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Financial Repression and Currencies

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***Bottom line**: The Fed's QE operations have severely damaged the information content of various key market signals. Specifically, the level and shape of the US yield curve have been for years a reliable source of information about the market's expectations of future growth and inflation – important to both policy makers and market participants. In the foreign exchange markets, the US yield curve has been used as a reliable predictor of currency trends. However, with the introduction of QE2 and QE3, the US yield curve has been severely distorted, making the information content too polluted for the policy makers to use, and too unreliable for currency traders to rely on. In fact, most currency funds run on systematic strategies have badly under-performed, mainly because of the distortions imparted by the Fed's policies. There are a few points to make. First, it is not quite true that central banks 'drive while looking in the rear view mirror.' In fact, one of the best indicators of forward trends for the economy has for years been the yield curve and the stock markets – both of which are distorted. How this fact could undermine policy making is an important question, in our view. Second, in thinking about currency trends in this environment, discretionary strategies should be more effective than systematic strategies. An analogy is that the Fed's extreme policies have rendered the 'GPS systems' out-dated, forcing currency managers to resort to manual over-ride; with QE, old-fashioned piloting is safer than relying on the auto-pilot. We suspect investors in the other asset classes have also had to revise their strategies, because of the evaporation of the information content of financial variables. Third, with the above observations, it seems odd to us the argument that the Fed's policies have had modest effects on asset prices, and that the exceptionally-high Sharpe ratio rally in global equities in the past two years has been justified by corporate earnings. At these elevated levels in equity prices, we see heightened risks of sharp asset price corrections in 2014,*

with positive implications for the US dollar. Equities may or may not sell-off in 2014, but the risks to the dollar seem asymmetric in 2014: up more likely than down, and can serve as a partial hedge against faltering equities.

Negative side effects of QE. The negative side effects of QE are back-loaded while the benefits are front-loaded. As time passes, the benefits fade while the costs and risks rise. Heading into 2014, and as the US economy continues to recover, the Fed will be forced to retract their QE operations. We see risks to the asset markets as the Fed tapers. In the event of a sharp equity sell-off, the dollar should perform well. In addition, using *unconventional* monetary tools to achieve *conventional* monetary objectives has negative side effects, one of which is pollution of the information content of financial variables that have, historically, contained useful forward-looking information. Losing the ability to read the market's expectations will constrain the Fed's own decision making process, as well as investors' ability to operate using traditional methods. To the extent that the Fed's QE operations have undermined the ability of market instruments to convey information, the Fed has effectively increased uncertainty (because the policy makers and the market participants are not confident about 'where they are' or 'where they are heading') and risk (of policy mistakes).

Why are the Fed's QE operations so controversial? QE is an unconventional (though no longer unorthodox) tool. It was not controversial when the original QE was implemented in response to the clogged up credit channels and an overall dysfunctional credit system in the immediate aftermath of the Global Financial Crisis. In that case, the Fed deployed unconventional tools to address an unconventional objective. However, the Fed's decision to continue using unconventional tools (QE) to achieve conventional objectives (e.g., supporting inflation and capping unemployment) has been controversial both in the US and Europe for several reasons. Mr J. C. Trichet[1] put it best, on the main problems with using QE in 'peace time.' He mentioned five problems.

1. The central bank would encourage all investors to take higher risk;
2. The restructuring of the financial sector might be hampered, because super-low interest rates would mask underlying weaknesses in balance sheets;
3. There would be adverse effects on financial institutions depending heavily on long-term fixed interest rates, including insurance companies and pension funds;

[1] 2013 Per Jacobsson Lecture, 'Central Banking in the Crisis – Conceptual Convergence and open Questions on Unconventional Monetary Policy.'

4. Such policies could permanently distort capital allocation;
5. Unconventional policies, if applied over an extended period, could introduce significant vulnerability to the financial system upon the inevitable policy exit.

1 applies more to the US, while 2 applies to Europe. 3, 4, and 5 apply to the US, Europe, the UK, and Japan.

We would add one more, in our view very important, problem with unconventional monetary policies aimed at financial repression: by severely distorting the asset prices, the central banks' very policies could hinder their ability to extract valuable forward-looking information from the markets. This is the point mentioned in the opening paragraph.

