

NEPC is an independent, full service investment consulting firm, providing asset allocation, traditional and alternative asset manager search, performance evaluation and investment policy services to institutional investment programs. We offer our market letters to provide insight into recent market conditions, and to assist your interpretation of investment results. We encourage your comments and feedback, as well as any inquiries you may have about our firm or our consulting services.

## Currency Risk Revisited – the Yen, the Euro, and Uncompensated Volatility

Remarkable external events shocked global capital markets in the first quarter of 2011. First, political turmoil in the Middle East sent energy prices soaring and emerging markets stocks plunging. Next, the northeast coast of Japan was hit with a trio of disasters – earthquake, tsunami, and nuclear accident – sending the Japanese stock market into a tailspin and global markets along with it. Almost unnoticed, Portuguese, Greek, and Spanish government bonds were downgraded, adding further complications to the ongoing European debt crisis. The benign investing environment of late 2010 that had continued into the first part of this year appeared shattered. Market volatility spiked but then, unexpectedly, the environment began to improve. A few positive economic reports came out. The nuclear nightmare in Japan was not realized (and, we hope, won't be). Business continued despite the deepening Libyan civil war and the ongoing need for peripheral European debt resolution. And stock markets recovered their bullish outlook and finished the month of March with a rally to earn the S&P 500 its best first calendar quarter in 13 years.

This remarkable three months – full of tragedy in Japan and Libya, triumph in Egypt and Tunisia, and wildly gyrating markets worldwide – reminds us that investing in risky assets is, well, a risky business. At NEPC, we are constantly seeking ways to improve client portfolio efficiency. To do so, we strive to identify attractive markets and strategies while creating risk-balanced portfolios that seek to moderate the impact of any one asset category or economic factor on overall portfolio performance. As we contemplate the jump in volatility in March, as well as the roller-coaster ride in markets over the last year, one source of risk jumps out from beneath the surface: **currency**. Since the start of the European bond crisis, the value of the euro in dollar terms has fluctuated significantly, rising and falling by as much as 10% over this period. Yet from the beginning of 2010 to the end of March 2011, as highlighted in Exhibit 1, the euro has declined in dollar terms less than 2%. Similarly, in the immediate aftermath of the recent natural disaster in Japan, the yen appreciated 6% versus the dollar, only to fall back – after concerted central bank intervention – to a level slightly below that before the earthquake.

So what are the implications of the meaningful volatility arising from currency movements? It is a fundamental tenet of investing that for taking a risk, an investor should be compensated, or at least expect to be compensated, over the long-term. However, holding exposures to developed-market currencies – distinct from owning the underlying stocks or bonds, over these short-term periods but also over the long term – has not generally compensated investors. In Exhibit 2, we show the cumulative impact of currency on a \$1,000 MSCI EAFE investment starting in January 1988. Over this 23-year period (the longest period for which good data are available, but also a reasonable proxy for the long term), exposure to these currencies has provided a significant amount of volatility, but only a small, positive return. Certainly, there have been extended periods of time when foreign currency exposure has boosted returns for dollar-based investors. In fact, over the last nine years, the dollar has been in a secular decline versus a basket of foreign currencies, and unhedged exposures have contrib-

Exhibit 1—EUR-USD Exchange Rate Jan. 2010–March 2011

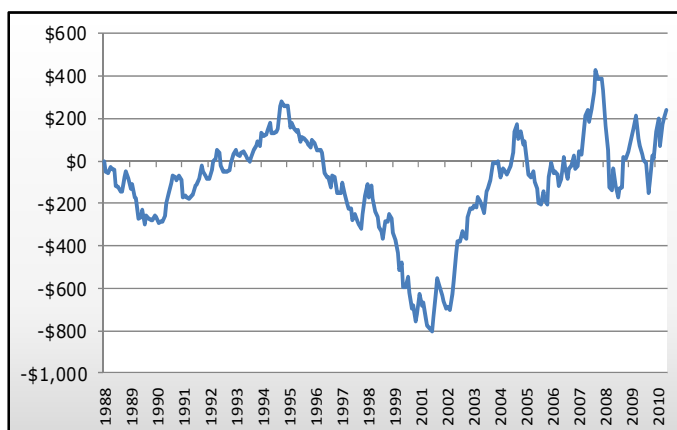


Source: Bloomberg

uted to US investor returns. Conversely, there have been equally long periods when dollar strength has been a net negative for US investors.

