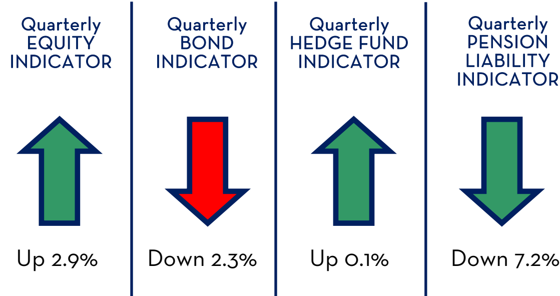
MARKET THOUGHTS

SECOND QUARTER 2013 VOLUME 30



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.

Changing Weather: Risks and Opportunities amid Rising Interest Rates

A torrential downpour of volatility overtook markets in May and June. Although investors have weathered many a tempest, this one was different as it didn't spare even the one silver lining investors look to amid dark clouds.

When Federal Reserve Chairman Ben Bernanke indicated the central bank may begin tapering its monetary stimulus as early as September, correlations went to one…for *everything.* Stocks sold off. Commodity prices fell. Credit spreads widened. And even Treasuries, the one safe haven for investors, saw yields rise as much as a full percent within an eight-week period. There were few places for investors to take shelter from the storm. *Exhibit 1* shows the changing returns of major asset categories from May through June this year.

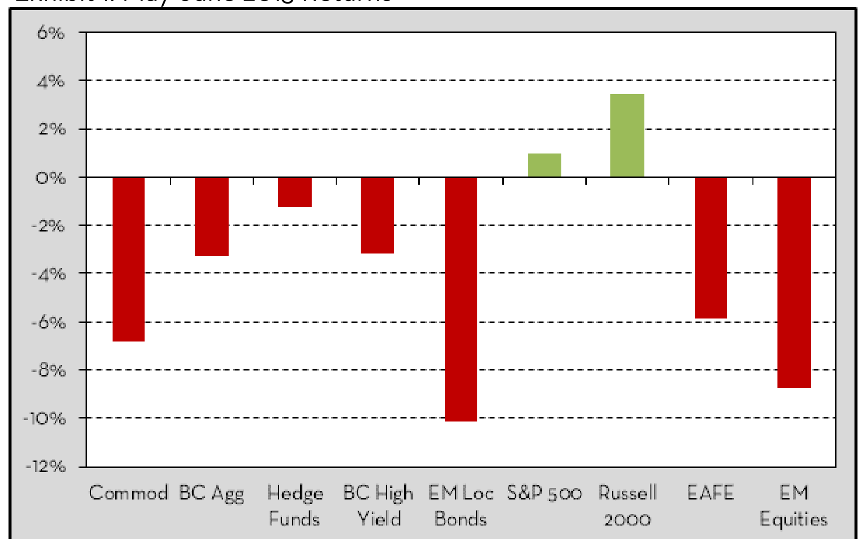
When volatility thunders through markets, the accepted investment wisdom says prices on risky assets will fall while risk-free Treasuries will rise. This forecast has held true for the last dozen or so years. As a result, Treasury bonds are viewed as a safe haven, a hedge against broad market volatility. But perhaps the climate is changing to one where interest rates rise and Treasury prices no longer provide shelter from market storms. Adding to overcast skies were reports in the second quarter of slowing growth in emerging economies, an apparent liquidity crunch among Chinese banks, and political turmoil in Brazil and Turkey, which led to a sharper sell-off in emerging market stocks and bonds. Notably, the Risk Parity investment strategy, with balanced exposure across many asset classes, performed poorly amid the surprising increase in rates. US stocks, in fact, best weathered the tumult. In this environment, broad diversification did not help; a humbling time indeed for its proponents.

As we update our forecast for the balance of the year, we consider whether this recent turbulence is a harbinger of more storms to come or whether we are headed back into a stretch of clear skies. We also question the permanence of the weather change: are we entering a new climate of rising interest rates where investors can no longer rely on traditional shelters to wait out a storm?

