate currencies that are purchased will not decline.

Historically, such disequilibriums have endured for very extended periods of time, reinforcing interest in the carry trade. In particular, vast sums of money totaling in the trillions of U.S. dollars were invested in the carry trade, specifically by shorting the Japanese yen (JPY) and investing in other currencies including the Icelandic krona (IKR).

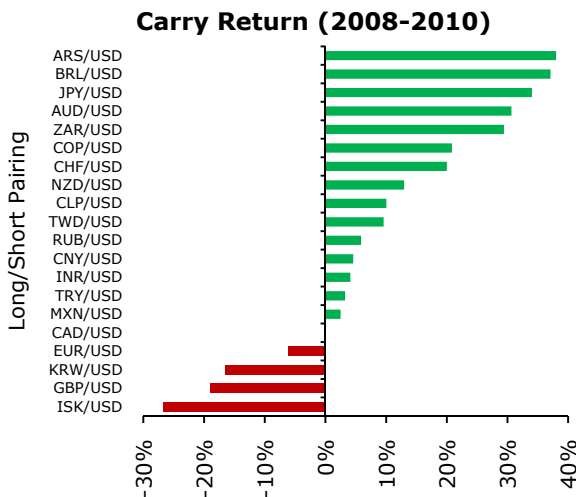
Exhibit 3 depicts the total return associated with various currencies from 2003 through 2007. Note that the total return on the JPY was a very modest

7.34% with less than 1% of that return attributed to interest.

Note that Japanese interest rates have historically been at or near the lowest in the world for a very extended period of time. On the other hand, the IKR generated a very high return of 106.13% over the same period with some 60.20% of that return attributed to interest income.



However, economic conditions changed significantly as a result of the subprime mortgage crisis, the height of which was generally experienced during calendar year 2008. Portfolio managers worldwide, notably including hedge funds, experienced a general decline in asset values, compelling liquidation of many positions including carry trades. Thus, the JPY rallied and the IKR declined as these hedge funds unwound carry trades.



In other words, carry trades may “backfire” on occasion. Exhibit 4 depicts the total return associated with various currencies during the period from 2008 through 2010. Note that the JPY is near the top of the list with a return of 39.89% with some 37.64% attributable to price action. The IKR is at the bottom of the list with a return of -23.55% despite the still very attractive 39.86% return associated with interest accruals.

Note that, in the post-financial crisis era, the USD or EUR has become the preferred short end of carry trades in light of the low rates offered in those jurisdictions. But some currencies have remained at top of total return rankings both pre- and post-financial crisis.

Commodity Countries – As a general rule, the nations whose currencies have remained top performers over the past decade may be identified as those whose national income is tied heavily to commodity production.

Commodity prices have advanced rather sharply over the past decade as seen in the rise in the value of energy, grain, livestock, precious metals and industrial metals. These price advances have largely been driven by emerging market demand in nations including China and India.

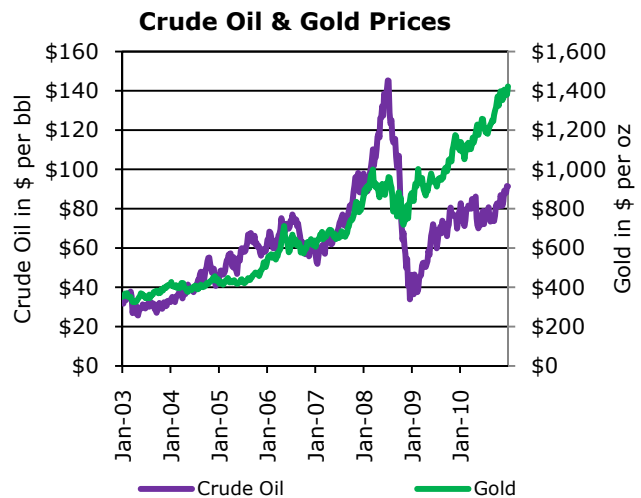
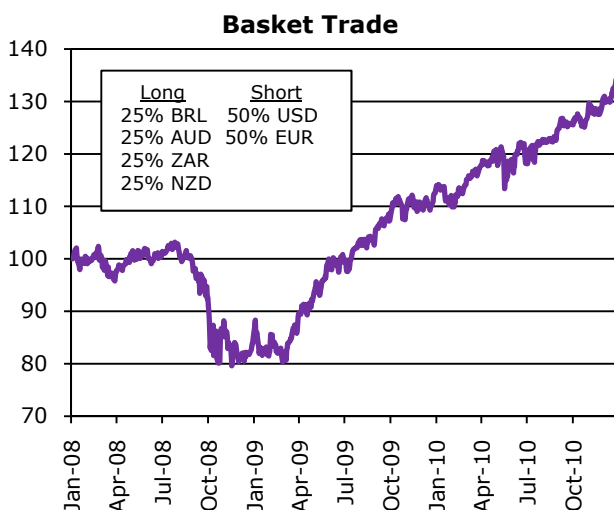


Exhibit 5 provides a summary of the major exports from several of those nations whose currencies have endured as consistently top performers. Note that commodities represent major export products in all these countries.