Going forward, we are concerned that almost all major developed-market currencies are suffering from significant structural issues including high debt levels, low economic growth, and aging populations. As a result, we do not believe that the dollar will continue its secular decline versus the major developed-market currencies. Therefore, dollar-based investors are unlikely to be sufficiently compensated for holding these currencies, and hedging some or all of this exposure can improve overall portfolio efficiency. We do, however, draw an important distinction between the currencies of “developed” and “developing” markets. We believe that the currencies of emerging economies, as a basket, represent an attractive investment opportunity relative to the dollar, euro, pound sterling, and yen. For a more comprehensive discussion of the impact of currency on a total portfolio, please see our recently published white paper titled *Managing Developed Country Currency Risk – A Proactive Approach*, available at [www.nepc.com](http://www.nepc.com). We believe that assessing currency exposure in a risk-budgeting framework can help improve overall portfolio efficiency by eliminating an uncompensated source of volatility, at a time when there are plenty of risks – both expected and unforeseen – stalking the global markets.

**Exhibit 2—MSCI EAFE Cumulative Currency Differential**



Source: Bloomberg

### Global Equities

Equity markets got off to a strong start during the quarter as investors, optimistic about an economic recovery, continued to reallocate assets from bonds to stocks. While the markets cooled off in March in response to unnerving global headlines, most global segments – with the obvious exception of Japan – still ended the period in positive territory.

Within the US, equity indices posted mid to high single-digit returns, and small caps outpaced large caps once again. Most sectors posted positive results, but the clear winner was energy, which benefited from the increase in oil prices. Other leading sectors drove results within specific market-cap segments, including industrials in large caps, healthcare in mid caps, and technology and materials in small caps. Although growth stocks outperformed value stocks within the small-cap segment, the opposite was true among large caps.

International markets posted positive returns for the quarter – with developed markets up 3.4% in dollar terms – despite political, economic, and seismic shocks. After trailing in 2010, international value stocks outperformed international growth stocks and small caps outperformed large caps. US dollar weakness was a tailwind to performance. Although emerging markets underperformed developed markets for the first time since the fourth quarter of 2008, returns in Eastern Europe and Russia were strong.

Equity Index Returns (3/31/11)				
Global Equity	Quarter	1 Year	3 Yrs	5 Yrs
MSCI World	4.8%	13.4%	-0.3%	2.1%
<b>US Equity</b>				
S&P 500	5.9%	15.6%	2.4%	2.6%
Dow Jones Industrial Average	7.1%	16.5%	3.1%	4.9%
NASDAQ Composite	4.8%	16.0%	6.9%	3.5%
Russell 1000 Growth	6.0%	18.3%	5.2%	4.3%
Russell 1000 Value	6.5%	15.2%	0.6%	1.4%
Russell 2000	7.9%	25.8%	8.6%	3.3%
Russell 2000 Growth	9.2%	31.0%	10.2%	4.3%
Russell 2000 Value	6.6%	20.6%	6.8%	2.2%
<b>International Equity</b>				
MSCI EAFE	3.4%	10.4%	-3.0%	1.3%
MSCI Emerging Markets Free	2.0%	18.5%	4.3%	10.7%
MSCI Europe	6.5%	12.6%	-4.2%	2.0%
MSCI UK	3.8%	13.6%	-2.3%	1.8%
MSCI Japan	-4.9%	1.5%	-3.6%	-4.7%
MSCI Far East	-4.2%	4.3%	-2.3%	-2.8%

### Global Fixed Income

Fixed-income markets were resilient in the first quarter. US credit sectors in particular posted solid results as the business environment and leading unemployment indicators improved. Over the past few months, markets became concerned with the potential for higher inflation, as well as higher interest rates, as commodity and energy prices continued to rise. In addition, uncertainty surrounding the US fiscal situation came to a head, with the highly politicized budget debate in Washington nearly shutting down the government. Washington's continuing struggle to lay out a fiscal road map for the coming years may ultimately decide the future outlook for the US bond market.

