

A New Management Approach for a New Market Regime

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KEY TAKEAWAYS

- We are evolving our Global Balanced Risk Control (GBaR) strategy into a new management approach better suited for a new market regime, primarily focused on generating returns with risk-awareness
- What's changing? Well, alongside this approach, we are adding fresh portfolio construction and implementation techniques.
- Why now? The structure of the market has changed, where correlation risks are now higher. We must adapt our approach or face suboptimal results.
- Our overriding goal is to achieve stable target risk-adjusted returns

Today's new interest rate and inflation regime, which deviates significantly from the past 40 years, makes it more difficult to achieve stable target returns. We nonetheless believe this can still be achieved. How? By modifying one's investment process that recognizes this change in regime and is complemented by unique portfolio construction and implementation techniques.

The downward interest rate cycle from 1981 – 2021 that spurred a massive bull market in bonds has now come to a screeching halt—and this changes everything. Why? In the simplest terms, interest rates have risen well above their previous lows, making diversification between stocks and bonds problematic, and stable returns harder to generate. We find this untenable and a problem for investors, something we discussed in detail in our whitepaper: *The Case for Stable Risk Adjusted Returns: Why Now?*

The good news? We offer what we believe is a viable solution.

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Finding a Solution To Achieve Higher Returns in a New Market Regime

When we manage portfolios, our primary goal is to achieve stable target returns that are designed to compound predictably over time. In order to do this, a flexible weighting between fixed income and equities must be actively managed, with both target returns and risk awareness in mind. But that's not all. We must also consider the construction of portfolios to incorporate style and factor differences that may work better depending on the market regime.

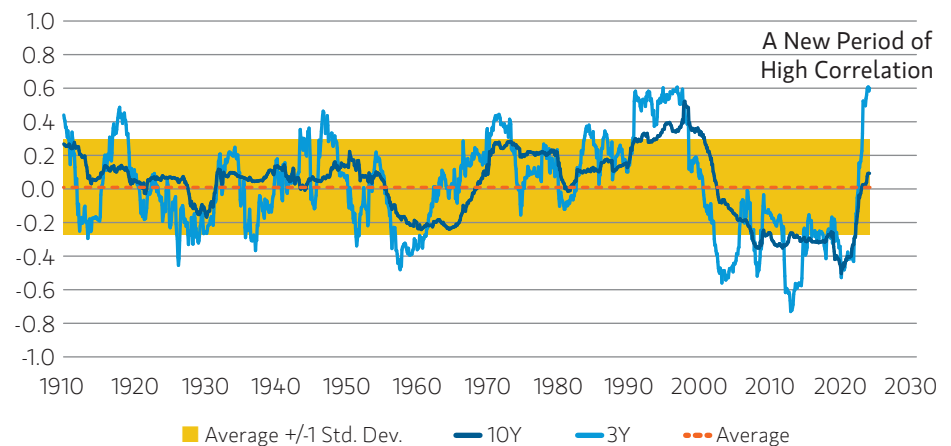
One such change in market regime is that we expect the correlation between fixed income and equity returns to be much higher than they have been over the past few decades. *Display 1* illustrates the long-term correlation of returns between stocks and bonds, where correlations have risen sharply over the past several years—and where we think they are likely to stay. We expect this to be the case because one of the primary drivers of rising correlations is the interest rate and inflation cycle, and their combined effect on bond returns.

During periods like the late 1940s and into the 1950s, there were policies designed to suppress interest rates and increase nominal GDP, in order to pay off the deficit the U.S. accumulated during World War II. As a result, correlations fell during this period. Then in the 1960s and 1970s bond yields were allowed to rise and later accelerated when inflation took root. This had the effect of increasing stock and bond return correlations from lower to higher levels across both decades, where the interest rate and inflation cycles were key drivers of that rise.