How might one take advantage of a general expectation of continued commodity price advances?

FX traders with long-term outlooks might seek to buy baskets of commodity country currencies vs. short positions in low-rate currencies such as the USD or EUR to exploit this situation.

E.g., one may examine the performance between 2008 and 2010 in a basket trade that is long commodity countries and short developed market currencies. Specifically, our example includes an equally weighted long basket of BRL, AUD, ZAR and NZD, offset by an equally weighted basket of USD and EUR. Of course, this strategy may readily be pursued using baskets of CME Group FX futures.

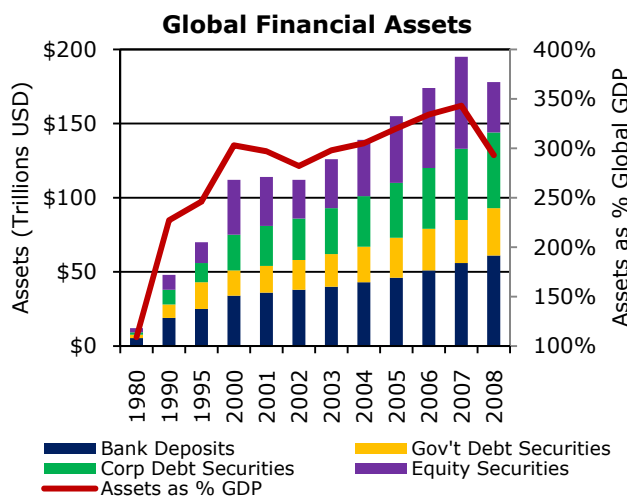


Cross-Border Capital Flows – Earlier we had discussed the significance of international trade flows as reflected in a nation’s current account. Without attempting to discount the importance of current account activity, let us suggest that the capital account is of equal, or some might argue, greater significance in today’s economic environment.

In fact, Fed Chairman Bernanke has argued that the current account deficit may be explained by activity in the capital account. In particular, many emerging economies have extremely high personal savings rates but, because of underdeveloped financial systems, those savings cannot effectively be absorbed in the local economy. These savings are redirected into the U.S., resulting in excessive domestic consumption and asset price inflation.⁵

Capital flows may consist of foreign direct investment (FDI), debt investment, equity investment, bank and private flows, derivative and government flows. It is clear that given the current trend towards “economic globalization,” it has never been easier to move capital from one jurisdiction to the next. As such, so-called “hot money” capital flows have become increasingly important in determining the direction of exchange rates.

Certainly, the size of our “global financial stock” has increased tremendously over the past several decades to an estimated \$178 trillion in 2008. More significantly, these capital assets represented some 293% of global GDP in 2008.



The significance of cross-border capital flows is further reflected in growing FX market turnover. Exhibit 6 in our appendix below provides a summary of average daily turnover in world FX markets noting that they have increased in size by some 140% from 2004 to 2010.

The activity of central banks and their foreign reserve holdings is a further element of the capital account. Note that monetary authorities and sovereign wealth funds have emerged as major cross-border investors. Most of these FX reserves continue to be held in USD. But growing sums are held in EUR or other currencies as a diversification measure. In particular, China and other emerging market nations have accumulated extremely large reserves.

While data regarding these capital flows is not universally available, we point to the U.S. Treasury Department’s “Treasury International Capital” or TIC data as a useful source of information, at least with

⁵ Bernanke, Ben S., “The Global Saving Glut and the U.S. Current Account Deficit.” (March 2005). <http://www.federalreserve.gov/boarddocs/speeches/2005/200503102/default.htm>

respect to capital flows into and out of the United States. This database is updated on a monthly basis.