During the quarter, the BC Aggregate index was slightly positive at 0.4%, reflecting spread compression in credit and MBS sectors. Interest rates rose in the middle and long end of the yield curve, causing slightly negative returns in government bond sectors. Overall, yields are still low by historic measures: on March 31, the two-year Treasury yielded 0.80% and the 10-year yielded 3.47%. With short-term rates anchored near zero, the shape of the curve remains very steep.

High-yield bonds, as measured by the BC High Yield Index, were up 3.9% during the quarter, with the lowest-quality segments posting the strongest results. Within investment-grade credit, the finance sector performed best. US CMBS also had a strong quarter, returning 2.4%.

Diversification into emerging markets proved beneficial in the first quarter, particularly in local-currency investments. The JP Morgan ELMI+ (a local-currency-only index) returned 3.3% and the JP Morgan GBI-EM GD Index (local-currency bonds) returned 2.9%. Hard currency emerging-markets debt, as measured by the JP Morgan EMBI+, returned 0.7%.

### Currency Markets

The US dollar declined against most major currencies in the first quarter despite exogenous shocks to non-US markets. The most precipitous decline was against the euro (-5.6%), but the US dollar also tumbled 1%-3% against the British pound, the Swiss franc, and commodity currencies such as the Canadian and Australian dollars. The Japanese yen stood out as the one exception among developed currencies; as the US dollar rallied 2.6% following intervention by central banks to stem further yen strengthening.

Against free-floating emerging currencies, the US dollar experienced similar weakening – declining most notably against both the Russian ruble (-6.9%) and the Korean won (-3.5%). Currencies pegged to the US dollar, including the Chinese yuan, continued to move with precision alongside the dollar despite higher interest rates and better economic conditions that should lead to future currency appreciation.

### Commodity Markets

Both energy and precious metals rose meaningfully in the first quarter of 2011. Oil prices shot past the \$100 barrier, with WTI Crude Oil ending the quarter at \$107/barrel and poised to move higher because of political uncertainty in the Middle East. As a group, prices on energy commodities experienced upward pressure – increasing over 15% in aggregate for the quarter. The double-digit returns of this sector led to strong performance overall for the Goldman Sachs Commodity Index (GSCI), which was up 11.5% to start the year, eclipsing the index's total return for all of calendar year 2010.

The precious metals complex within the GSCI was up 4.6%, driven by the continued strong performance of silver during the quarter (22.4%). Only four major commodities – copper, zinc, sugar, and wheat – started off the year with negative results.

### Pension Liability

After increasing more than 13% in 2010, pension liabilities declined modestly during the first quarter, mainly due to climbing Treasury rates. The estimated change in liabilities for the quarter was -2.0%, with the Citigroup Pension Liability Index publishing a discount rate increase from 5.54% at the start of the quarter to 5.75% as of March 31. The 30-year Treasury yield rose 17 basis points during the same period, ending the quarter at 4.51%. Corporate spreads over long Treasuries tightened by eight basis points based on the Barclays Capital Long Credit Index.

NEPC continues to consult with corporate clients on the benefits of LDI strategies in an effort to protect against declining interest rates, reduce surplus volatility, and help maintain funded status. With interest rates at historical lows, however, implementation of LDI strategies has become more tactical, and clients who are considering implementing an initial LDI strategy may consider dollar cost averaging into an LDI allocation over a period of months or years. Other clients who already have an interest-rate hedge in place may decide to revisit their target hedge ratio or develop a program to extend asset duration after yields increase. Your NEPC consultant can review LDI implementation strategies with you and discuss the amount of hedging to be maintained in your portfolio, both at the current time and at target levels.