Here, we use the popular car analogy that central bankers often use to describe the challenges they face. Often, central banking has been described as driving by looking in the rear view mirror. We believe this is not an accurate analogy, because there are financial instruments that contain powerful information about the market participants assessments of the future, for growth, inflation, uncertainty, … etc., and central bankers had, until recently, actively used and relied on these signals as policy inputs. In other words, besides the rear view mirror, central bankers have had the benefit of reading the instruments in the car to guide them forward. Now, however, their own policies have rendered some of the instruments useless.

In financial economics, financial spreads and ratios are commonly used to forecast future movements of asset prices. This is because they capture future expectations of key economic variables such as growth and inflation. In particular, the shape, the level, and the movements of the US yield curve used to be the single-most important variable. However, QE has severely distorted the information content of the yield curve. As mentioned in an earlier note, '*Assessing the Risks of US Recession in a New World*,' (August 29, 2012), the shape of the yield curve has ceased to be a good predictor of the US GDP growth.

Another key financial indicator has been stock prices, which, until the start of QE2, had been a good leading indicator of economic growth. However, our study suggests that more than 50% of the volatility in the US equity prices in recent years can be attributed to the direct and indirect effects of the Fed's QE operations. No longer is there a robust relationship between the yield curve, economic data, and equity prices. The Fed's policies have had a positive impact

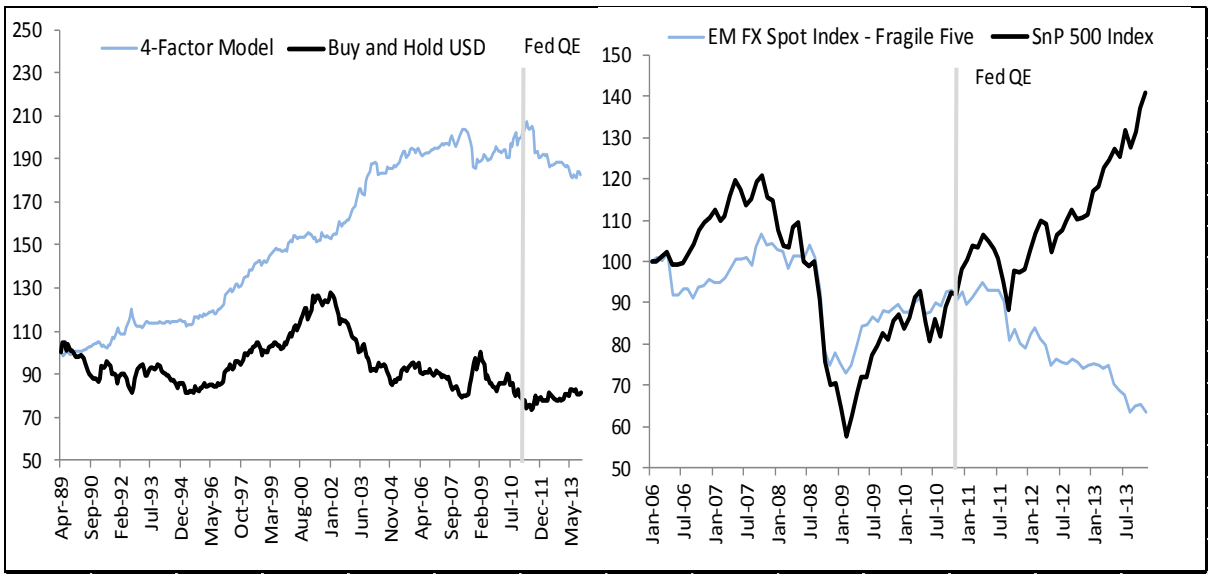
on equities through an artificial suppression of volatility and equity risk premium.

In short, both bonds and equities have ceased to be reliable sources of information about the US economy.

Currency investment has been made more challenging due to the Fed's QE operations. Since we specialize in FX, we can illustrate the severe breakdown in the relationships between different assets by citing the dismal performance of systematic-based currency funds: which suffered losses for two years in a row. We are not a systematic fund, but we do run quant programs as an input to our discretionary process. These programs, to be blunt, have not worked since the introduction of QE2 in 2010.

