

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.

Pricing Risk - It's All Relative

As investment consultants, we often must act as contrarians. When things are most frothy and exuberant, we are that somber voice urging clients to think more about managing risk. Conversely, when the outlook is darkest, it is important for us to make an unemotional assessment of markets and remind our clients that in order to meet their long-term objectives they must be in the business of taking prudent risks.

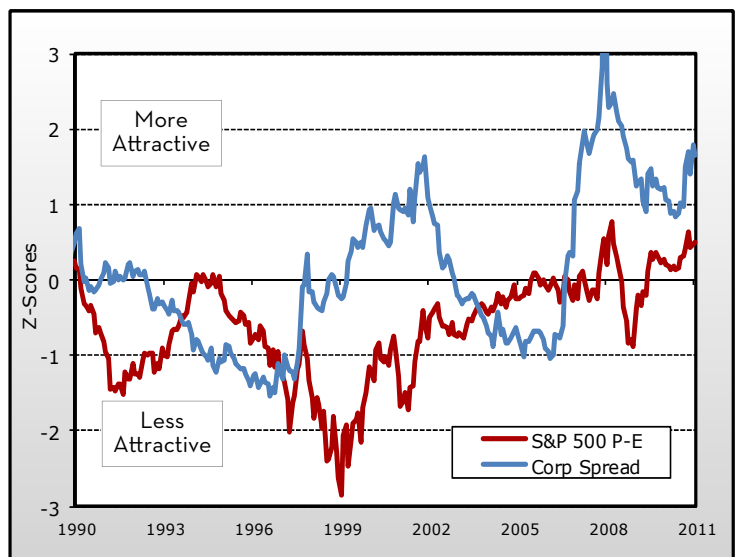
We are in the midst of an environment that appears very challenging. It is likely that the European debt crisis will present several more chapters before it is resolved (for better or worse), each accompanied by spikes in volatility. In the US, despite signs that growth and employment are picking up, we are entering an election year in which a continuing political impasse makes addressing our fiscal imbalances unlikely. Globally, economic activity appears to be slowing, raising the specter of either deflationary recession or high inflation, driven by the printing of money.

In an environment of low Treasury yields and muted economic growth, we continue to expect low overall capital market returns. Nevertheless, in the last 12 months the premium to be earned for taking risk has essentially been repriced. Equity valuations appear more attractive, particularly in market segments that declined last year – among them small companies, international developed, and emerging markets. In addition, credit spreads have widened such that, on a risk-adjusted basis, owning the debt of corporations looks relatively more appealing than owning equities. Exhibit 1 shows the relative valuation of equities and investment grade corporate bonds on a normalized basis.¹ The data indicate that while both categories are favorably priced, the credit sector is close to two standard deviations cheap compared to typical valuation levels while stocks are less than one standard deviation away from average.

We provide a more detailed analysis of these important relationships in the context of our updated five- to seven-year forecasts of market returns and risks in our annual asset allocation letter. This letter is titled “Old Phrases, New Phases” and is available at www.nepc.com.

The role of another kind of risk, active management, is also important to consider in 2012. Generally, it appears that 2011 will be a disappointing year for active management. In the stock market, we saw a continued “risk on/risk off” environment where headlines drove the ebb and flow of markets more than company fundamentals. Exhibit 2 shows the relationship between the implied correlation across individual securities and the perceived level of risk in markets as measured by the

Exhibit 1 - Relative Valuations - US Stocks and Investment Grade Corporate Bonds



Source: Barclays, Bloomberg, NEPC

¹This exhibit converts price-to-earnings ratio and yield spread data to “z-scores” or measures of standard deviations away from long term averages

VIX (CBOE Volatility Index). Since the onset of the credit crisis in 2008 we have seen stocks move in sympathy to the overall market outlook rather than in response to fundamentals. More recently, the current level of inter-stock correlations has reached a secular high. In this environment, it is very difficult for stock pickers using fundamental analysis to add value.

More broadly, practitioners of less-constrained active strategies – ranging from opportunistic fixed income to global equity to hedge fund managers – faced significant headwinds in 2011. First, any diversification away from large company, high quality US stocks, and the highest quality sovereign debt led to poor relative performance. Second, as shown in Exhibit 3, the correlation among all major categories of risky assets remains near all-time highs, meaning that there was little opportunity to add value from allocating actively among broad, risky asset categories. Finally, the extremely choppy markets of 2011 played havoc with most trading-oriented strategies that rely on some kind of trending activity in markets.

