Plan sponsors may have rushed to reconsider their asset allocations in the markets’ spectacular early August stumble, just as the markets late August recovery should have served as an object lesson against hasty action. In either event, the August markets underscored the value of a disciplined long-term strategy and the necessity of maintaining and protecting that strategy against sudden volatility.

U.S. equities, as measured by the S&P 500, finished the month 6.8% lower than they started. The return, dismal as it was, benefited from a rally in the final weeks which lifted the index from a 13.4% loss. Private equity and real estate as a whole

**TAKEAWAYS**

Turbulent markets in August drove home some practical lessons for plan sponsors:

- Abandoning carefully constructed strategies during large market moves could expose plans to more risk rather than insulating them.
- Although long duration bonds might seem expensive, demand and supply dynamics are likely to keep yields low for the foreseeable future—recent market moves are not a reason to abandon decisions to match liabilities.
- For the return-producing part of portfolios, the best defense against volatility may lie in diversifying sources of return beyond traditional asset classes into investments with resilience to the current state of the economy and mood of the market.
A Month to Remember

evidently fell back as well. (It is important to note that the measures available use quoted securities which are subject to the same market forces as equities.) It will be some time before we are able to assess the extent to which the unlisted equivalents followed the quoted market. Hedge funds appear to have been more resilient, but the real winners were bonds (Exhibit 1).

Flight to quality: only U.S. government obligations came out ahead in August

EXHIBIT 1: ASSET CLASS PERFORMANCE IN AUGUST

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Government/Credit</td>
<td>3.2%</td>
</tr>
<tr>
<td>Global Hedge Funds</td>
<td>-2.1%</td>
</tr>
<tr>
<td>Large Cap U.S. Equities</td>
<td>-0.7%</td>
</tr>
<tr>
<td>U.S. Real Estate</td>
<td>0.5%</td>
</tr>
<tr>
<td>U.S. Private Equity</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

Total return on large cap U.S. equities (S&P 500 Index), long-dated government and corporate bonds (Barclays Long Government/Credit Index), U.S. real estate (FTSE EPRA/NAREIT U.S. REIT Index), U.S. private equity (S&P Listed Private Equity Index) and global hedge funds (HFRX Index)

Source: DataStream, as of August 31, 2011

It is worth looking more closely at the returns on bonds, because pension plan funding in the final analysis is about the liabilities, not just the assets, and corporate bond yields are used to discount pension liabilities for USGAAp and PPA valuations. If the bonds the plan holds are not corporate bonds of the appropriate duration, then the values of the bonds and the liabilities will diverge (Exhibit 2). Falling growth expectations and worries about events in the eurozone led to Treasury yields falling sharply as safe-haven investors bid prices up. At the same time, the decline in market confidence not only impacted equity prices but resulted in spreads widening between Treasury and corporate yields. While corporate bond yields initially fell in line with Treasury yields, they did not ultimately fall as far, so the rise in total liabilities was similarly limited.

EXHIBIT 2: THE DIVERGENCE OF BONDS AND LIABILITIES

Gross redemption yield on and nominal spread between U.S. long-dated treasuries (Barclays U.S. Long Treasury Index) and U.S. long-dated corporate bonds (Barclays U.S. Long AA Corporate Bond Index)

Source: DataStream, as of August 31, 2011

Spiking spread: corporate/Treasury spread jumped in August, benefiting pension funded status

Changes in equity values, Treasury yields and credit spreads are closely linked, particularly when the moves are large. When the market believes that economic growth will slow, Treasury yields fall along with interest rate expectations. The reduced growth forecasts also put downward pressure on equity returns. But the economic drivers of equity returns also drive the credit spread component of corporate bond returns—as markets fall, spreads typically widen. This second factor provided pension plans with a degree of protection in August. The relationship between equity returns and credit spreads is not linear, however, because changes in Treasury yields can also influence corporate bond spreads to Treasuries—Treasury yields can fall and credit spreads can rise independently of any change in corporate bond returns. For that reason, equities can certainly not be considered as a short-term match for liabilities.

