Is The Peruvian PEN Mightier Than The Sword?

Peru for years had been one of those countries consigned to some sort of Trivial Pursuit existence in most people's minds. For example, the oldest known city in the Americas, Caral, dates back to about 2,500 BC, and the Nazca lines visible from the air excite the imagination of those who need to believe our planet was populated by extraterrestrials. Peru's Inca Empire created rope bridges across Andean gorges made chewing the coca leaf central to the daily lives of its inhabitants; you are free to draw your own connections.

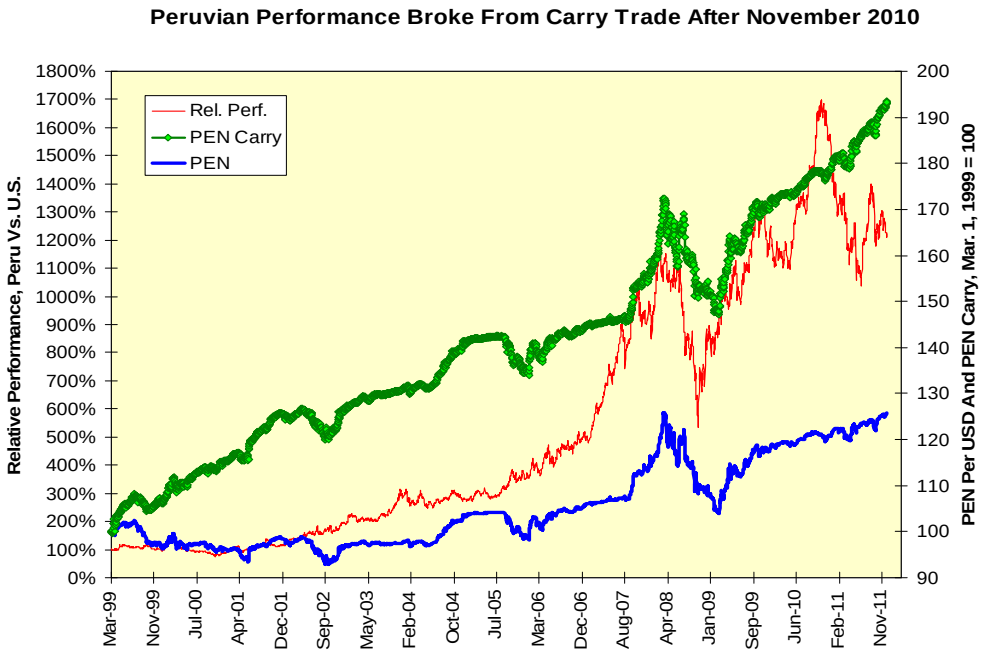
The Incas also had the misfortune of having enough gold to attract Spanish conquistadores very early on in the settlement of the New World and that, as they say, was that: The lost city of Machu Picchu served as a reminder of how quickly and completely the Inca collapsed. About the only saving grace, and a fitting reminder to those in the business of trading who let their greed get the better of them is the story, perhaps apocryphal, of how Vicente de Valverde, first bishop of Cuzco, was killed by the Incas pouring molten gold down his throat.

The nutrient-rich waters of the Humboldt Current gave Peru an accidental role in the huge commodity rallies of 1972-1973. The El Niño current shifted and led to the collapse of the Peruvian anchovetta fishery; this fishmeal was a primary protein additive to livestock feed and its shortage led to increased demand for soymeal at the very time when global soybean prices were surging. In a bull market, all news is bullish.