Fortunately, a number of signs so far point to a more pleasant forecast ahead:

1) Many major asset classes remain in positive territory for the year-to-date and 12-month trailing periods (*Exhibit 2*);

Exhibit 1: May-June 2013 Returns



Source: Bloomberg

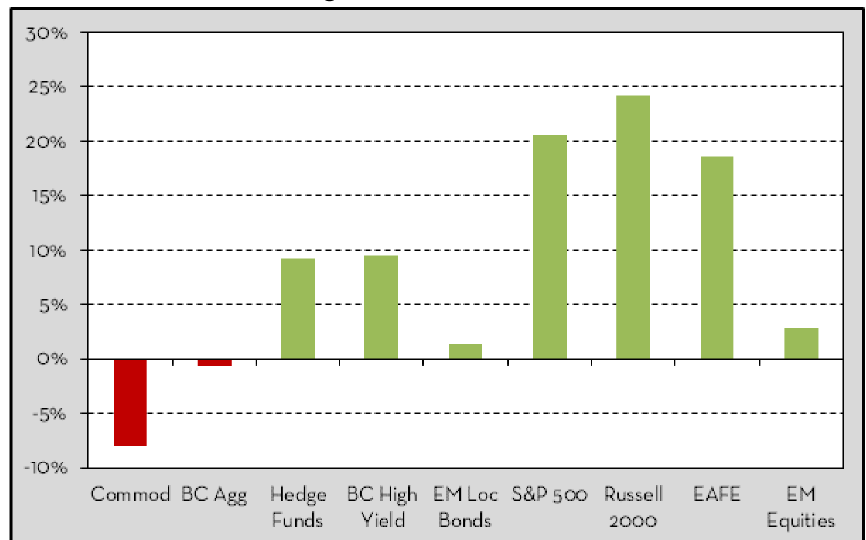
2) Interest rates are still low on a secular basis and central banks in general continue to pursue loose monetary policies;

3) Economic growth persists although at a moderate rate in the US and a slower pace in emerging markets (*Exhibit 3*);

4) Overall, the economic fundamentals in emerging markets are significantly better than those in developed ones; and,

5) Market valuations of risky assets, especially after the recent price volatility in credit and emerging markets, appear reasonable or even cheap.