Central Bank FX Reserves
(Trillions USD as of Jan-11)

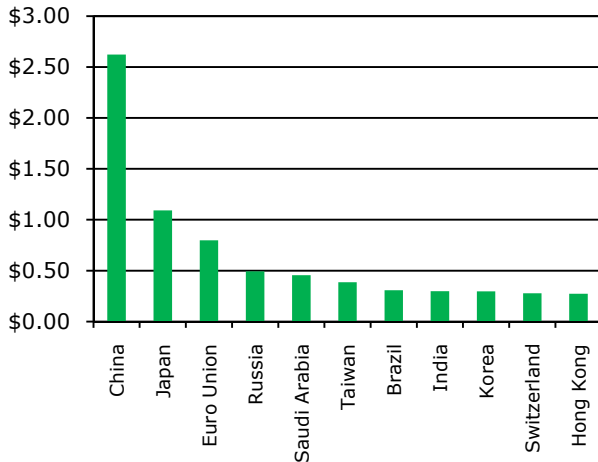
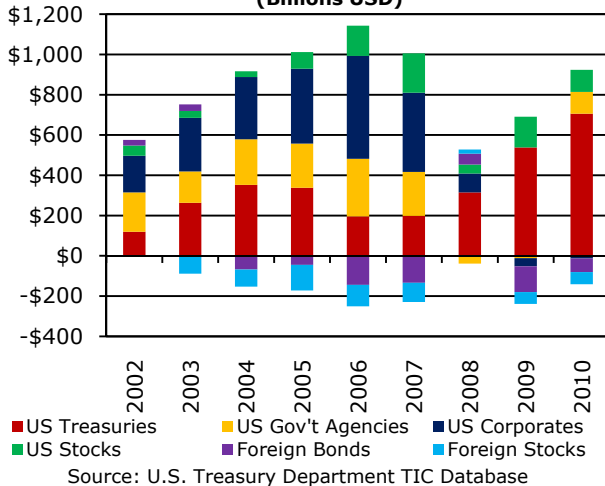


Exhibit 7 depicts the gross purchases by foreigners from U.S. residents; and, the gross sales by foreigners to U.S. residents of certain capital assets. Those assets include U.S. Treasuries, agencies, corporate fixed income securities, stocks, foreign bonds and foreign stocks. (This data does not capture FDI, bank, derivatives or other government flows.)

Net US/Foreign Capital Flows
(Billions USD)



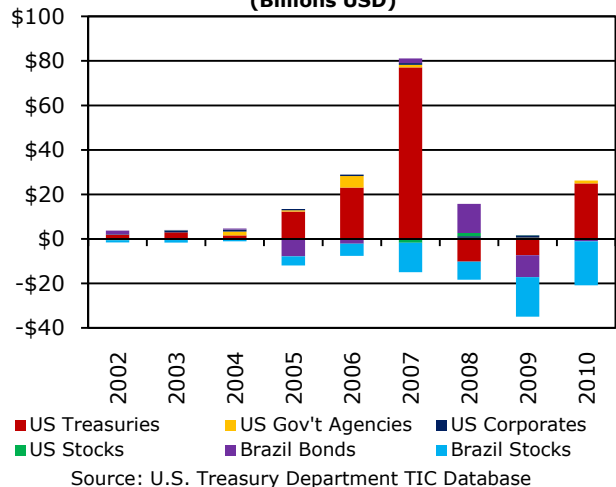
Note that capital flows remain well below pre-financial crisis levels. Further, that activity has become more keenly concentrated in U.S. Treasuries to the exclusion of items such as agencies, corporate

or stocks. Clearly, this is reflection of credit concerns in the post-crisis environment.

This data is available on aggregate or on a country-by-country basis. Returning to our interest in the BRL/USD exchange rate, we might examine capital account activity between Brazil and the United States.

Note that this activity is heavily concentrated in U.S. Treasuries both pre- and post-crisis where Brazilians have generally been net buyers of Treasuries. U.S. residents have generally been sellers of Brazilian stocks. Finally, while funds were repatriated to Brazil on a net basis during 2009, these capital flows remain low in the post-crisis world.