In our Market Thoughts last year at this time we made the case for a more normal environment for active managers in 2011 (a forecast that we appear to have gotten wrong). Lost return due to negative alpha is keenly felt in times of low overall market returns. The performance of hedge funds as a category may be most disappointing; however, given that these investments are potentially subject to all of the headwinds described above, perhaps this is not surprising.

Yet we do not believe the case for active management has fundamentally changed. Nor do we believe that securities and markets have achieved a permanent level of higher correlation. Active management tends to have a cyclical nature to it, and we believe that there are opportunities to add alpha in the less-efficient areas of the global markets and in less-constrained mandates.² In particular, hedge fund managers are structured and incented to adapt to new circumstances and opportunities in pursuit of returns. Over the long-term, hedge funds as a category have added value on a risk-adjusted basis relative to standard stock and bond market benchmarks. We remain convinced that well structured portfolios of hedge funds can add value to long-term investment programs.

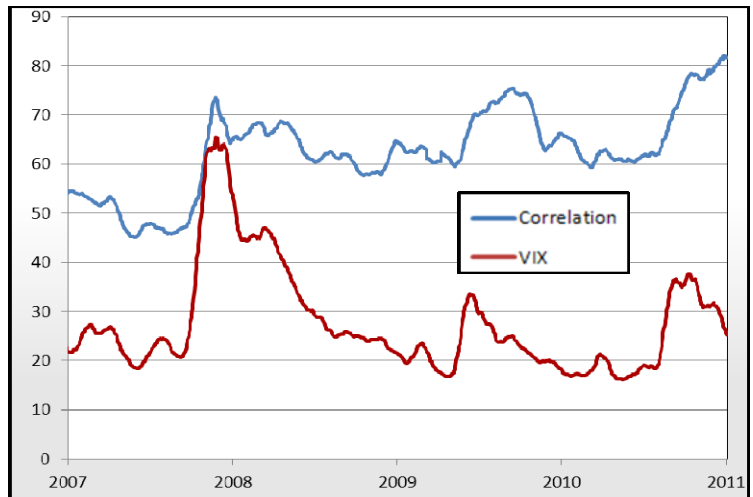
In the current environment, where expected returns for markets (or beta) remain muted, we continue to believe that the pursuit of active returns is important to bolster the total returns of investment programs that are already under significant pressure. We assert that, just as this is no time to be ignoring attractively priced markets, it is no time to be pulling back from active management. How best to pursue this will be one of our most significant areas of inquiry in 2012. We expect to be communicating more with clients on this topic as the year unfolds.

Global Equities

During the fourth quarter equity markets posted positive results to end another volatile year in which macro headlines overshadowed company fundamentals. After the quarter started out with a huge rally in October, the lack of a clear solution to the European debt crisis caused some divergence in results, with US markets gaining advantage over non-US stocks, and European markets lagging the most.

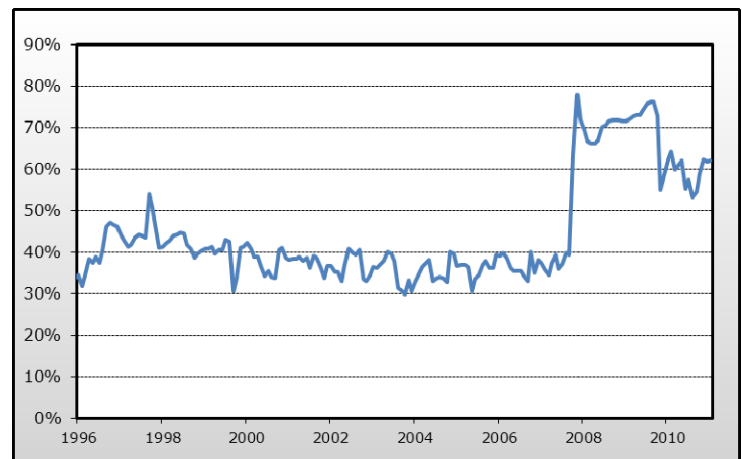
US investors responded favorably to improvements in economic data on unemployment and consumer spending during the quarter. As indicators provided support for moderate US GDP growth, the primary beneficiaries were those market segments deemed as riskier or even previously left for dead. Small caps beat mid caps, which, in turn, outpaced large caps. The more cyclically sensitive sectors (energy, industrials, materials) outperformed their defensive counterparts (utilities, telecommunications, staples). Across the board, value outperformed growth.