Exhibit 2: One Year Trailing Returns - June 30, 2013



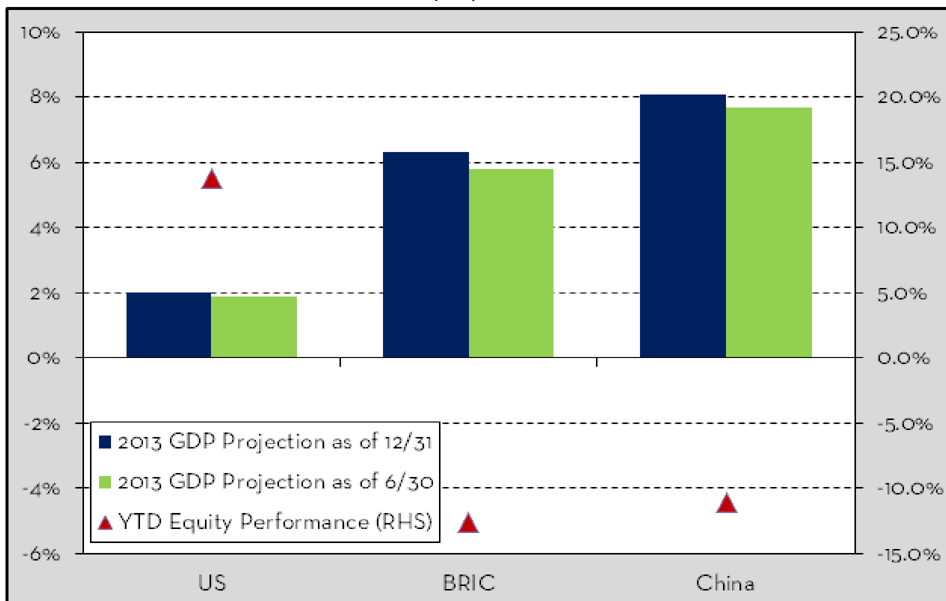
Source: Bloomberg

In addition, the market movements of the last two months are not without precedent. A similar climate, marked by dramatic increases in interest rates of an even greater magnitude than seen in recent months, was experienced in late 1993 and early 1994, and during the early 1980s. In these instances, exposure to asset classes across the board led to losses, with cash being the only refuge. But these historical periods were followed by a return to more normalized correlations among asset categories and robust performance by Risk Parity.

To be sure, stormy weather could persist. Interest rates could rise further and cause additional re-pricing of assets across the board. It is possible that we are seeing an erosion of growth in emerging economies, even as China may be in the midst of a bursting credit bubble . Rising rates could catalyze a new chapter in the euro zone debt crisis. Higher US interest rates might take the shine off economic growth in the US, particularly the nascent recovery of residential real estate. And geopolitical risks also remain, including the outcome of a pivotal September election in Germany and unrest in the Middle East.

On balance, however, we expect the dark clouds to dissipate. We believe we will eventually return to more normalized market valuations, volatility levels and correlations. Interest rates may trend higher, but this, to some degree, is already priced into markets. And a risk-balanced approach to markets, as represented by Risk Parity, will remain a strong foundation for a long-term investment program. In addition, the current climate presents an opportunity for long-term investors to snap up attractively priced assets. Of particular appeal, for investors who can lock-up capital, are private debt strategies that replace activities abandoned by banks such as direct lending to small- and medium-sized enterprises. In addition to offering attractive prospective risk-adjusted returns, the yield on these loans is primarily based on a spread off LIBOR, providing an inherent hedge against rising rates.

Exhibit 3: GDP Growth Rates and Equity Performance as of June 30, 2013



Source: Bloomberg

A final note of caution: market turmoil may be exacerbated in the summer months by lower trading volumes and slim dealer inventories, particularly of credit issues. As a result, it appears likely that volatility levels will remain elevated in the coming months. To this end, investors should take a measured approach to increasing allocations to asset classes on the back of sell-offs.

Global Equities

Equity Index Returns as of 6/30/2013				
Global Equity	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
MSCI ACWI	-0.4%	20.1%	10.9%	2.4%
US Equity	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
S&P 500	2.9%	23.6%	16.8%	7.0%
Dow Jones Industrial Average	2.3%	15.8%	17.5%	6.3%
NASDAQ Composite	4.2%	16.0%	20.4%	9.7%
Russell 1000 Growth	2.1%	20.2%	17.0%	7.4%
Russell 1000 Value	3.2%	28.3%	16.9%	6.7%
Russell 2000	3.1%	27.8%	16.7%	8.5%
Russell 2000 Growth	3.7%	27.5%	18.0%	8.7%
Russell 2000 Value	2.5%	28.2%	15.3%	8.2%
International Equity	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
MSCI EAFE	-1.0%	22.9%	8.8%	-0.5%
MSCI Emerging Markets	-8.1%	6.3%	2.2%	-0.4%
MSCI Europe	-0.5%	18.9%	11.7%	-1.3%
MSCI UK	-2.2%	11.8%	14.3%	0.4%
MSCI Japan	4.4%	22.2%	9.4%	-0.1%
MSCI Far East	2.6%	20.8%	9.6%	0.6%

Source: Bloomberg

Starting in May, global equities trended downward, finishing the quarter with a return of -0.4%, according to the MSCI ACWI index. International markets trailed the US as the MSCI EAFE Index posted a -1.0% return. Emerging markets were driven lower by political unrest in Egypt, a credit crunch among Chinese banks and higher yields in the US market. While emerging markets rebounded in June, they ended the second quarter down 8.1%. Within emerging markets, the small cap (-7.4%) and consumer sectors (staples -3.7%, discretionary -3.0%) continue to out perform the broader emerging markets.

