Traditional portfolio construction approaches, which focus on asset class diversification, may fall short of investors' goals. A more efficient diversification strategy may be to allocate across the underlying “risk factors.”

WHY ISN’T TRADITIONAL ASSET CLASS DIVERSIFICATION ENOUGH?

Traditional allocation strategies seek to mitigate overall portfolio volatility by combining asset classes with low correlations to each other, meaning that they tend not to move in the same direction at the same time. However, asset class correlations are less stable than many investors realize, and long-term trends such as globalization are driving correlations higher. In addition, correlations typically increase during periods of market turbulence. As a result, seemingly distinct asset classes are likely to behave more similarly than many people expect. In other words, even portfolios that are well diversified across asset classes may not be positioned to adequately diversify and cushion market volatility (Figure 1).

WHAT IS A RISK FACTOR?

Risk factors are the underlying risk exposures that drive the return of an asset class (see Figure 2). For example, a stock’s return can be broken down into equity market risk – movement within the broad equity market – and company-specific risk. A bond’s return may be explained by interest rate risk – price sensitivity to changes in rates – and issuer-specific risk. And currency risk is a factor for assets denominated in foreign currencies. By targeting exposure to these underlying risk factors, investors can select a mix of asset classes that provides more diversified portfolio risk.

FIGURE 1: ASSET CLASS DIVERSIFICATION IS NOT THE SAME AS RISK DIVERSIFICATION

In the chart below, a portfolio is broadly diversified across asset classes, but in fact has a very concentrated exposure to underlying equity risk. Understanding these risk factors is key to creating an efficient, risk-managed allocation strategy.

ASSET CLASS EXPOSURE (by market value weight)

- Global Equities 50%
- Fixed Income 20%
- Global Bonds 2%
- TIPS 3%
- Private Equity 8%
- Hedge Funds 7%
- Real Estate 7%
- Commodities 1%
- Cash 2%

The asset allocation portfolio is a custom blend of indexes. Refer to the end of this material for additional detail. Figure is provided for illustrative purposes and are not indicative of the past or future performance of any PIMCO product.

RISK FACTOR EXPOSURE (by contribution to estimated volatility)

- World Equity (developed) 80%
- World Equity (emerging markets) 9%
- Corporates 4%
- Currency 6%
- Other Factors² 1%

As of 31 March 2016; Source: PIMCO. Hypothetical example for illustrative purposes only.

1 See disclosures for additional information regarding volatility estimates.
2 Other Factors include equity style, slope, duration, convexity, emerging market spread, mortgage spread, commodities and idiosyncratic factors.
HOW DOES RISK FACTOR-BASED ALLOCATION WORK?

While it’s not possible to invest directly in a “risk factor,” using an allocation strategy based on risk factors can help investors more effectively choose a mix of asset classes that best diversifies their risks while also reflecting their views on the global economy and financial markets. How would such a strategy work? By understanding the underlying risk factors within various asset classes, investors can ultimately choose which asset class allows them to most efficiently obtain exposure to that particular risk factor. For example, if they wished to add foreign currency risk to their portfolio, they could do so by investing directly in currencies, but they could also consider foreign equities, bonds or even commodities, if valuations seemed more attractive among those asset classes. Over time, that flexibility can help add significant value to a portfolio.

HOW CAN INVESTORS APPLY RISK FACTOR-BASED DIVERSIFICATION TO THEIR PORTFOLIOS?

Using a risk factor-based approach requires a forward-looking macroeconomic view on a wide range of variables, including monetary policy, geopolitical developments, inflation, interest rates, currencies and economic growth trends. Because few individuals have the resources or infrastructure to continually monitor these factors, it may make sense for them to talk to their financial advisors about funds that use such an approach.

FIGURE 2: ASSET CLASS THROUGH A RISK FACTOR LENS

Focusing on underlying risk factors allows investors to more fully understand their total portfolio risk and then take on the risks they believe can deliver the best potential reward. In this way they can build a portfolio that provides a truly diversified, controlled exposure to risks.

<table>
<thead>
<tr>
<th>RISK FACTORS</th>
<th>EQUITIES</th>
<th>DEVELOPED MARKET BONDS</th>
<th>EMERGING MARKET BONDS</th>
<th>COMMODITIES</th>
<th>REAL ESTATE (REITS)</th>
<th>CURRENCIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity risk (Equity beta)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Interest rate risk (Duration)</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>✔</td>
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<td>✔</td>
</tr>
<tr>
<td>Credit risk (Spread duration)</td>
<td>✔</td>
<td>✔</td>
<td></td>
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<td>✔</td>
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<tr>
<td>Currency risk (FX exposure)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>Momentum</td>
<td>✔</td>
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<td>✔</td>
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</tr>
</tbody>
</table>

Source: PIMCO. Spread duration refers to the price sensitivity of a specific sector or asset class to a 100 basis point (1%) movement in its spread relative to Treasuries.
VOLATILITY (ESTIMATED)

We employed a block bootstrap methodology to calculate volatilities. We start by computing historical factor returns that underlie each asset class proxy from January 1997 through the present date. We then draw a set of 12 monthly returns within the dataset to come up with an annual return number. This process is repeated 25,000 times to have a return series with 25,000 annualized returns. The standard deviation of these annual returns is used to model the volatility for each factor. We then use the same return series for each factor to compute covariance between factors. Finally, volatility of each asset class index is calculated as the sum of variances and covariance of factors that underlie that particular proxy. For each asset class, index, or strategy proxy, we will look at either a point in time estimate or historical average of factor exposures in order to determine the total volatility. Please contact your PIMCO representative for more details on how specific proxy factor exposures are estimated.

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