Net US/Brazil Capital Flows
(Billions USD)



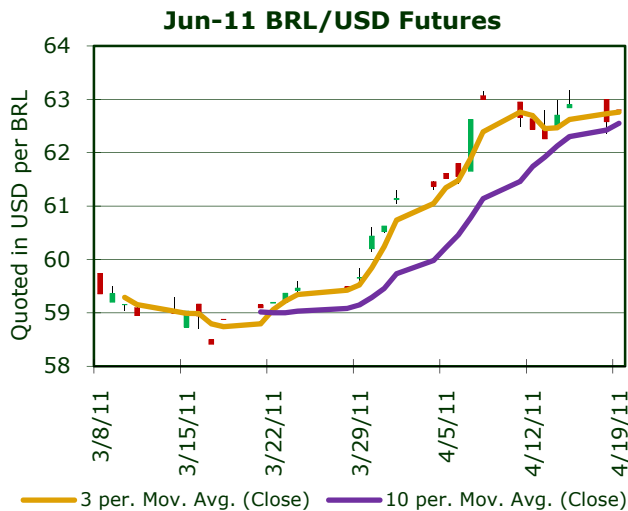
Often special circumstances invoke an examination of prospective capital account activities. E.g., the recent earthquake and tsunami in Japan has resulted in large insurable losses. Thus, the question arises – are Japanese insurance companies expected to repatriate large volumes of foreign denominated assets and thus boost the value of JPY?

Exhibit 8 provides a snapshot of the aggregated balance sheet of the Japanese insurance industry. Note that foreign securities comprised 15.8% (~\$59 billion USD) of holdings. Much of those holdings are likely to have been hedged using derivative FX instruments already. Thus, one might conclude that this prospective capital account activity might be of insufficient magnitude to create significant impact.

Technical Factors – In addition to fundamental market drivers, many traders routinely refer to

technical analysis as a source of trading ideas. Technical analysis would include chart interpretation or pattern recognition techniques; trend-following devices including moving averages; contrarian indicators such as relative strength indicators (RSI) and many others.

becomes. That may be explained by the fact that while the market reacts (usually swiftly and efficiently) to the availability of new fundamental information, it trades between the release of new fundamentals based on the anticipation of new data. The impact of new data is often assessed by reference to market trends or momentum or contrarian indicators, *i.e.*, technical analysis.



Thus, and as a general rule, longer-term traders tend to rely upon fundamental analysis while short-term traders tend to rely upon technical analysis. But technical analysis represents the topic for another article!

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As a general rule, the shorter the time horizon over which one trades, the more useful technical analysis

Appendix of Exhibits

Exhibit 1: Comparative Economic Analysis

	United States	Brazil
Growth & Inflation	Moderate growth and inflation expected. Q4-10 GDP of 3.1% may slip to 2.5% in Q1-11 but 3.5%-4% GDP expected in 2012	Growth expected to moderate from +7.5% in 2010 to 4-5% in 2011. Inflation may rise to 6-7% range in 2011 from +5.9% in 2010
Monetary Policy	Target Fed Funds at 0-0.25%. Because Fed responsible for growth and inflation, consensus suggests that easy money policy may endure until 2012	SELIC rate targeted at 11.75% along with increased reserve requirements may moderate growth. Brazil imposed 6% tax on Cupom Cambial rate (effectively local US dollar borrowing rate) pushing rate to 4.4% to stem BRL advance
Fiscal Policy	Modest fiscal tightening expected but major tightening needed	Expansionary fiscal policy in recent years driven by payroll and social spending. Budget cuts announced but more probably needed. Government has used tax code in attempt to stem BRL advance
Balance of Payments	Current account deficit of \$803 trillion in 2010 was at 3.2% and worst of all G10 nations	Current account deficit at \$47.5 billion (USD) in 2010 expected to increase to perhaps \$60 in 2011 – but capital inflows including FDI expected to rise sharply
Other	Housing market remains vulnerable	Strong commodity prices may improve trade situation

NOTE: This information is based on an interpretative reading of various market sources as of mid April 2011. It is presented for illustrative purposes only, and should not be considered investment advice.