In the chart on the left below, we show how a yield curve-centric program that had been consistently profitable began to lose money after the introduction of QE2. (This is shown by the decline in the light blue line since August 2010.) Our yield curve model contains four factors: (i) the relative levels of interest rates between two currencies; (ii) the relative 'slope' of the yield curves of two currencies; (iii) the relative yield curve 'curvature'; and (iv) the relative 'shift' in the yield curves. The first three factors (levels, slopes, and curvature) compare the relative shapes of the yield curves between two currencies. In the fixed income world, typically the level factor corresponds to inflation, the slope factor to economic growth, and the curvature factor to risk. The shift factor attempts to capture, dynamically, the impact of the arrival of economic news.[2] Prior to 2012, as can be seen in the chart, the performance of this model had been quite impressive.

[2] The chart on the left below plots the combined reinvestment value of the four active USD strategies against a passively long USD strategy. Every month, the signals are generated out-of-sample, and long or short dollar positions are held until the end of the following month. The overall portfolio consists of equally-weighted G7 USD crosses (EUR, JPY, AUD, GBP, CHF, CAD and SEK). The reported figures are total net returns, net of interest differentials.



Source: Bloomberg, DataStream and SLJ Macro Partners Estimates

At the same time, QE2 and QE3 contributed to a stark breakdown in the high correlation between the SnP and the currencies of the 'Fragile Five' (BRL, IDR, INR, TRY, ZAR). The chart on the right above shows the sharp divergence between the SnP (which rose sharply) and the EM currencies (which sold off sharply) since late 2010, coinciding with the introduction of QE2. Typically, EM currencies are seen as 'high-beta' and tend to rally with global risk assets, centered around the SnP.

One explanation for the breakdown in this relationship is that the SnP itself was out-of-synch with the strength of the global economy. The Fed's money printing led to indiscriminate capital flows into all EM economies. In most cases, these flows were turned into domestic credit, and in all of the 'Fragile Five', inflation rose. Higher inflation forced the nominal exchange rates to adjust. At the same time, foreign capital inflows motivated by the Fed and the other developed country central banks were countered by capital *out*flows from these economies, as if the locals knew that the hot money inflows and the extended credit cycles were not sustainable. Russia is a good example, that outflows by the local investors have overwhelmed the large inflows by the foreign investors. (Perhaps these local investors did not read the reports extolling the merits of the BRIC countries.)

In any case, the key point here is not to complain on behalf of the systematic currency funds on how difficult it has been to make money. Rather, we use the bad performance of currency quant models lately to illustrate the distortions the Fed has imparted in the financial system.

Will 2014 be an extension of 2013? We've read the 2014 outlook reports and listened to the conference calls hosted by many sell-side banks. Without exception, every single bank is looking for the global economy to gradually recover and for equities to extend the trends seen in 2013: up. We are not as convinced, and suspect that there is a rising risk that equities correct in response to the Fed's tapering. Specifically, if we assume that the US leads the global economy in this prospective recovery in 2014, the Fed will almost certainly need to respond by curtailing their QE3 operations. This should, all else equal, lead to a rise in the 10Y UST yield. What happens to equities is less clear, according to our framework. While equities may very well rally further, they may also correct, depending on whether the positive effects on company earnings compare with the liquidity effects from QE3. (The collective Sharpe ratio for the developed market equities has been around 2.0 or so this year – too high to be sustainable, we think.) For the dollar, we believe it should rally in two of the three scenarios: (i) if the US economy leads the global economy, and if equities sell off due to tapering; and (ii) if the US economy leads the global economy, and if equities continue to rally despite tapering. One scenario that is most damaging for the dollar will be (iii) no recovery in the US.

Bottom line. Sustained political repression usually leads to riots and ultimately revolutions; financial repression also has consequences. The Fed's application of unconventional monetary policies to achieve conventional objectives is controversial, mainly because it has negative side effects that are back-loaded, while its positive effects are front-loaded. We worry that, over time, the balance of risks will shift. Financial repression has severely distorted the information content of several key financial variables, including the yield curve and the stock prices. It has rendered quant models in currencies, and most likely in other markets, useless. It will also raise the risk of greater volatility in both bonds and equities in 2014, we suspect, as the pent up tensions between the underlying real economy and the financial markets build up. We continue to like the dollar, not only because we believe the US will be the main engine of growth for the world in 2014, but also because, in the event of a significant sell-off in global equities and bonds, the dollar should also perform well.