### Hedge Funds

The Dow Jones Credit Suisse (DJCS) Hedge Fund Composite gained 2.2% during the quarter, as most strategies delivered positive returns. The tailwinds provided by the departure of bank proprietary trading desks and hedge fund capital have helped spur continued strong performance for relative-value strategies in 2011. The top performer was convertible arbitrage, at 4.5%, with Multi-strategy (4.2%) not far behind. Both fundamental and systematic macro strategies struggled during the period (0.7% and -1.1%, respectively), as elevated uncertainty and rapid changes in market volatility made active trading more perilous. Additionally, managed futures returned -1.0%, and short-bias equity fared the worst (-5.9%) in the face of significant headwinds from the continued upward movement in stocks.

Last year's success of event-driven strategies continued into 2011 as managers have been able to exploit corporate restructuring situations across the capital structure. We continue to view the outlook for event-driven investing as attractive. These managers currently favor the lower portions of the capital stack (i.e., equity, convertibles, unsecured debt), largely because this is where corporate activity has most influenced valuation changes.

Concern about the direction of credit spreads and rates leads us to prefer corporate credit managers that are focused on short-duration or floating-rate bonds, shorter-term catalyst-driven situations, and active hedging of both individual positions and broader risk exposures. Directional credit is clearly less attractive than it has been, and we favor managers with

Fixed Income Index Returns (3/31/11)				
Global Fixed Income	Quarter	1 Year	3 Yrs	5 Yrs
Citi World Gov. Bond	0.7%	7.3%	3.2%	7.3%
JPM EMBI Plus	0.7%	7.5%	8.0%	7.9%
Domestic Fixed Income				
BC Aggregate	0.4%	5.1%	5.3%	6.0%
BC Government	-0.8%	4.3%	3.7%	5.6%
BC US Credit	0.9%	7.0%	7.0%	6.4%
BC Mortgage Backed	0.6%	4.4%	5.9%	6.5%
BC Govt/Credit	0.3%	5.3%	4.8%	5.8%
BC TIPS	2.1%	7.9%	3.9%	6.3%
BC High Yield	3.9%	14.3%	12.9%	9.1%
S&P LSTA Lev. Loan	2.9%	8.2%	8.9%	5.4%
91 Day Treasury Bills	0.0%	0.2%	0.5%	2.2%
10-Year Bond Yields	Mar-11	Dec-10	Sep-10	Jun-10
US	3.5%	3.0%	2.5%	2.9%
Germany	3.4%	3.0%	2.3%	2.6%
UK	3.7%	3.4%	2.9%	3.4%
Japan	1.3%	1.1%	0.9%	1.1%

more unconstrained mandates, particularly those with skill in the middle market. Another fruitful area for credit managers is related to the continued stresses in the banking system, falling under three general categories: asset restructurings (e.g., bank regulatory capital transactions), asset sales (e.g., liquidity provision by hedge funds), and liability-oriented solutions (e.g., injections of equity). We have identified several managers that are well positioned to exploit these opportunities.

### Private Markets

Fundraising for private equity remains challenging, but there is hope that the market may have reached a trough. Preliminary information released by *Prequin* indicated that private equity firms globally raised \$42.3 billion in 93 funds during the first quarter, which brought about headlines labeling it as the worst quarter since 2003. However, we anticipate revised figures showing that \$47.1 billion was raised matching the fourth quarter of 2010. Despite the low capital-raising figures, anecdotal signs point to increased investor appetite through the balance of the year as capital distributions pick up, liquidity continues to strengthen, and the global capital markets rebound. In addition to the 93 funds with final closes cited above, 110 funds held interim closes during the quarter, raising \$26.3 billion toward their targets (*source*: AltAssets, April 1, 2011). As the 2008-2009 credit crisis fades, the average time for funds to reach a final close has fallen to 16 months, from over 20 months in 2010.