In the US, equities proved to be more resilient than other asset classes, finishing the quarter with positive results. Performance was boosted by robust returns from stocks in the financial and consumer sectors amidst strong economic sentiment, healthy corporate earnings and continued strengthening in the housing market. Small cap stocks modestly outperformed large cap stocks with the Russell 2000 Index returning 3.1% for the quarter and the Standard & Poor's 500 Index advancing 2.9%. Growth outperformed value in small cap and mid cap but value outperformed growth in the large cap segment. So far this year US equity markets have advanced more than 13%. While we expect elevated volatility to persist for some time, opportunities remain amid continuing economic growth and reasonable valuations.

Global Fixed Income

Nearly all global fixed income sectors posted negative returns in the second quarter of 2013. The sharp sell-off, triggered by indications that the Fed could taper its quantitative easing as early as September, was quick and painful with most of it occurring over a six-week period beginning at the end of May. The search for yield morphed into a quest for liquidity as longer-duration corporates and emerging markets debt dropped dramatically. Interestingly, within the credit sectors, lower-quality securities fared better than higher-quality issues because the latter were deemed more interest rate sensitive and, thus, more prone to a correction in response to rising Treasury rates.

Fixed Income Index Returns as of 6/30/2013				
Global Fixed Income	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
Citi WGBI	-3.0%	-3.9%	2.8%	3.0%
JPM EMBI Plus	-6.3%	0.1%	8.1%	9.9%
Domestic Fixed Income	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
BC Aggregate Bond	-2.3%	-0.7%	3.5%	5.2%
BC US Agg. Treasury	-1.9%	-1.6%	3.2%	4.9%
BC US Credit	-3.4%	0.8%	5.8%	8.0%
BC Mortgage Backed	-2.0%	-1.1%	2.6%	5.3%
BC Interm. Gov't/Credit	-1.7%	0.3%	3.1%	4.6%
BC 1-10 Yr TIPS	-5.5%	-3.1%	3.4%	3.4%
BC High Yield	-1.4%	9.9%	10.6%	10.9%
S&P LSTA Lev. Loan	0.2%	7.3%	7.1%	7.3%
3 Month T-Bills	0.0%	0.1%	0.1%	0.3%
10-Year Bond Yields	**Jun-13**	**Mar-13**	**Jun-12**	**Jun-11**
US	2.5%	1.8%	1.6%	3.2%
Germany	1.7%	1.3%	1.6%	3.0%
UK	2.4%	1.8%	1.7%	3.4%
Japan	0.9%	0.6%	0.8%	1.1%

Source: Bloomberg

Global fixed income performance in the second quarter may be best explained by the 10-year Treasury in the period. Beginning the quarter with a yield of 1.87%, the 10-year US bond ended June yielding 2.52%, 65 basis points higher. The 30-year portion of the curve increased in a similar manner, rising 42 bps to finish at 3.53%. US TIPS suffered as real rates shifted upwards in concert with nominal yields and investors' fears that a less accommodative Fed policy could impede future inflation. During the quarter the yield on the 10-year TIPS increased 117 bps to 0.53%.

The Barclays Aggregate Index, which tracks the US investment grade fixed income market, lost 2.3% in the quarter, bringing year-to-date performance to -2.4%. The major non-government related components of the index, invest-

ment grade credit and mortgage-backed securities, lost 3.4% and 2.0%, respectively, during the quarter. Duration—or price sensitivity to changes in interest rates—of the Aggregate Index extended over the period as underlying mortgage prepayment models adjusted to elevated rates and the resulting likelihood of lower mortgage refinancings.

Non-investment grade debt led global fixed income performance in the second quarter. The Barclays High Yield Index returned -1.4% in the quarter. In that period, the yield on the index jumped nearly 100 bps to 6.7%. Leveraged loans, as measured by the S&P LSTA Leveraged Loan Index, were the only major fixed income asset class to post a positive return, albeit small, at 0.2%. As in the first quarter, loans benefitted from investors seeking floating rate coupons.