How Pension Plans Performed

The net effect of these factors for pension funds varied from plan to plan. We can estimate how each particular plan was affected by taking known values of assets and liabilities and projecting both forward in line with quoted index returns. To do this, we need to make some broad assumptions in relation to the duration of the liabilities. This methodology also disregards any changes in funded status due to contributions, service costs or benefit payments. Despite these
methodological limitations, we can still arrive at a good approximation of current funded status for any plan, given a few pieces of information on the plan’s finances.

Our analysis builds on the earlier analysis of the 100 largest pension plans based on their 10-K submissions by J.P. Morgan Asset Management. The 10-Ks divide assets into four categories: equities (which we assume to be U.S. large cap equities); fixed income (which we assume to be U.S. long government and credit); real estate/private equity/hedge funds (which we assume to be equally distributed among each of these three, using the indexes indexes cited in Exhibit 1); and “other” (which we allocate again to U.S. large cap equities). We assume that the liabilities have a duration of 12 years and are discounted using the gross redemption yield on the Barclays Long AA Corporate Bond Index.

Rolling forward the funded ratios of these plans to the end of July shows that the median funded status of the 100 largest plans was 86.5%, with 90 falling between 57.6% and 120.2%. At the depths of the correction, the median funded ratio had dropped to 78.0%. By the end of August it had recovered to 84.4%—only 0.5% less than the figure at the end of 2010 (Exhibit 3).

Interestingly, the relative rankings did not change significantly over the month. Only ten plans moved more than five places, and only one moved more than ten places. This stability persisted throughout the month, due, we believe, to the limited range of asset allocations.

The Benefits of Bonds

The difference between asset class returns highlights the importance for a pension fund of holding bonds—in particular, bonds that match liabilities. To state it more precisely, the events of August highlighted the benefits of having held bonds, and many may wonder whether it is too late to hedge interest rate risk either with bonds or using derivatives. A critical consideration in this respect is the demand and supply dynamic of the U.S. fixed income market (Exhibit 4).

Insurance companies with a structural need for long-dated fixed income assets to back long duration liabilities seek to increase the yield they can achieve by using long duration corporate bonds. Similarly, defined benefit plans match their liabilities using long-dated bonds—and this demand is increasing as funds try to reduce the amount of interest rate risk that they face. This high level of structural demand means that the yield on long duration bonds, and particularly corporate bonds, is likely to remain depressed for some time, frustrating near term expectations for matching liabilities more efficiently with higher long rates.

Round trip? Funded status fell only 0.5% from 12/31/10, even after August's volatility

EXHIBIT 3: CHANGES IN FUNDING LEVELS IN AUGUST 2011

<table>
<thead>
<tr>
<th>7/29</th>
<th>8/1</th>
<th>8/4</th>
<th>8/7</th>
<th>8/10</th>
<th>8/13</th>
<th>8/16</th>
<th>8/19</th>
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<tbody>
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<td>100</td>
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<td>60</td>
<td>50</td>
<td>40</td>
<td>30</td>
<td>20</td>
</tr>
</tbody>
</table>

Funded Ratio (%)

EXHIBIT 4: SUPPLY-DEMAND IMBALANCE IN LONG DURATION ASSETS

Sources: total private sector defined benefit assets from Federal Reserve flow of funds; insurance long duration allocation from SNL Financial; index data from Barclays Capital.
Staying the Strategic Course

The structural hurdles to tactical rebalancing make a coherent long-term strategy essential. Plans which have asset allocation glide paths should continue to rebalance according to the rules they have already set out; plans with other strategic objectives should similarly maintain asset allocations in line with these objectives; and plans with no well-articulated strategic objective should develop one.