Exhibit 2: Purchasing Power Parity Analysis

Currency	Ticker	% Over/Under Valued vs. USD			
		Average	OECD	Bloomberg	Big Mac
Norwegian Krone	NOK	60.82%	40.13%	19.63%	122.71%
Swiss Franc	CHF	55.90%	40.99%	29.32%	97.38%
Brazilian Real	BRL	52.29%			52.29%
Swedish Krona	SEK	46.42%	29.61%	1.46%	108.18%
Australian Dollar	AUD	29.66%	36.96%	33.66%	18.37%
Euro	EUR	23.64%	13.55%	22.90%	34.48%
Colombian Peso	COP	21.91%			21.91%
Canadian Dollar	CAD	19.98%	21.07%	19.76%	19.11%
New Zealand Dollar	NZD	16.60%	16.53%	27.12%	6.15%
Icelandic Krona	ISK	15.90%	15.90%		
Japanese Yen	JPY	12.57%	24.70%	9.87%	3.14%
Czech Forint	CZK	8.42%			8.42%
British Pound	GBP	6.42%	6.37%	12.58%	0.31%
Chilean Peso	CLP	0.83%			0.83%
Singapore Dollar	SGD	-3.30%			-3.30%
Argentina Peso	ARS	-6.74%			-6.74%
Hungarian Forint	HUF	-17.40%	-42.74%		7.94%
South African Rand	ZAR	-22.87%			-22.87%
Turkish Lira	TRY	-24.15%	-54.19%		5.90%
Korean Won	KRW	-24.35%	-32.72%		-15.98%
Russian Ruble	RUB	-30.63%			-30.63%
Polish Zloty	PLN	-32.77%	-46.58%		-18.95%
Mexican Peso	MXN	-37.91%	-48.87%		-26.94%
Chinese Renminbi	CNY	-40.09%			-40.09%
Hong Kong Dollar	HKD	-48.77%			-48.77%

Source: Bloomberg as of 4/13/11

Exhibit 3: Total Return (2003-2007)

Country	Currency	Total Return (1)	Price Return (2)	Interest Return (3)
Turkey	Lira	335.65%	41.46%	207.96%
Brazil	Real	326.41%	98.88%	114.41%
Australia	Dollar	106.79%	55.71%	32.80%
Colombia	Peso	106.36%	42.12%	45.20%
Iceland	Krona	106.13%	28.67%	60.20%
New Zealand	Dollar	105.50%	46.05%	40.70%
South Africa	Rand	94.37%	24.88%	55.64%
Canada	Dollar	86.75%	57.91%	18.26%
Chile	Peso	75.40%	44.64%	21.26%
Argentina	Peso	67.34%	6.63%	56.93%
India	Rupee	60.91%	21.77%	32.14%
European Union	Euro	59.73%	39.05%	14.87%
United Kingdom	Pound	56.34%	23.29%	26.80%
South Korea	Won	54.56%	26.80%	21.89%
Mexico	Peso	40.13%	-4.85%	47.27%
Switzerland	Franc	28.89%	22.06%	5.59%
United States	Dollar	18.13%	-	18.13%
Taiwan	Dollar	12.58%	7.15%	5.07%
Japan	Yen	7.34%	6.30%	0.98%
China	Renminbi	-	-	13.33%
Russia	Ruble	-	-	29.90%

(1) Return from price movement and interest from January 1, 2003 through December 31, 2007

(2) Return from currency price movement vs. USD as "base currency"

(3) Return from interest at prevailing 3-month rates or implied NDF rate

Source: Bloomberg

Exhibit 4: Total Return (2008-2010)

Country	Currency	Total Return (1)	Price Return (2)	Interest Return (3)
Argentina	Peso	44.04%	-20.80%	81.87%
Brazil	Real	43.10%	7.15%	33.56%
Japan	Yen	39.89%	37.64%	1.64%
Australia	Dollar	36.38%	16.80%	16.76%
South Africa	Rand	35.07%	3.40%	30.63%
Colombia	Peso	26.14%	5.74%	19.29%
Switzerland	Franc	25.24%	21.17%	3.36%
New Zealand	Dollar	17.91%	1.75%	15.88%
Chile	Peso	14.84%	6.40%	7.94%
Taiwan	Dollar	14.39%	10.69%	3.34%
Russia	Ruble	10.50%	-19.32%	36.96%
China	Renminbi	9.16%	10.55%	-1.26%
India	Rupee	8.66%	-11.83%	23.24%
Turkey	Lira	7.75%	-24.22%	42.19%
Mexico	Peso	6.97%	-11.75%	21.21%
Canada	Dollar	4.44%	-0.54%	5.01%
United States	Dollar	4.37%	-	4.37%
European Union	Euro	-2.08%	-8.28%	6.76%
South Korea	Won	-12.87%	-16.93%	4.89%
United Kingdom	Pound	-15.43%	-21.41%	7.60%
Iceland	Krona	-23.55%	-45.34%	39.86%

(1) Return from price movement and interest from January 1, 2008 through December 31, 2010

(2) Return from currency price movement vs. USD as "base currency"

(3) Return from interest at prevailing 3-month rates or implied NDF rate

Source: Bloomberg

Exhibit 5: Major Exports from "Commodity Countries"