Exhibit 2 - US Stock Market Security Correlation and Volatility



Source: CBOE, Bloomberg

Exhibit 3 - Average Correlation Across Risky Assets*



*Average 24-month correlation across S&P 500, MSCI EAFE, MSCI EM, BC Credit, BC High Yield, JP Morgan EMBI, GSCI, and DJ-CS HF

Source: Ibbotson, NEPC

²Knutzen, Erik "Revisiting the Active vs. Passive Decision – Moving Beyond the Data-Driven Framework." April 2010. Available at www.nepc.com

Developed and emerging markets trailed domestic equities in both dollar and local terms during the quarter, with several fits and starts on the heels of proposed solutions to the European debt crisis and easing inflationary pressures in China. Unfortunately, in the instance of the European crisis, hope dissipated as details of the plans did not live up to promises. Emerging markets outperformed developed markets with a 4.4% return as measured by the MSCI EM Index. Developing countries experienced the strongest gains in the consumer staples and utilities sectors, while India was a significant laggard within the BRIC countries, returning -14% during the quarter.

Global Fixed Income

Fixed Income markets delivered mostly positive returns, with US high yield and hard currency emerging markets debt among the best performing sectors. US high grade credit led investment grade sectors, followed by agency MBS. Riskier segments of bond markets seemed to shrug off persistent concerns over the still unsettled problems brewing in the Eurozone, providing fuel for the rally. Treasury yields at the end of December had changed very little from September 30, although 2011 as a whole was certainly marked by volatility in yields. The Federal Reserve's "Operation Twist" pushed long-term yields to record lows despite the downgrade of US Treasury securities by Standard & Poor's. Long-term Treasuries and TIPS were the best performing fixed income segments for the year, with both returning well over 20%. Overall, the profile of the Treasury yield curve ended the year much flatter, particularly on the longer end, as yields declined over the summer. At year-end, the two-year Treasury yielded 0.25%, the 10-year yielded 1.89%, and the 30-year yielded 2.89%.

During the quarter, the BC Aggregate Index returned 1.1%, reflecting good performance in credit and agency MBS. Notably, the yield on the BC Aggregate hit a record low level of 2.25% on December 16. Within investment grade credit sectors, utilities and industrials outpaced financials for the quarter and for the year. High yield bonds, as measured by the BC High Yield Index, were up 6.5% during the quarter, pushing returns for the year into positive territory. Lower quality segments led those of higher quality. US leveraged loans, as measured by the S&P LSTA Loan Index, returned 1.5% in 2011.

Fixed Income Index Returns (12/31/11)				
Global Fixed Income	Quarter	1 Year	3 Years	5 Years
Citi World Gov. Bond	-0.1%	6.4%	4.3%	7.1%
JPM EMBI Plus	-1.0%	-5.2%	3.6%	4.5%
Domestic Fixed Income				
BC Aggregate	1.1%	7.8%	6.8%	6.5%
BC Government	0.8%	9.0%	4.0%	6.6%
BC US Credit	1.7%	8.4%	10.7%	6.8%
BC Mortgage Backed	0.9%	6.2%	5.9%	6.5%
BC Govt/Credit	1.2%	8.7%	6.6%	6.6%
BC TIPS	1.7%	8.9%	8.5%	6.9%
BC High Yield	6.5%	5.0%	24.1%	7.5%
S&P LSTA Lev. Loan	2.9%	1.5%	19.2%	4.2%
90 Day Treasury Bills	0.0%	0.1%	0.1%	1.2%
10-Year Bond Yields				
	Dec-11	Sep-11	Jun-11	Mar-11
US	1.9%	1.9%	3.2%	3.5%
Germany	1.8%	1.9%	3.0%	3.4%
UK	2.0%	2.4%	3.4%	3.7%
Japan	1.0%	0.9%	1.1%	1.3%