There are two reasons why it is important to follow strategic objectives rather than trying to make significant changes now. First, while it is difficult to predict the direction in which markets will move on a day-to-day basis, it is easier to predict levels of volatility. In particular, large market movements on one day are likely to be followed by further large market movements in subsequent days—in other words, volatility clusters. Exhibit 5, showing the daily price change in the S&P 500 Index, illustrates the point. The clusters of volatility can clearly be seen. More importantly, so can the recent large increase in volatility at the far right hand side of the chart.

The second reason to stick to a strategy is that if it is a strategy intended to take a plan from where it is to where it ought to be—it should not be torn up in times of market volatility. That said, a strategy should have the flexibility to accommodate significant market events—strategically, not just with tactical changes to the current allocation. Contributions may have to increase or timescales may have to stretch out.

Preparing for Volatility

There are steps that plan sponsors can take immediately, based on what we already know about asset class returns. The most important of these is to ensure that returns are adequately diversified. This is particularly critical given that the risk of extreme negative returns in many asset classes is higher than implied by a normal distribution—and higher than investors might expect. Exhibit 6 shows the distribution of returns for the S&P 500 Index compared with a statistically normal distribution of returns with the same average return and volatility. The risk of negative returns was notably higher in the observed returns.

Volatility clusters serve as a warning against deviating from strategic objectives

Exhibit 5: Daily Price Change on the S&P 500 Index from December 31, 1999 to August 31, 2011

This means that there is greater entry point volatility at the moment—that is, more volatility around the price at which you trade. So a large change in the asset allocation right now could turn out to be the best decision you ever made, but it could just as easily prove to be the most costly.

(AB)normal distribution: negative equity returns have occurred far more frequently than statistical models predict


Source: DataStream
In addition, correlations tend to converge—and diversification can tend to prove ineffective—in volatile episodes. More accurate techniques to pinpoint the historical and long-term interrelationships among asset classes, such as serial correlation and copula theory, may provide a clearer guide to so-called tail events.³

It is equally important to understand the limits of diversification within asset classes. Global equities diversify a portfolio of U.S. equities and the addition of emerging market equities would diversify a portfolio further still, but all this diversification is limited by its reliance on a single source of return: corporate profitability. More meaningful diversification may come from diversifying the economic drivers of portfolio returns. Corporate profitability factors into real estate returns, for example, but the returns also depend on a number of other independent variables. So the addition of real estate to a portfolio adds a layer of genuine diversification on top of equities. Commodities, where supply constraints can have equal or even greater effect than demand growth, would add even more.

The premiums available for assuming insurance risks constitute yet another uncorrelated return stream. Investors can access the premiums directly through insurance-linked securities that enable insurance companies to shift potential policy liabilities off their balance sheets. Commodity futures can also deliver insurance-like returns by locking in a price to hedge a producer from prospective market volatility—and returning a premium to an investor willing to accept and be compensated for the risk.

Lessons Learned

Less liquid asset classes can provide a source of returns uncorrelated to publicly traded securities. The fact that they may experience much higher volatility than their quoted prices might indicate is, on the one hand, a source of extra risk, but it can furnish a unique and diversifying source of return on the other. In sharply negative markets illiquid assets typically sell at a steep discount from the last quoted price, if they sell at all. But the discount is the mirror image of the premium available to investors, most notably pension funds, with time horizons long enough to wait for the asset prices to rise to the point where they compensate not only the asset’s intrinsic value but its illiquidity.

In the end, to paraphrase and alter the timetable of T.S. Elliot’s renowned poem, August did not turn out to be the cruellest month, but it did send a message to plan sponsors. Funding strategies can’t and shouldn’t change in response to every turn in the market, no matter how sharp. Rather strategies should accommodate them. And one of the surest means of bolstering plans against a sudden onslaught of volatility is a careful and exacting diversification of the sources of expected return.

A Month to Remember: Lessons for pension plans from the August correction
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