A Millennial Success Story

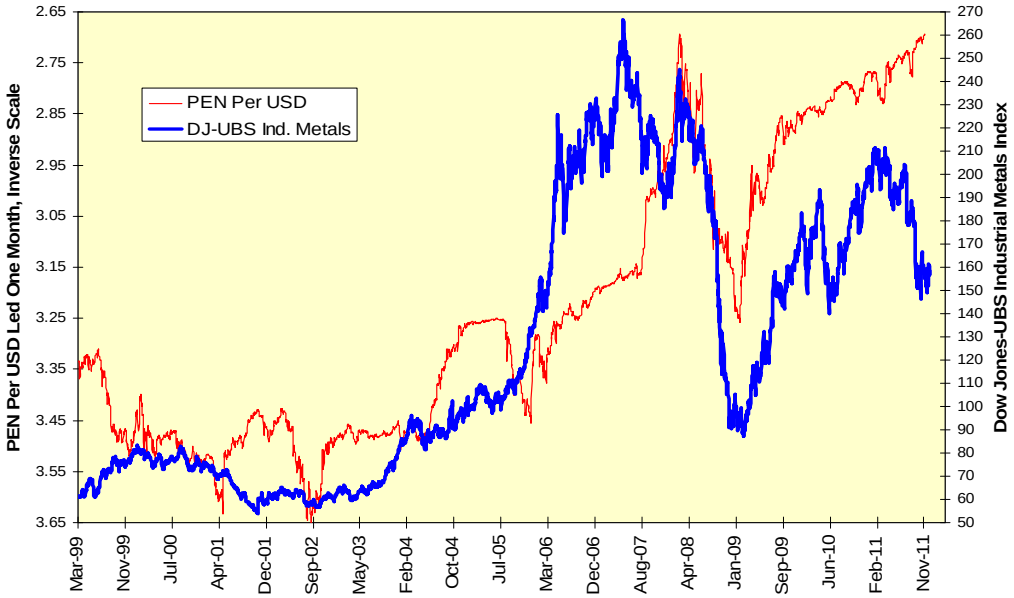
That was then; this is now. Peru, like so many other Latin American markets, benefited from both the yen and later U.S. dollar carry trades from the late 1990s onwards. If we map the relative performance in USD terms of the Peruvian stock market against the course of both the Peruvian sol (PEN) and the excess carry return from borrowing the USD and lending into the PEN since March 1999, we can see if an American investor had, for whatever strange reason, decided one year before the dotcom bust began to shift funds into Peru, the returns would have been stunning. Yes, this is fun with statistics as no one in their right mind would have made this decision in 1999 and few others would have stayed the course through the violent retracement of gains during the financial crisis of 2008-2009, but the general principle remains intact.

Once the U.S. adopted quantitative easing in March 2009, the relative performance of the Peruvian market became linked to the excess carry return on the PEN through the start of QE2 in November 2010. As has been the case for so many emerging markets, QE2 turned out to be the "sell the news" conclusion in the great money-printing extravaganza of 2009-2010. Restated, this was truly a "Beach Boys market:" Everyone had fun, fun, fun until Benny took the T-bills away.



The end of the money-printing link preceded the demise of another apparently strong link for the PEN. This was the one between Peru's robust mining sector and the prices of various physical commodities, metals especially. Over the post-March 1999 measurement period, the Dow Jones-UBS industrial metals index has led the PEN spot rate by one month on average. The metals peaked in 2011 along with so many other markets at the end of April, but the PEN kept on grinding higher. This actually was fortunate for Peru; commodity booms do not last forever, and dependence thereon is risky. If the PEN had strengthened along with metals prices, low interest rates in the U.S. and a bull market in emerging market equities, will it be able to levitate when two of these supports, capital inflows and metals prices, move into downward cycles? This would be asking a lot.

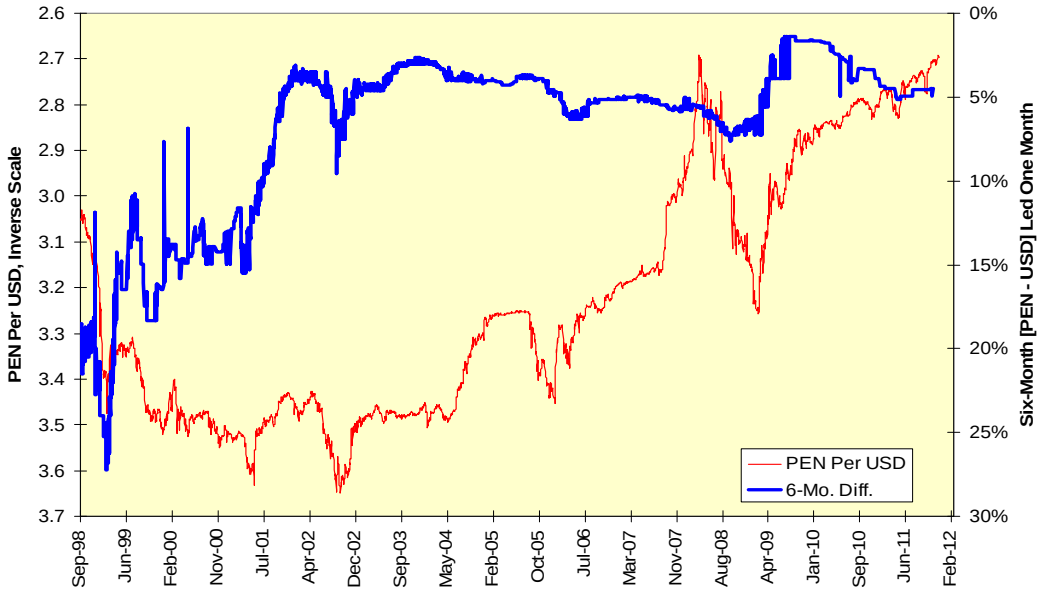
The Sol's Commodity Connection Weakening