The weakness in Treasuries fueled losses in emerging market debt securities. Similar to US credit, higher-quality issues were most impacted since creditworthy borrowers are typically able to issue long-dated bonds, which are more interest rate sensitive. These large sovereigns, for instance, Mexico, Brazil and Uruguay, often drive performance of the EMBI Index, which measures external currency denominated emerging markets debt. The index returned -6.1% in the quarter and is down 8.2% in 2013. Local currency emerging market debt also struggled in the period, returning -7.0% for the quarter, which brings year-to-date performance for the category to -7.2%.

Currency Markets

Most G10 and emerging market currencies fell against the US dollar (USD) in the second quarter with the exception of the euro, the British pound and the Swiss franc, among a few others.

In April, the USD exhibited weakness and depreciated against most currencies. The euro appreciated the most relative to the USD, as uncertainty dissipated following the appointment of a new Prime Minister in Italy. The Japanese yen was one of only two G10 currencies that continued to exhibit weakness against the USD in April as a result of Bank of Japan's aggressive monetary easing program.

In an about-turn in May, the USD appreciated against virtually all currencies due to growing signs of strength in the US economy relative to other G10 economies. In particular, commodity currencies, namely the Australian dollar, the New Zealand dollar and the Canadian dollar, depreciated the most against the USD. This was driven mainly by concerns around slowing growth in China, which is a significant consumer of commodities. Emerging market currencies also suffered due to weakening macro fundamentals, which influenced commodity-linked currencies since emerging markets drive demand for natural resources.

While the USD weakened against some currencies in the first half of June, it strengthened significantly later in the month. The Fed's comments on tapering its quantitative easing shook markets, leading to flight-to-quality inflows into the greenback as risky assets and fixed income securities sold off. Commodity currencies depreciated the most among G10 countries while emerging market currencies weakened further as USD-funded carry trades became less attractive, triggering outflows.

Commodity Markets

Commodities were the worst performing segment of the market, down 9.5% in the second quarter, according to the DJ UBS Commodity Index. Within commodity markets, precious metals were the hardest hit, trading off nearly 25% as both gold and silver fell during the quarter. The agriculture and livestock segment of the market was the best performing aided by strong hog prices. Commodity-related equities continued their abysmal run, underperforming the underlying commodities with a negative 10.7% return, according to the S&P Global Large Mid Cap Commodity and Resources Index.

By the end of the quarter intense selling pressure had turned commodity futures curves positive, in aggregate, whereas they had entered the year with a negative slope. This has created a more constructive environment for commodities investors going forward.

Pension Liability

After 22 months of declining interest rates, the pension discount as measured by the Citigroup Pension Liability Index jumped to 4.81% as of June 30, nearly 50 bps higher than the 4.32% as of March 31. Supporting this climb was a 42 bps point rise in 30-year Treasury yields during the quarter and an 18 bps widening of credit spreads, according to the Barclays Capital Long Credit Index.

The rise in interest rates had a positive impact on the liabilities of pension plans, which are estimated to have declined 7.2% for the quarter and 10.7% so far this year. Clients who have implemented Liability Driven Investing (LDI) strategies have most likely seen losses during the quarter from their long-duration assets, but still experienced a rise in funded status if not 100% hedged.

As mentioned in previous communications, due to the funding relief from MAP-21 that allows for higher discount rates for the next three-to-four-years, clients who have not yet implemented an initial LDI strategy may want to engage in a detailed discussion with their NEPC investment consultant. LDI may still be a useful hedging tool for you depending on your hedging goals, especially as rates and plan funded status begin to rise. Clients who have implemented an LDI program may want to assess with their consultant whether to take advantage of higher interest rates to increase their hedge ratio and take a step along their de-risking "glide path."

