

# Perspectives

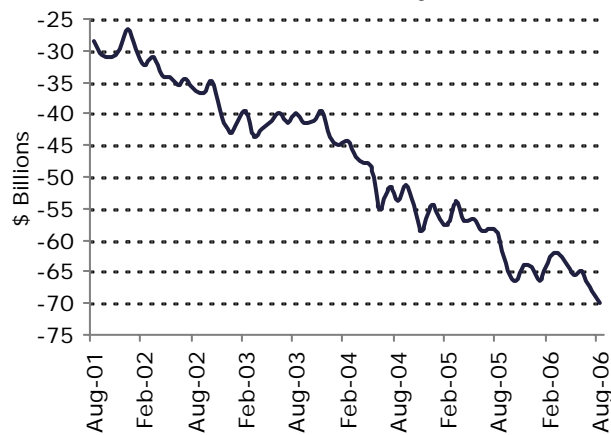
## What the Bank of China Can Teach Us about Investing in Foreign Currencies

The head of China's central bank, Zhou Xiaochuan, recently announced plans to keep diversifying China's currency reserves away from the U.S. dollar. Zhou's statement is important because of the power of his rationale, and because of the weight China's large currency reserves gives to any of his statements. He plans to reduce the central bank's exposure to the dollar over time to enhance "safety, efficiency, and liquidity."<sup>1</sup>

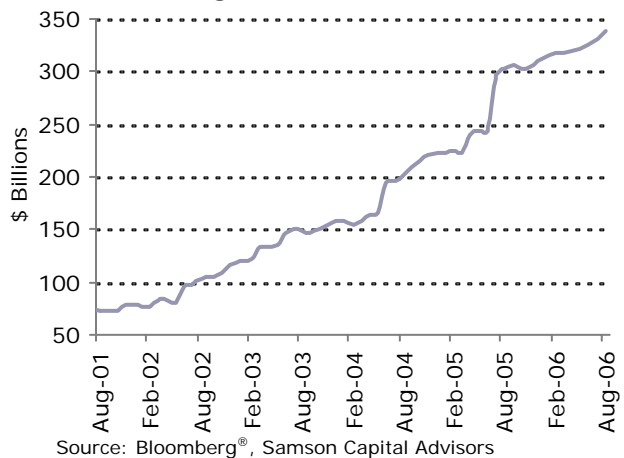
Should U.S. investors follow the lead of China's central bank? Furthermore, if they invested like a central bank how would this approach influence their asset allocation, their currency selection, and their non-dollar investment style?

Let's begin our discussion with a brief review of the fundamental case for a weaker dollar. This thesis rests on the severe imbalance that exists today between U.S. income and spending patterns. The United States has been on a borrowing binge. Consumers on Main Street are ringing up purchases of foreign cars and appliances on their charge cards with abandon leading both to large trade deficits and rising levels of consumer indebtedness. Congressmen on Capitol Hill are approving huge budget deficits, ignoring the harsh consequences of financing wars and social programs through loans. These deficits have been financed in considerable measure by overseas investors and foreign central banks. At some point (yet to be determined) foreigners will decide they do not want to provide capital to a nation of spendthrifts, and when the loans cease, the dollar will likely fall. Many senior statesmen such as former Federal Reserve Chairman Paul Volker believe the probability of a dollar crisis is rising. "It's incredible people have gone on so long holding dollars," Volker commented at a recent conference. "At some point, you will get a situation where people have had enough". Considering that foreign investors (including central banks) own about 50% of the \$4.3 trillion in outstanding Treasury bonds, the threat to the dollar, not to mention U.S. bond markets, is real.<sup>2</sup>

**U.S. Balanced of Trade (monthly data)**



**Chinese Holdings of U.S. Treasuries**



What is the best approach for U.S. investors to benefit from this view and how should it relate to broader asset allocation issues? The International Monetary Fund (IMF) has conducted considerable interesting research on best practices for central bank currency reserve management. The IMF's work gives us insight into the actions of China's central bank (as well as other central banks), and a sound approach for a U.S.