Hedge Fund Index Returns (3/31/11)				
Composite	Quarter	1 Year	3 Yrs	5 Yrs
DJ CS Hedge Fund Composite	2.2%	10.0%	3.6%	5.7%
<b>Relative Value</b>				
DJ CS Convertible Arbitrage	4.5%	12.0%	8.2%	5.9%
DJ CS Fixed Income Arbitrage	2.3%	11.1%	3.8%	2.9%
DJ CS Equity Market Neutral	3.5%	3.3%	-14.5%	-5.7%
<b>Event Driven</b>				
DJ CS Event Driven	3.0%	10.7%	5.9%	7.5%
DJ CS Event Driven - Distressed	2.7%	7.8%	3.8%	5.5%
DJ CS Event Driven - Risk Arb.	2.3%	4.1%	3.6%	5.4%
DJ CS Event Driven - Multi-Strat.	3.3%	12.9%	7.3%	8.9%
<b>Equity Hedge</b>				
DJ CS Long-Short Equity	2.3%	8.7%	3.8%	5.4%
DJ CS Emerging Markets	1.7%	10.3%	2.3%	6.4%
DJ CS Dedicated Short Bias	-5.9%	-19.5%	-17.0%	-8.0%
<b>Tactical</b>				
DJ CS Multi-Strategy	4.2%	11.0%	4.1%	5.3%
DJ CS Global Macro	0.7%	11.4%	4.4%	8.9%
DJ CS Managed Futures	-1.1%	8.8%	3.6%	6.2%

Although investors may again be signing limited partnership agreements, they are growing increasingly selective when choosing businesses in which to invest. According to a recent report titled *Private Equity: Going the Way of the Dodo?* – released by Ayesha Javed of the *Financial News*, and then reprinted in the *Wall Street Journal* on April 11, 2011 – more private equity fund managers went out of business last year, and more are on pace to shutter in 2011, than at any time since records have been kept. Indications are that 183 funds are in run-off mode, which means that they are still in operation but have not raised new funds in over 10 years. In addition, the potential exists for 150+ more funds to enter run-off mode this year as firms' poor performance scares off investment in their new offerings. Also, given the tech wreck in 2000-2002 and the credit crisis in 2008-2009, many funds have relatively weak performance numbers. While the number of funds in run-off mode represents only a small portion of over 4,000 managers estimated to be in existence, it creates more intense competition for funds seeking investors.

In real estate, there are signs of stability in the commercial sector. The NCREIF NPI total return for 2010 was 13.1%, which indicates a robust recovery in the primary markets. According to the recently released *PwC Real Estate Investor Survey*, cap rates have dropped in 27 of 31 markets. It appears that the bifurcation of good markets/bad markets is continuing – with Chicago, Las Vegas, Los Angeles, and Tampa (among others) remaining weak in the office segment, while New York and Washington are showing some resurgence. Additionally, anecdotal data from market participants show that Class A properties in premier markets continue to see cap-rate compression, while secondary or tertiary markets remain weak.

### Final Thoughts

As we enter the second quarter of 2011, the longer-term outlook for investment returns remains muted. Despite robust returns for stocks in the first quarter, global risks appear elevated. Estimates of economic growth in the US are being trimmed from the 3%-3.5% range to 2%-2.5% or even lower. Smaller companies in the US, which led the markets in the first three months of the year, appear richly valued relative to large-company stocks. In addition, we are concerned that small cap stocks face significant headwinds with lower exposure to more rapidly growing emerging markets and more limited access to credit than large multi-national corporations. This outlook is reflected in our current five- to seven-year forecasts, in which small-company stocks have the same expected return as large caps.

We remain constructive on emerging-market stocks and bonds – particularly the equities of smaller, consumer-oriented companies in these markets, as well as sovereign debt issued in local currency. We also believe that the illiquidity premium remains very attractive for those investors who can lock up capital. Particularly interesting strategies in this area include distressed debt, direct lending, regulatory capital investing, and smaller buyouts and growth equity. In this lower-expected-return environment, it is also important to consider alpha-seeking strategies, including global asset allocation and global macro vehicles that attempt to take advantage of inter-market price swings driven by major policy or economic factors.

Finally, consistent with our philosophy of seeking to build the most efficient portfolios possible through a risk-budgeting approach, we recommend including strategies in client portfolios that will perform well in extreme economic environments such as recession and high inflation. As the second round of quantitative easing (QE2) draws to a close in the US, and Europe struggles with a third sovereign bailout (Portugal), the risk of sliding back to a slow growth and deflationary environment, or overshooting on inflationary policy, remains elevated. By evaluating and managing the sources of risk in the current environment, including that of developed-market currencies, we aim to help our clients meet their objectives in today's challenging global investment environment.