Equity Index Returns (12/31/11)				
Global Equity	Quarter	1 Year	3 Years	5 Years
MSCI World	7.6%	-5.5%	11.1%	-2.4%
US Equity				
S&P 500	11.8%	2.1%	14.6%	-0.2%
Dow Jones Industrial Average	12.8%	8.4%	14.9%	2.4%
NASDAQ Composite	8.2%	-0.8%	19.4%	2.4%
Russell 1000 Growth	10.6%	2.6%	18.5%	2.5%
Russell 1000 Value	13.1%	0.4%	12.2%	-2.6%
Russell 2000	15.5%	-4.2%	16.9%	0.2%
Russell 2000 Growth	15.0%	-2.9%	20.3%	2.1%
Russell 2000 Value	16.0%	-5.5%	13.7%	-1.9%
International Equity				
MSCI EAFE	3.3%	-12.1%	7.4%	-4.7%
MSCI Emerging Markets Free	4.4%	-18.4%	20.2%	2.4%
MSCI Europe	5.4%	-11.1%	7.5%	-5.2%
MSCI UK	9.1%	-2.6%	15.0%	-3.2%
MSCI Japan	-3.9%	-14.3%	1.5%	-6.6%
MSCI Far East	-2.7%	-14.7%	3.8%	-5.4%

The JP Morgan GBI-EM Global Diversified Index (unhedged), which tracks the performance of local currency emerging sovereign debt, was up 0.5% in the quarter. The underlying bond markets in emerging countries performed well across most regions; however, emerging currencies were weak against a stronger dollar through the second half of the year.

Currency Markets

The first half of 2011 seemed to indicate another leg of broad US dollar depreciation, as it trailed most major developed currencies (including the Swiss franc, up 25% versus the dollar through August). In the second half, however, uncertainty in Europe and general risk aversion led to a strong dollar rally with the US currency finishing generally flat against those of most developed countries. During the fourth quarter, currencies with major debt issues struggled as the dollar gained against the Japanese yen (1%), the British sterling (1%) and the euro (5%), but generally trailed commodity based currencies like the Canadian dollar (-2%) and Australian dollar (-4%). We expect volatility across global developed currencies to remain elevated and, therefore, the benefits of hedging a portion of developed currency exposure to increase.

An extension of risk aversion from the third quarter, along with tightening of investment flows due to developed market credit contraction, led to challenges for emerging market currencies in the fourth quarter. Generally, the US dollar gained 1%-2% against the larger emerging currencies. Exceptions were the Indian rupee (the dollar gained 8%), the Chinese yuan

(continuing a slow and methodical appreciation process, the dollar fell -1%), and the South Korean won (the dollar weakened -1.5%). With fundamentals still very attractive, the recent sell-off represents a buying opportunity for emerging currencies; however, current risk aversion could continue for an extended period of time.

Commodity Markets

For only the second time in 10 years, the Dow Jones UBS Commodity Index (DJ-UBS) posted a negative calendar year return in 2011 at -13.3%. During the year, and specifically in the fourth quarter, investors saw a large divergence of returns between the Goldman Sachs Commodity Index (GSCI) and the DJ-UBS, which returned 9.0% and 0.4%, respectively. The GSCI benefitted from a significantly higher weight to energy, as that part of the commodities market experienced gains. In precious metals, gold sold off roughly 4% for the quarter but was up strongly for the year, marking the commodity's 11th consecutive positive year.

Also of importance, the US Commodities Futures Trading Commission (CFTC) formally approved new regulations in October. Most notably, investment funds will be able to increase their allocations in agricultural commodities, which will generate extra capacity at the manager level.

Pension Liability

Liabilities ended the year up 28.3% according to the Citigroup Pension Liability Index, driving pension plans' funded status down to levels not seen for almost a decade. This index published a quarter-ending discount rate of 4.40% as of December 31, a notable drop from 4.69% as of September 30. Corporate spreads over long Treasuries ended the year at 209 basis points based on the Barclays Capital Long Credit Index.