<sup>1</sup> Daniel Kruger, "Dollar Drops This Week as China Says It Will Diversify Reserves", 11 November 2006, Bloomberg News.

<sup>2</sup> Kevin Carmichael, "Rubin, Volker Say Investors May Avoid Buying Dollars", 15 November 2006, Bloomberg News.

private client. The IMF explains that among the methods to consider are a purchasing power approach and an optimization framework.<sup>3</sup>

Reconsidered within the framework of the IMF's recommendations, Zhou's statement that China seeks broader currency diversification to promote "safety, efficiency, and liquidity" becomes more understandable. For central banks with broad and deep currency reserves, the optimization approach (grounded in modern portfolio theory) supports diversification away from a single currency concentration. This approach seeks to enhance overall returns by using statistical analysis to balance risk and return projections. The optimization approach helps central banks reduce the volatility of their reserves and enhance returns in a risk management framework. Central banks such as China's, whose reserves are very large, are even beginning to diversify into commodities such as gold. This process of diversification is still in its early days as China's \$1 trillion in reserves are still invested in about 72% in U.S. assets and just 1% in gold. Among the likely long-term beneficiaries of China's diversification are gold as well as other currencies like the Euro.<sup>4</sup>

Central banks whose external debt payments or imports are denominated in a concentrated number of currencies may seek to protect the purchasing power of their nation's reserves by allocating to those currencies in a manner consistent with their future obligations. This purchasing power approach assists central banks in their efforts to protect a nation from the kind of shock that occurs when their home currency is under pressure. For private investors this would mean crafting a currency strategy consistent with their overseas buying preferences, or other non-dollar obligations (i.e. Euro denominated mortgage payments on a home in France).

If private investors acted like a central bank and in a manner consistent with the ideas contained in the IMF's recommendations, asset allocation might take an interesting direction towards absolute return investing and currency allocations would be driven by purchasing power themes. But how should the currency allocation be determined? Traditional approaches to non-dollar allocations frequently emphasize intermediate foreign bond strategies, typically benchmarked against an index like the Lehman Global Government<sup>®</sup> (excluding the U.S.). The currency allocations in this type of benchmark are generally calculated by the relative size of the constituent bond markets. Furthermore, these strategies have the interest rate risk of intermediate maturity government bonds.

As noted above, following the IMF approach would take the U.S. investor down the path of using purchasing power protection as a driving theme to develop a currency strategy. In the absence of a client specific currency allocation (which would require a detailed analysis for foreign assets, liabilities, and personal international purchasing patterns), we think a better approach would be a trade weighted currency basket, like the currencies that make up the U.S. Dollar Index<sup>®</sup> (which trades on the New York Board of Trade<sup>®</sup>). *The weights of the currencies in a particular trade weighted currency benchmark are determined by how much trade the U.S. does with a particular country.* This has more relevance with investors' purchasing power concerns than a bond benchmark which determines the weight of each currency by the relative size of various bond markets. Importantly, as the correlation matrix that follows demonstrates, this strategy has extremely strong diversification benefits: low correlation to domestic fixed income; negative correlation to stocks, high yield, and hedge funds; and no significant correlation with commodities.

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<sup>3</sup> "Issues in Reserve Adequacy and Management?"; Prepared by the Monetary and Exchange Affairs Department and Policy Development and Review Department, International Monetary Fund (Washington: 2001).

<sup>4</sup> Danielle Rossingh and Debarati Roy, "Gold Heads for Weekly Gain on Speculation China May Buy Metal", 10 November, 2006, Bloomberg New; Gabriele Galati and Philip Wooldbridge, "The euro as a reserve currency: a challenge to the pre-eminence of the US dollar – BIS Working Papers No. 218", Bank for International Settlements, (Basel: 2006).