Hedge Funds

Hedge funds saw a large dispersion of returns during the second quarter. Some strategies, for instance, managed futures, performed poorly, while others such as long/short equity fared well. Taken as a whole, hedge funds were up 0.1% for the three months ended June 30, according to the Dow Jones Credit Suisse (DJCS) Hedge Fund Composite. The S&P 500 gained 2.9% during this period.

Long/short equity sector funds outperformed generalists during the quarter. The diverse DJCS Long/Short Equity Index returned 1.8%. It is worth noting within long/short equity that the DJCS Emerging Markets Hedge Fund Index fell 1.3% while the MSCI Emerging Markets Index was down 8.1% during the quarter. The HFRI Equity Hedge Technology/ Healthcare Index rose 3.9%. Sub sectors of event-driven and credit strategies performed well. The DJCS Event-Driven Distressed Index was up 2.9% and the DJCS Convertible Arbitrage Index was also up 1.1%.

Macro managers turned in mixed results in the second quarter. The DJCS Global Macro Index (-0.8%) and the DJCS Managed Futures Index (-7.0%) fell. Medium- and long-term trend followers suffered during sharp reversals in risk in credit and equity markets in May and June. Global macro managers with exposure to emerging markets and commodities, particularly metals, suffered as the index fell during June (-2.5%).

While the broad hedge fund indices have recently lagged the S&P 500, we continue to see increased dispersion among individual hedge funds in these categories. Long/short equity managers have returned 7.0% so far this year due to an average net exposure of 40%-50%, while the S&P 500 returned 13.8%. Longer-biased equity funds have outperformed their peers in this environment. Credit funds (1.4%) have lagged the distressed strategies (8.0%) year-to-date, but are positive compared to the Barclays Aggregate Index (-2.4%) and the ML High Yield Master II Index (-1.4%). While the DJCS Global Macro Index has struggled during the year (1.3%), select funds with long exposure to Japanese equities and short exposure to the Japanese yen have outperformed.

Hedge Fund Industry Performance Overview as of 6/30/2013

Composite	Quarter	1 Year	3 Yrs	5 Yrs
DJCS Hedge Fund Composite	0.1%	9.2%	6.3%	2.9%
Relative Value	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
DJCS Convertible Arbitrage	1.1%	7.5%	7.0%	6.0%
DJCS Fixed Income Arbitrage	-0.8%	7.5%	7.9%	4.6%
DJCS Equity Market Neutral	2.0%	5.1%	4.0%	-8.5%
DJCS Multi-Strategy	0.7%	10.4%	8.5%	4.5%
Event Driven	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
DJCS Event Driven	2.1%	14.5%	6.0%	4.0%
DJCS Event Driven - Distressed	2.9%	15.5%	7.4%	4.4%
DJCS Event Driven - Risk Arbitrage	1.6%	4.2%	3.0%	2.7%
DJCS Event Driven - Multi-Strategy	1.8%	14.1%	5.4%	3.7%
Equity Hedge	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
DJCS Long-Short Equity	1.8%	13.3%	6.6%	2.5%
DJCS Emerging Markets	-1.3%	11.6%	6.0%	2.1%
DJCS Dedicated Short Bias	-4.1%	-22.4%	-16.7%	-15.4%
Tactical	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
DJCS Global Macro	-0.8%	5.8%	7.1%	4.5%
DJCS Managed Futures	-7.0%	-5.0%	0.1%	-0.6%
Traditional Markets	**Quarter**	**1 Year**	**3 Yrs**	**5 Yrs**
BC Aggregate Bond	-2.3%	-0.7%	3.5%	5.2%
S&P 500	2.9%	20.6%	18.5%	7.0%