Because Liability Driven Investing (LDI) strategies are designed to protect against declining interest rates and to help maintain funded status, clients who hedged their liabilities through LDI likely saw their plans' funded status weather this drop in rates. As implementation of LDI strategies has become more tactical in recent years, clients who are currently considering an initial LDI strategy may want to consider "dollar cost averaging" in order to achieve an LDI allocation over the next few months or years. Those who have already implemented an interest rate hedge, on the other hand, may want to consider reaping some recent gains from long Treasury allocations, revisiting their target hedge ratio, or developing a program to hold asset duration steady for the time being and then extend duration after future increases in yields occur. Your NEPC consultant can review LDI implementation strategies with you.

Hedge Funds

The DJCS Hedge Fund Composite gained 0.7% in the fourth quarter. It was generally a positive period for this segment, although returns would have been better if hedge funds were less cautiously positioned. Having reduced exposure levels as macro fears returned to the forefront in the late summer, many managers did not increase exposures quickly enough to capture the improvement in sentiment and the rally in asset prices early in the quarter.

The broad hedge fund index generated disappointing annual performance of -2.5% in 2011, well below the historical averages. Relative to expectations, Event Driven (-12.0%) experienced the worst returns during the year—its poor performance driven by idiosyncratic events such as a number of well publicized broken mergers, as well as by price dislocations in commonly held investment themes such as post-reorganization equities. Areas characterized by greater market directionality, such as Long/Short Equity (-7.3%) and Emerging Markets (-6.7%), also suffered as fundamental security analysis continued to disappoint. Managers' exposure to financial sector and non-US (particularly European) securities also generally detracted from performance. Global Macro was the top performer for the year (6.4%).

Despite lackluster performance during 2011, we are confident that hedge funds will be able to monetize current dislocations going forward, as they did after previous bouts of market turmoil. Hedge fund managers should benefit greatly from a moderation in volatility and a reduction in correlations toward the historical averages. We remain confident in the security selection and portfolio construction capabilities of our preferred strategies although we acknowledge that dynamically adjusting portfolio risk will remain challenging for some time. We

Hedge Fund Industry Performance Overview (12/31/11)				
Composite	Q4 2011	Trailing 1 Yr	Trailing 3 Yrs	Trailing 5 Yrs
DJCS Hedge Fund Composite	0.7%	-2.5%	8.6%	3.2%
Relative Value				
DJCS Convertible Arbitrage	1.2%	1.1%	18.2%	3.5%
DJCS Fixed Income Arbitrage	1.0%	4.7%	14.5%	2.1%
DJCS Equity Market Neutral	2.4%	4.5%	2.5%	-6.8%
DJCS Multi-Strategy	1.3%	1.8%	11.5%	3.1%
Event Driven				
DJCS Event Driven	0.7%	-9.1%	7.2%	2.8%
DJCS Event Driven - Distressed	0.7%	-4.2%	8.5%	1.9%
DJCS Event Driven - Risk Arbitrage	1.2%	0.8%	5.2%	4.2%
DJCS Event Driven - Multi-Strategy	0.6%	-12%	6.5%	3.4%
Equity Hedge				
DJCS Long-Short Equity	2.0%	-7.3%	6.6%	2.0%
DJCS Emerging Markets	0.2%	-6.7%	10.6%	2.5%
DJCS Dedicated Short Bias	-8.3%	3.9%	-15.5%	-6.0%
Tactical				
DJCS Global Macro	0.6%	6.4%	10.5%	8.6%
DJCS Managed Futures	-4.1%	-4.2%	0.2%	4.7%
Traditional Markets				
S&P 500 TR	11.8%	2.1%	14.1%	-0.3%

continue to believe that nimble and flexible managers will be able to exploit what we see as a fertile opportunity set. Looking into 2012, we emphasize several key themes including Europe, structured credit, small/mid-sized corporates, and global macro.

Private Markets

US private equity markets saw \$123 billion of new commitments during 2011. This amount is nearly 22% higher than in 2010, with the increase predominantly coming from new buyout funds being seeded, positioning long-term private capital for eventual economic recovery. However, investors are only guardedly optimistic as the new US private equity commitments in 2011 were no more than one-third of the amount of annual capital that was committed to new funds during the peak years of 2006–2008. European private equity markets saw an even larger increase in the amounts committed to new funds in 2011 at \$53 billion, with a blend of buyout and distressed funds contributing to the 53% increase from the prior year.