Assets Matter

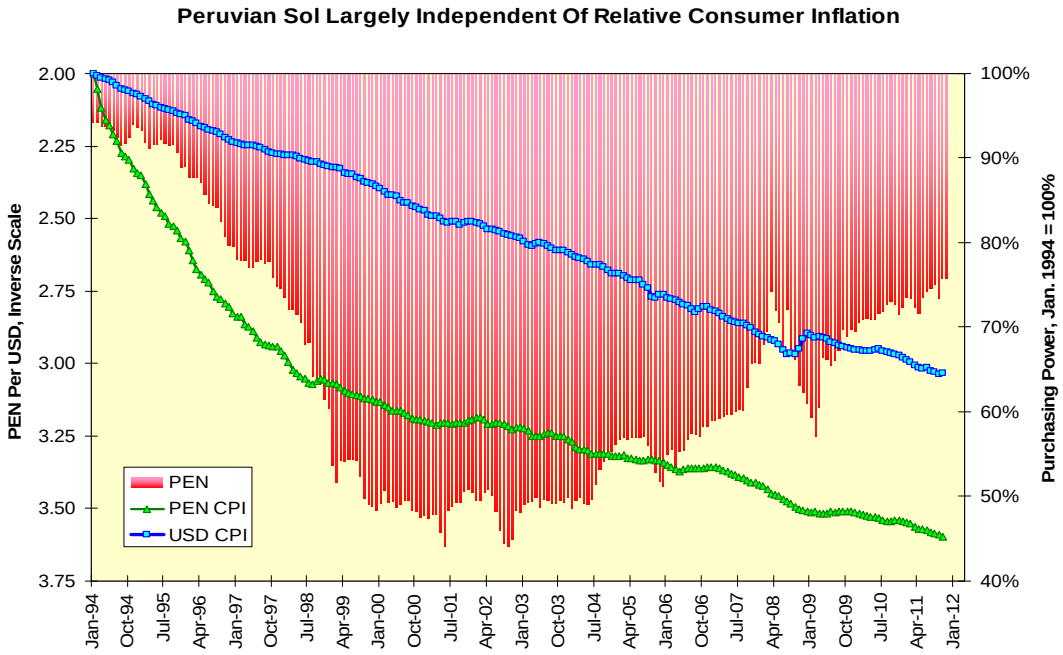
The importance of asset flows for a market such as Peru cannot be overstated. The structure of Peru's short-term interest rate markets does not allow us to compare expected interest rate differentials; we must devolve to comparing absolute interest rate spreads. Even here the results are highly indeterminate and apparently are unrelated to movements in the spot rate of the PEN. The large rally in the PEN between early 2003 and the onset of the 2008 financial crisis was matched by very little movement in the six-month interest rate gap between the PEN and USD. This is not a market driven strongly and directly by interest rate arbitrage.

Peruvian Sol Seldom Moves With Absolute Interest Rate Differentials



A second observation has to be added on the interest rate front: Once we get out of the money-market horizon, the Peruvian bond market does not provide us with much guidance, either. The issues trade infrequently and issuance is not particularly regular. We cannot add expected changes in government debt to the prospective returns on assets mix.