Similarly, correlations declined as interest rates and inflation fell due to globalization policies that began in the late 1990s. Correlations declined further with the introduction of quantitative

DISPLAY 1 Bonds Are Not a Natural Hedge to Equities

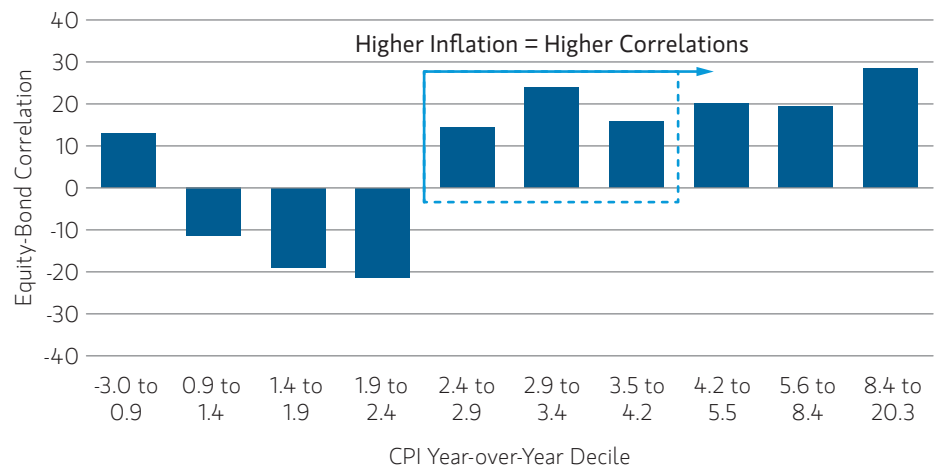
High Return Correlations Are Common



Source: 3-year and 10-year rolling correlations. Shiller, Bloomberg, Macrobond, MSIM. As of March 31, 2024. Bonds are represented by aggregate U.S. Treasury returns sourced from Robert Shiller, "A History of Interest Rates"; equities by the S&P 500. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. Indexes are shown for illustrative purposes only and do not include any expenses, fees or sales charges, which would lower performance. Indexes are unmanaged and should not be considered an investment. It is not possible to invest directly in an index. **Past performance is no guarantee of future results.**

DISPLAY 2 Inflation Is the Key Driver of Equity-Bond Correlation

S&P 500 and U.S. 10-year Treasury Total Return Correlation by Inflation Decile



Source: MSIM analysis, Bloomberg, FactSet, Haver, GFD. As of March 31, 2024. Equities are represented by S&P 500 Index, bonds by the U.S. 10-Year Treasury. Index definitions can be found in the disclosure section. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index. **Past performance is no guarantee of future results.**

easing that greatly suppressed interest rates because of the global financial crisis of 2007-2009. Now that the policies designed to keep interest rates low have lapsed, combined with the fact that inflation has now become a tangible

risk, we may likely see these return correlations rise and stay elevated for an extended period. This constitutes a regime change. A higher inflation regime alongside higher equity-bond return correlations (*Display 2*).

One of the most important observations from *Display 1* is that it is neither normal—nor common—for bonds to be a natural hedge for equities. Instead, their relationship is highly regime-dependent and reliant on exogenous factors like policy and otherwise. Our concern as an investment manager is that many people may think the latest 40-year period is the “way things will continue to be” and that we may eventually revert to the norm of this most recent past.