Source: Bloomberg

Private Markets

Private equity fundraising during the first half of 2013 totaled $136 billion—51% of the amount raised in 2012—pointing to an expected modest increase for 2013. Investor commitments suggest economic optimism

with 60% of commitments going to buyout and growth equity funds. Venture capital continues to contract as fundraising fell to 8% of this year's total, well below its 10-year average of 17% of all new funds raised. Overseas, Europe is off to a strong start with $37 billion of new commitments in the first half of 2013, its fourth consecutive year of higher private equity allocations. Displaying some of the same reticence as public markets, Asian private equity slowed to 10% of all funds raised in 2013. In the US, we remain guarded on the large buyout sector even as some industry data suggest that the capital overhang is declining. With capital easily deployed into large buyout transactions, fueled by an active high yield market and the return of "covenant-lite" term sheets, we believe the high transaction prices leave little room for operational missteps and do not provide protection in the event of a prolonged recession. While this makes for an attractive selling opportunity for existing fund managers, we believe that investors making new commitments are better served by focusing on value-oriented buyouts, particularly in the lower- or middle-market, where returns are less dependent on leverage and more reliant on operational improvements and the execution of growth strategies. On the opportunistic side, private direct lending is an attractive fixed income alternative for investors and is competing with mezzanine funds by providing unitranche financing to lower- and middle-market businesses at attractive yields with lower fee structures for investors. Secondary funds continue to find attractive opportunities as US banks whittle down their private equity portfolios after adopting Basel III.

In real estate, NEPC remains positive about the opportunity in the non-core market, particularly in Europe. In US non-core real estate, select opportunities remain for skilled firms with a proven ability to identify undervalued assets, buy right, and create value. That said, the significant operating and capital structure distress that followed the financial crisis has abated. In Europe, non-core properties are still undervalued relative to core, and significant capital structure distress remains. This is compounded by macroeconomic and structural uncertainty. In addition, bank deleveraging has contributed to continued capital structure weakness and has provided opportunities for buyers, as banks in Europe historically provided over 90% of real estate lending compared to roughly 50% in the United States. We believe the opportunity within European non-core real estate is still in the nascent stages. We also believe real estate debt strategies remain attractive, particularly in Europe, given the distressed lending environment. That said, consideration should be given to hedging currency risk, when possible.

Final Thoughts

We began 2013 advising clients to revisit their strategic allocations in an investment landscape with no obvious tactical trades, while remaining poised to act if volatility appeared. We also noted that cloudless blue skies could continue as long as monetary policy remained accommodative. At the same time, we recommended Risk Parity as a good foundation for asset allocation. We also advocated building strategic exposure in emerging markets and inflation-hedging strategies, and capturing an attractive illiquidity premium in private credit markets. Even as the recent hail of volatility has reinforced the importance of our recommendations regarding strategic allocations, it has triggered negative returns over the short-term in emerging markets, inflation-hedging and Risk Parity strategies.

We continue to assess the risks and opportunities in the current climate as we follow market movements. We expect volatility to remain elevated in the near-term, especially as we navigate the lower trading volume typical in summer.   Additional negative headlines remain a possibility and the potential exists for a tempest to ripple through areas such as peripheral Europe or emerging economies. At this time, however, we do not see thunderheads on the horizon presaging another 2008-like hurricane. That said, we are closely monitoring the radar. We recognize that market reaction to a less accommodative monetary stance from the Fed has been rapid and may already be largely incorporated into market prices. In other words, the worst (for this current episode) may already be over.

We believe that our 2013 recommendations for clients remain sound. In addition, strong performance across many asset classes, for instance US equity markets have advanced robustly so far this year, leading into this period of volatility provides somewhat of a buffer to investors. To be sure, the market turbulence of the past several months has created opportunities too. We believe that clients can snap up attractively valued risky assets, such as emerging markets' securities, on the back of sell-offs. Given the elevated level of volatility, however, these moves can be made gradually over the coming months. For corporate defined benefit programs, the dramatic backup in interest rates and gains in equities so far this year may represent an opportunity to capture funded status improvement by shifting from risky to liability-hedging assets.

At NEPC, we remain committed to helping our clients navigate through all types of weather to achieve their long-term investment goals and objectives even as short-term market movements create a highly uncertain forecast.