Country	Major Exports
Argentina	Soybeans and derivatives, petroleum and gas, vehicles, corn, wheat
Brazil	Transport equipment, iron ore, soybeans, footwear, coffee, autos
Australia	Coal, iron ore, gold, meat, wool, alumina, wheat, machinery and transport equipment
South Africa	Gold, diamonds, platinum, other metals and minerals, machinery and equipment
Colombia	Petroleum, coffee, coal, nickel, emeralds, apparel, bananas, cut flowers
New Zealand	Dairy products, meat, wood and wood products, fish, machinery
Chile	Copper, fruit, fish products, paper and pulp, chemicals, wine
Canada	Motor vehicles and parts, industrial machinery, aircraft, telecommunications equipment; chemicals, plastics, fertilizers; wood pulp, timber, crude petroleum, natural gas, electricity, aluminum

Source: CIA Factbook

Exhibit 6: Average Daily Turnover in FX Markets (Billions USD)

	Apr-04	Apr-07	Apr-10
Spot	\$621	\$1,005	\$1,490
Forwards	\$208	\$362	\$475
FX swaps	\$944	\$1,714	\$1,765
Currency swaps	\$21	\$80	\$43
Options	\$117	\$212	\$207
CME FX Products	\$18	\$55	\$103
CME market share (1)	5%	9%	15%

- (1) Represents CME share of market including OTC forwards and options to which futures and options are most directly comparable

Source: Bank for International Settlements Triennial Survey

Exhibit 7: Treasury International Capital Data

	Gross Purchases by All Foreigners from US Residents (Trillions USD)						Gross Sales by All Foreigners to US Residents (Trillions USD)					
	US Treas- ury	US Gov't Agency	US Corp	US Stocks	For- eign Bonds	For- eign Stocks	US Treas- ury	US Gov't Agency	US Corp	US Stocks	For- eign Bonds	For- eign Stocks
2010	\$16.16	\$1.11	\$0.97	\$6.75	\$3.65	\$3.67	\$15.45	\$1.00	\$0.98	\$6.64	\$3.72	\$3.73
2009	\$11.59	\$1.04	\$1.19	\$6.65	\$1.95	\$3.17	\$11.05	\$1.05	\$1.23	\$6.50	\$2.08	\$3.23
2008	\$14.63	\$2.59	\$1.47	\$12.04	\$2.27	\$5.44	\$14.31	\$2.63	\$1.37	\$11.99	\$2.22	\$5.42
2007	\$15.13	\$2.05	\$1.91	\$10.64	\$2.97	\$5.22	\$14.93	\$1.83	\$1.52	\$10.44	\$3.11	\$5.31
2006	\$10.96	\$1.57	\$1.68	\$6.87	\$1.88	\$3.64	\$10.76	\$1.29	\$1.17	\$6.72	\$2.02	\$3.74
2005	\$10.05	\$1.10	\$1.28	\$4.73	\$1.46	\$2.24	\$9.71	\$0.88	\$0.90	\$4.65	\$1.50	\$2.37
2004	\$8.94	\$1.21	\$1.17	\$3.86	\$1.46	\$1.66	\$8.58	\$0.98	\$0.86	\$3.83	\$1.53	\$1.75
2003	\$8.00	\$1.44	\$0.98	\$3.10	\$1.46	\$1.30	\$7.74	\$1.28	\$0.71	\$3.07	\$1.43	\$1.39
2002	\$7.26	\$1.73	\$0.82	\$3.21	\$1.37	\$1.27	\$7.14	\$1.53	\$0.64	\$3.16	\$1.34	\$1.27

Source: U.S. Treasury Department TIC database

Exhibit 8: Japanese Insurance Company Assets

Balance Sheet Item	Billions	%
Deposits	¥933.5	3.0%
Call Loans	¥334.3	1.1%
Resale Agreement Receivables	¥228.5	0.7%
Monetary Receivables Bought	¥1,295.2	4.1%
Money Trusts	¥113.0	0.3%
Securities	¥22,232.1	70.6%
National Gov't Bonds	¥4,956.0	15.7%
Local Gov't Bonds	¥610.4	1.9%
Corporate Bonds	¥3,809.3	12.1%
Stocks	¥7,452.7	23.7%
Foreign Securities	¥4,963.9	15.8%
Other Securities	¥439.8	1.4%
Loans	¥2,373.8	7.5%
Real Estate	¥1,098.4	3.5%
Total Working Assets	¥28,609.0	90.8%
Other Assets	¥2,886.6	9.2%
Total Assets	¥31,495.6	100.0%

Source: 2009-10 General Insurance in Japan Fact Book,
General Insurance Association of Japan

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