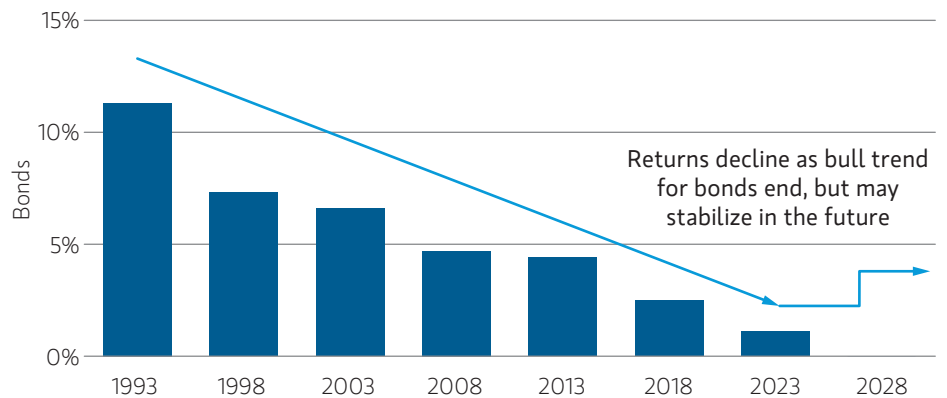
However, we think differently about this scenario and are looking for innovative investment solutions outside of what may commonly be thought of as the norm. In other words, a greater allocation to bonds may not consistently mean less risk for returns. The balance of risks may likely vary more over time because bond returns are less stable. This could emerge from a set of parameters in which we see stronger growth that benefits equities, but includes modestly rising inflation that ultimately detracts from bond returns, something which has already started (*Display 3*). Our view is that it requires a recognition of this regime change and the flexibility to make an adjustment to portfolio construction in order to achieve stable target risk-adjusted returns. Why? Mainly because a static balance of equities and bond (e.g., 60/40) may very well be suboptimal when interest rates no longer trend lower.

Now, being active and reducing risk may run counter to each other in the eyes of some investors. However, our analysis reveals that in an environment of changing interest rates, inflation and policy, active management, coupled with an eye toward reducing risk, need not conflict. In fact, we strongly believe they complement each other.

DISPLAY 3

Bond Returns Aren't What They Used To Be

Lower Expected Returns Offer Fewer Diversification Benefits



Source: As of March 31, 2024. Annualized 5-year rolling bond returns as represented by the Bloomberg Aggregate Bond Index. Index definitions can be found in the disclosure section. The indexes do not include any expenses, fees or sales charges, which would lower performance. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index. Past performance is no guarantee of future results.

Being Active Also Means Identifying When To Switch Between Regimes

Active management is often thought of as making tactical changes to positions that comprise an investment strategy. It has been the case that active meant being focused on changing weights between bonds and equities, but it is more than that today. We believe being active now means that a manager can change their investment style to reflect regime changes. Active management that includes portfolio reconstruction to match the right market regime is the essence of our approach.

As we see it, there are four ways to evolve our Global Balanced Risk Control (GBaR) strategy in order to add value:

1. RISK CONTROL – WE RECOGNIZE THAT VOLATILITY-MANAGED PORTFOLIOS TEND TO PERFORM WELL OVER TIME.

We believe forecasting volatility is one of our strengths, both in understanding the underlying risk of each asset class, and as importantly, the risk relationship between them. Since market volatility is more

predictable than directional market changes, managing the volatility of returns can create value through increased exposure to compounding and the trending nature of markets.

But understanding the broader volatility characteristics of the total portfolio is an enhancement we employ to provide greater predictability in the potential for downside returns. Lowering this uncertainty is designed to allow for the benefit of compounding returns over time.

It should be noted that volatility-managed portfolios differ from capital-weighted, or benchmark-driven, portfolios in that they rebalance out of assets as their risk increases or they become more correlated. As we see it, this is preferable to benchmark-driven portfolios that rebalance passively based on returns driven by markets. As such, if higher volatility is associated with negative returns, then benchmark portfolios often instead increase their allocation to assets with a higher risk profile.

2. REGIME DEPENDENCE – TACTICAL

MANAGEMENT IS A REQUIREMENT IN THE CURRENT ENVIRONMENT OF HIGHER RATES, INFLATION AND UNCERTAINTY.

As mentioned, the ability to identify market regimes is critical when determining whether a volatility or benchmark-based approach may provide better results. The foundation for these two distinct approaches differs based on whether the market is trending or reverting to a norm.

For example, when rates were low, the market was in a sustained period of low volatility that was predictable and led to periods of trending. When central banks, like the Fed, started to increase rates, we observed movement back to a more uncertain market with a greater propensity for mean reversion. Adding to the complexity, certain sectors of the market simultaneously trended due to the influence artificial intelligence (AI) had on valuations.