**Correlation to the Trade-weighted Currency Basket \***  
(Jan 1990 - Dec 2005)

Trade-weighted Currency Basket	LB Intern Agg Index®	LB 5 Year Muni Index®	S&P 500®	LB US High Yield®	HFRI Fund Weighted Composite®	US CPI-U®	Goldman Sachs Commodities Index®
1.00	0.26	0.21	-0.03	-0.07	-0.09	0.04	0.08

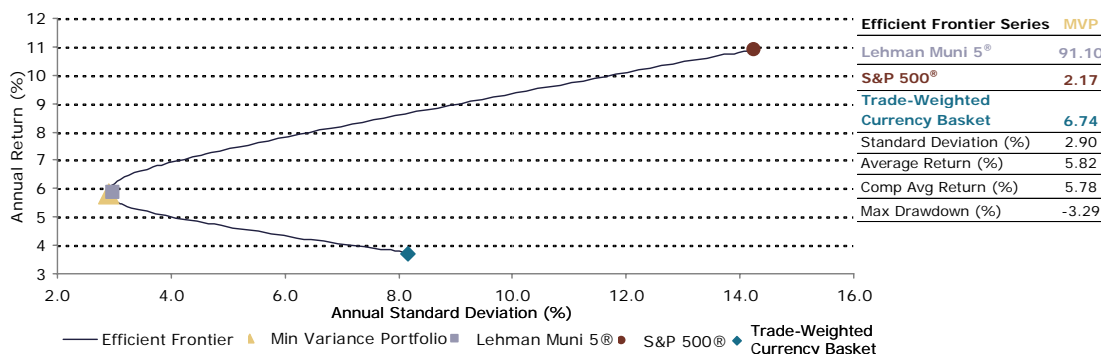
As the following chart shows, this approach has a much lower correlation with domestic bond markets than the type of global bond strategies investors typically choose as their default multicurrency choice:

	LB Intern Agg Index®	LB 5 Year Muni Index®	S&P 500®	LB US High Yield®	HFRI Fund Weighted Composite®	US CPI-U®	Goldman Sachs Commodities Index®
<b>Trade-weighted Currency Basket</b>	0.26	0.21	-0.03	-0.07	-0.09	0.04	0.08
<b>LB Global Govt Ex US®</b>	0.46	0.41	0.05	0.01	-0.02	0.02	0.06

So, why do so many investors choose a global bond strategy when a multicurrency strategy based on a trade weighted basket of currencies may be superior? For years interest rates were falling around the world, and the positive returns of global bonds added to multicurrency returns. In a positive return environment, investors are often willing to overlook problems, and in this case it appears they decided diversification was not too important when foreign bond returns were positive. Yet, rates are no longer falling around the world and investors using a global bond strategy are taking the chance that the benefits of currency diversification will be diminished by poor bond returns.

Now that we have considered how to apply IMF concepts of purchasing power protection to private investor portfolios, how can optimization techniques help construct efficient portfolios with a judicious use of risk to enhance returns while minimizing the probability of negative returns (after all, central banks like individuals do not like to lose money). To examine how this approach might inform a private investor’s asset allocation strategy we have taken three basic building blocks: Municipal bonds, stocks, and currencies. Our optimization analysis is below:

**After-Tax Efficient Frontier: Municipals, Stocks, and Currencies (Jan 1990 - Dec 2005)**



Based on Mean-Variance Optimization  
Assumed tax rate of 35% and dividend income tax treatment of 15%.

\* Represented by the calculated inverse of the USDX® which includes historic short-term local currency money market rates.