While currencies can be driven by inflation differentials, this does not appear to be the case, either. If we re-index the Peruvian and U.S. consumer price indices to January 1994 and map them against the spot rate of the PEN, we see how rising inflation in Peru during the 1990s did in fact coincide with a downturn in the spot PEN. This is all very well and good, but the two CPI measures have moved in parallel since 1999 while the PEN has gained on the USD since late 2004. If inflation differentials mattered, they would have to matter in a two-way fashion for us to use them as a tool of currency analysis.



A Note On Volatility

The obvious self-reinforcing cycle – we hesitate to call this a "virtuous cycle" as the driver in runaway money-printing in the U.S. – of asset flows reinforcing currency gains and vice-versa makes the relatively new market in options on PEN non-deliverable forwards nervous. As before, we will use excess volatility, the ratio of implied volatility to HLC volatility, minus 1.00, as a measure of the market's demand for insurance.

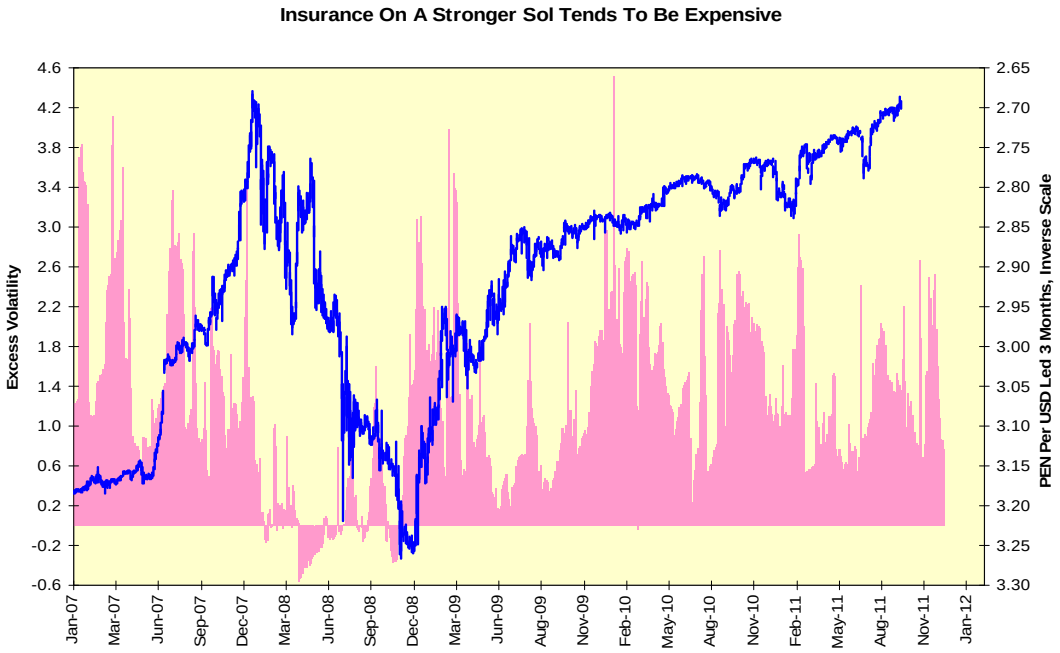
HLC volatility is defined as:

$$\sum_{i=1}^{N}\left[\frac{\left[.5*\left(\ln\left(\frac{\max(H,C_{t-1})}{\min(L,C_{t-1})}\right)\right)^2-.39*\left(\ln\left(\frac{C}{C_{t-1}}\right)\right)^2\right]*260}{N}\right]^{1/2}$$

Where N is the number of days between 4 and 29 that minimizes the function:

$$\frac{1}{N}*\sum_{i=1}^{N}\frac{N}{Vol^2}*|(P-MA)|*|\Delta MA|$$

In the case of the PEN and its short option history, the market almost always has been in a high excess volatility environment, especially in those periods when the Federal Reserve went out of its way to demonstrate its willingness to keep the money spigot open. The connection is not as strong as we might like it to be, but the combination of negative excess volatility during the PEN's 2008-2009 decline and high excess volatility during its later rallies leads us to believe the market distrusts a strong PEN.



John Connally, Secretary of the Treasury under President Nixon, once told a European audience the dollar was "our currency, but your problem." Peru might understand the situation with the sol in a similar fashion: It is Peru's currency, but its course seems to be driven by U.S. monetary policies and will suffer if and when they ever change.