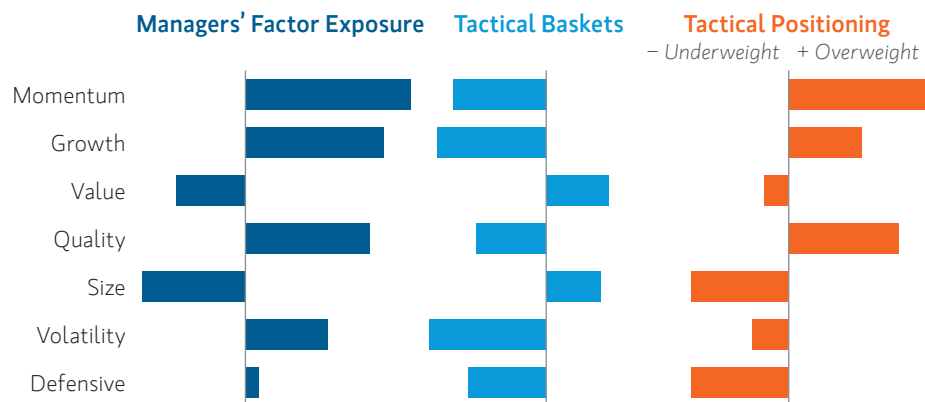
Our point is that the ability to recognize the fluctuations between these two regimes is key to running a successful risk-balanced strategy. Yes, we want to be risk-balanced, but also aware of the importance of benchmarks in strongly reverting periods. Tactical management allows us to take advantage of opportunities—and avoid risks.

3. IMPLEMENTATION – ACTIVE MANAGEMENT IS A MECHANISM DESIGNED TO DRIVE OUTPERFORMANCE, BUT SHOULD BE DONE IN A SELECTIVE AND INTEGRATED WAY.

Investors often rely on active management to derive alpha (as opposed to beta, which is merely derived from market exposure). In this respect, we've observed positive and persistent alpha in various markets, but it does come with a number of challenges. Specifically, the challenge associated with alpha is that it is not made available equally, or efficiently, across all active strategies.

DISPLAY 4

Implementing Our Tactical Views at the Entire Portfolio Level



Source: MSIM. As of April 29, 2024. For illustrative purposes only. This represents how the portfolio management team generally implements its investment process under normal market conditions.

Alpha is commonly derived from pure security selection and market timing. Investors have differing abilities in identifying, and then relying, on these different sources of return. The consistent identification of alpha-based returns involves our use of sophisticated factor models and bottoms-up holdings analysis to assess performance.

To further illustrate the complexities we manage, more recently we've seen changes to the significance of risk contribution from these sources. For example, residual risk factors, the technology sector and non-momentum, are key factors differentiating the success of active management in a variety of ways. Synthesizing the complexity of these factors into a durable investment portfolio presents a challenge for investors, one that we work to identify and solve.

4. PORTFOLIO CONSTRUCTION – COMBINING THESE COMPLEXITIES INTO A PORTFOLIO REQUIRES AN INTEGRATED APPROACH.

The complexity of sources and variation of returns means that the process of building a portfolio must be integrated. The traditional approach to portfolio construction with active

managers is to choose managers based on all their sources of return, such that beta is chosen first and alpha then sourced. The consequence here is that less-efficient alpha sources are chosen with little regard for their interaction with each other.

We do things differently. We start with alpha first and recognize that these sources of alpha will bring with them both beta and factor biases. The most efficient alpha source is then constructed in a way designed to maximize areas where alpha can be sourced efficiently, but also leverage the potential benefit of their alpha diversification.

A tactical basket can then be overlaid and implemented into the portfolio, one that is structured around the active management allocation to serve four roles:

- I. Mitigate any active biases as a consequence of our alpha choices
- II. Scale our preference for total tracking error
- III. Target the most efficient balance of risk in consideration of return
- IV. Allow us to still express our tactical positioning (*Display 4*)

The Capital Markets Group research team provides top-down, macro analysis of equity, fixed income and alternative assets, designed to help clients capitalize on evolving economic dynamics and market dislocations globally. The Capital Markets Group supports the Portfolio Solutions Group, which builds custom multi-asset investment solutions across a range of broadly-diversified to hyper-focused portfolios.