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The minimum variance portfolio along the efficient frontier contains 91% municipals (represented by the Lehman 5-Year Municipal Index<sup>®</sup>), 2% stocks (represented by the S&P 500<sup>®</sup>) and 7% in foreign currencies (represented by a basket of trade weighted currencies that make up the New York Board of Trade's US Dollar Index<sup>®</sup>). While this is an extremely conservative portfolio, it would have generated a nearly 6% annualized return for the period 1990 through 2005. Depending on a private investor's goals, risk preferences, or purchasing power concerns, the results for a particular investor optimization could vary considerably. For example, if an investor had very large non-dollar liabilities or considerable overseas spending patterns, the optimization might have been constrained for a minimum non-dollar allocation.

In summary, China's recent policy announcements remind us we no longer live in a world where the preeminence of the dollar is a foregone conclusion. China's desire to diversify, and the IMF's recommendations on currency management, suggests that preserving wealth requires a strong asset allocation strategy (grounded in modern portfolio theory techniques like optimization) harnessed to a well considered world view. Optimization can help central banks and private investors alike diversify their risks to enhance returns and minimize draw downs. A well considered worldview establishes the framework to make those decisions.

November 21, 2006

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Principal

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### Optimization Study Disclosure

The results reflect statistical analysis relating to the period 1990-2005. The results do not represent the results of actual trading using client assets but were achieved by means of the retroactive application of a model that was designed with the benefit of hindsight.

All returns are total return (reinvestment of dividends and coupons).

Maximum drawdown reflects the largest possible loss resulting from an optimized portfolio of currencies, stocks, and bonds during this history represented by the benchmarks noted in the study.

Samson combined historic short-term local currency money market rates consistent with the type of short duration instruments purchased by Samson with the inverse return of the USD<sup>X</sup>.

This is not a model strategy that Samson is offering to clients or investors thus; the potential effect of advisory and other fees is not shown.

Please note that the long-term period covered by this study includes varying periods when market experienced considerable volatility.

All investments bear a risk of loss. The returns listed are for discussion purposes only and should not be considered indicative of the skill of the adviser.

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### Calculation Methodology

The Calculated Inverse of the U.S. Dollar Index<sup>®</sup> (USD<sup>X</sup>) is used as a performance indicator. The USD<sup>X</sup> measures the strength of the U.S. dollar against a trade weighted basket of currencies.

Because Samson invests in foreign currencies, which rise in value when the U.S. dollar falls, we invert the USD<sup>X</sup> value to match the benchmark performance to our non-dollar strategy.

The formula for calculating this index value (for a given month  $t$ ) is given by:

$$\text{Month } t \text{ inverse of USD}^X = \frac{10,000}{\text{USD}^X} \text{ For example, Month } Dec, 2005 \text{ inverse of USD}^X = \frac{10,000}{91.17} = 109.69 \text{ (where the value of the USD}^X \text{ index}$$

as of December 31, 2005 was 91.17).

To calculate the monthly return (for given month  $t$ ) of the inverse of USDX<sup>®</sup> index, we apply the following return calculation methodology:  
 $((\text{Month } t \text{ inverse of the USDX}^{\text{®}} \text{ value} - \text{Month } t-1 \text{ inverse of USDX}^{\text{®}} \text{ value}) / \text{Month } t-1 \text{ inverse of USDX}^{\text{®}} \text{ value}) * 100$ .

For December 31, 2005, the inverse of the USDX<sup>®</sup> return calculation is:  $((109.69 - 109.21) / 109.21) * 100 = 0.44\%$  (where the value of the USDX<sup>®</sup> index as of November 30, 2005 was 91.57 and the inverse of USDX<sup>®</sup> value was 109.21)

#### **ADDITIONAL DISCLOSURES**

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Benchmarks are shown for illustrative purposes only, may not be available for direct investment, are unmanaged, assume reinvestment of income, and have limitations when used for comparison or other purposes because they may have volatility, credit, or other material characteristics (such as number and types of securities) that are different from any strategy or account. This information is as of the date(s) indicated, may be modified or updated, and is not complete. Certain information is based on third-party sources and, although believed to be reliable, it has not been independently verified and its accuracy or completeness cannot be guaranteed.