In the face of economic uncertainty and a likely slow recovery environment in Europe and the US, distressed, mezzanine, and secondary funds continue to provide attractive investment options for investors to take advantage of illiquidity pressures, balance sheet restructurings, and continued financial underperformance among corporations and financial institutions. The past year, and in particular the first eight months, provided a window of opportunity for private equity realization events. With large size buyout, social network Internet, and international deals leading the way, more than 70 private equity or venture capital backed companies went public in 2011. Merger and acquisition activity for 2011 remained on par with 2010, despite a significant public market correction during the second half of the year. Transactions are being driven by the combination of high amounts of cash on corporate balance sheets and continued capital overhang from private equity commitments made in 2007–2008 that have yet to be deployed. These factors contributed to private equity transaction multiples rebounding sharply to 11–12 times EBITDA in 2011, approaching the highs of 2007–2008. With valuation multiples high, investors should seek managers that have demonstrated price discipline in deploying capital patiently and/or have the ability to drive value creation through operational improvements.

Core real estate rebounded significantly in 2011 while non-core distressed properties continued to lag. US property fundamentals improved moderately, with occupancies and new rental rates generally increasing relative to 2010 but new development remaining at an all time low. In the core market, capitalization rates and property values have been approaching peak values, and average income yields remain strong, especially relative to high grade fixed income markets. Spreads between core real estate income yields and the five-year US Treasury (currently at 500 bps) are nearing all time highs. Transaction volumes, although still below the peak, are now back to pre-bubble levels. Significant capital flows, both equity and debt, continue into the core market. Open-end funds currently have multiple-quarter entrance queues, and US public REITs and REOCs issued \$19 billion of equity in 2011. While debt is more readily available at attractive terms for stabilized core properties due to limited new supply, core properties are still viewed as valued below replacement cost.

Non-core real estate valuations continue to lag. In this segment properties remain priced 30%–40% below peak values as many owners struggle with capital structure distress. Raising equity for new funds remains difficult, with volumes still well below peak levels, and limited debt capital available from traditional sources to help restructure challenged balance sheets. We believe that the distress in the non-core market will continue through 2012, presenting an opportunity for investors who are able to take on illiquidity. We view two broad strategies to be attractive: recapitalization (loan-to-loan) and control (loan-to-own). The recapitalization strategy provides gap financing to restructure properties, with generally a value-add type risk/return profile. The control strategy requires expertise in foreclosure, bankruptcy, restructuring, and repositioning, and has an opportunistic risk/return profile (expected return in the upper teens, with more risk).

Final Thoughts

As we enter 2012, we expect a continuation of low long-term investment returns as fundamental economic drivers remain depressed (as discussed in our annual asset allocation letter, “Old Phrases, New Phases”). We acknowledge that the current global imbalances built up over many years, and that resolving them through extended deleveraging will most likely be a multi-year process as well. Investors need to maintain a long-term focus and a patient approach to capture returns. Nevertheless, many risky asset markets appear more attractive than at this point last year, largely due to the decline in Treasury yields, but also from some improvements in market pricing and underlying fundamentals. Many segments of the corporate credit market appear attractive, as do emerging markets stocks and bonds. Dislocations in Europe and elsewhere also promise to create significant opportunities for patient capital in distressed and event-driven strategies.

In this environment, investors need to maintain a risk-balanced approach to investing, applying factor and scenario analysis where appropriate to determine vulnerabilities to extreme economic environments such as deflation/recession or elevated inflation. There remains an outsized chance of extreme market outcomes if, for example, Europe fails to address its peripheral debt problem sufficiently, leading to public or private sector defaults, or potentially unmanaged departures from the single currency. Conversely, stimulative monetary or fiscal policy overshoot could lead to increased inflation, although this seems to be a lower probability outcome. Exposure to strategies that will perform well in extreme environments, such as risk parity and specific inflation and deflation hedging instruments, will help provide the backdrop for allocating additional capital to capture attractive risk premiums.

NEPC celebrated our 25th anniversary in 2011. We are grateful for the confidence our clients have placed in us for the past quarter century – particularly in the recent troubled markets. We look forward to our next quarter century of service, working to balance the myriad short-term risks with our clients’ long-term investment goals.