Appendix. Ranking the EM Currencies

For currencies, yield curve-based models have ceased to perform, since late-2012. We have long had a negative view on the EM currencies, especially those that have been termed the 'Fragile Five' – BRL, IDR, INR, TRY, ZAR, based on discretionary macro analysis. We will not repeat the details of our arguments here. Instead, in this appendix, we propose an *ordinal* ranking of the various EM currencies, based on (i) the quality and the composition of the output growth, and (ii) their twin balances, i.e., the fiscal and external balances.

On (i), what we have in mind is that the magnitude of the headline GDP growth rate is less important than the quality and the composition of the various contributions to this output growth. The consumption and investment-to-GDP ratios are important, so is the manufacturing-to-services ratio. We consider both the average levels of and the changes in these ratios during the past 20 years. The EM countries that are more reliant on the service sector and with higher consumption-to-GDP ratios are ranked lower. The table on the left below shows this ordinal ranking. South Africa, Russia, Turkey, and Brazil rank poorly on these measures.

GDP Decomposition	Rank
CNY	1
THB	2
KRW	3
INR	4
IDR	5
MXN	6
BRL	7
TRY	8
RUB	9
ZAR	10

Growth-Inflation-Twin Deficits	Rank
CNY	1
KRW	2
THB	3
IDR	4
INR	5
MXN	6
BRL	7
RUB	8
ZAR	9
TRY	10

Source: UNCTAD, IMF WEO and SLJ Macro Partners Estimates

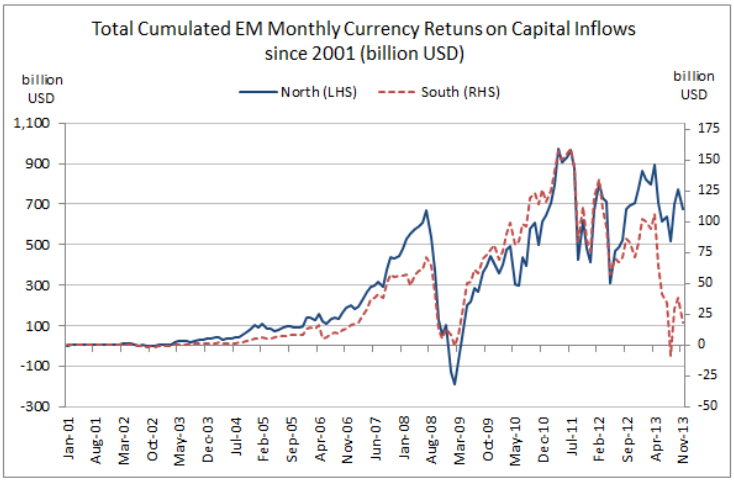
Further, the table on the right ranks these countries based on their GDP growth, CPI inflation, and the twin deficits. Here, we see that Turkey, South Africa, Russia, and Brazil also rank poorly on these measures.

Countries that are relatively small in manufacturing and rely more on consumption tend to grow slower, have greater deficits, and with higher

inflation. The countries that rank poorly in these two tables also tend to have higher exchange rate volatility over a business cycle.

India and Indonesia don't look so bad in these tables. However, we note that there is a big gap between these two countries and the true 'North' EM economies such as China, Korea, and Thailand. Our exercise is based on an ordinal (linear) ranking process; but in terms of the magnitudes of the various measures, India and Indonesia are definitely 'South', not 'North.'

How have the Fragile Five currencies performed over time, considering their rich interest rate carry? The chart below shows the 'PnL' of two portfolios: (i) a carry trade portfolio consisting of a dollar-short and North EM-long; and (ii) a carry trade portfolio consisting of a dollar-short and South EM-long. The disparity in the performances of these two portfolios is stark. We used the capital flow data from the Institute for International Finance (IIF) on capital flows to compute the size of these carry trades.



Source: Bloomberg and SLJ Macro Partners

Since 2001, a long-North EM carry trade portfolio (solid blue line in the chart above) has generated quite substantial profits: around USD700 billion or so. Most of this is from the long-CNY position. On the other hand, the long-South EM carry trade portfolio (dotted red line in the chart) has generated no net profits, and has sustained very large losses this year – around USD100 billion. We believe in 2014, we will see that the long-South EM carry trade portfolio will show significant net losses, to bring the cumulative returns since 2001 into the negative territory, despite the very high carry.

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