Markets have three degrees of freedom: they can trend higher, trend lower or move sideways. Said differently, either a market is trending or reverting to the mean. Many strategies are designed rigidly to perform better in one environment or the other. In our case we have designed a strategy to take advantage of the opportunities of both regimes. In our case, the choice is not either/or, but both.

So, which is better? As we see it, one is not necessarily better than the other. Instead, the ability to be flexible and reposition a portfolio that alternates between regimes may be optimal and produce better results over time. Skill is required to identify which regime the markets are in or, as importantly, heading into. We rely heavily on the top-down analysis from our Capital Markets research team, a key team within the larger Portfolio Solutions Group, to identify these regimes.

We can amplify the momentum characteristics of our risk control strategy when the market is trending, but then can also reconstruct the portfolio to be optimal in a mean-reverting regime when markets are trendless. In other words, we can swap out the momentum factor as a driver of returns for something else, such as value. In fact, this is what we are doing now.

It is worth repeating that active management that includes portfolio reconstruction to match the right market regime is essential. This is a key change we are implementing.

Portfolio Construction and Implementation Drive Alpha

Our goal is to manage the high return correlations between stocks and bonds, one where bonds no longer hedge equities as consistently as previously. This is one part of our solution, but we also need to construct a portfolio and implement asset allocation properly to complete the process. Let us provide an example.

In this case, we construct portfolios by selecting allocations to active managers, and spend substantial effort identifying ones who can improve the risk/return characteristics of our portfolios. Manager selection requires a detailed understanding of how their returns are generated, as well as the types of investment risks they are taking. Our analysis shows whether a manager generated strong performance through favorable security selection (alpha) or simply through high levels of market exposure (beta).

To understand a manager's return profile, we use factor models. These models quantify the proportion of a

manager's risk and return that comes from common factors, also known as biases. Examples of a manager's biases are country, style, sector, volatility and momentum (among others). With factor modeling, we isolate manager-specific returns (alpha) and the active risks taken by the manager to achieve those returns, which stem from each manager's unique trading style. Factor analysis can help identify skilled managers by focusing on their stock-picking capabilities, and better control portfolio risk, reducing the portfolio's overall volatility.

Onboarding factor tilts, or exposures from managers, may be undesired in our strategic asset allocation, as they may be suboptimal to the goals we are trying to achieve. So, when constructing a portfolio, we need to manage and control these biases, aiming to reduce a portfolio's volatility to be able to deliver persistent and stable performance. Our approach is to run an optimization process to reduce unwanted exposures and aim to maintain a manager's alpha. This is done by creating and investing in a different basket exposure, the aforementioned tactical basket, designed to express our overall portfolio tactical views.

The optimizer process looks through the underlying managers' portfolios, identifying how the portfolio compares to the benchmark across all common factor exposures (style, sector, country, etc.) and then buying securities in the benchmark that have factor exposures that are "missing" from the portfolio (i.e., underweight), but are included in the benchmark. This approach seeks to move the managers' factors closer to the benchmark's factor exposures.

For example, if we make the tactical decision to position in growth stocks, the optimizer will create an efficient exposure that is to our choice instead of onboarding other exposures from a manager that we neither wanted nor

chose. The goal of the optimization program is to make this an efficient investment process for us.

We definitely want to retain a manager's alpha within our asset allocation. The active risk that the optimizer cannot diversify away is stock-picking risk, which stems from individual names selected by the underlying managers that cannot be mapped to a common factor. Stock picking is the core of what you pay for in active management.

In this case what investors are essentially left with is a portfolio with primarily stock-picking risk - the choices from active managers—while you have for the most part eliminated the risk stemming from factors that you do not want exposure to in the portfolio. This is not to say that we will not have a view on those factors in the portfolio, but those would be expressed as our tactical decisions.

For more, please refer to our previously published whitepapers on this topic: Active Management and Dynamic Factor Modeling and New Dimensions in Asset Allocation.

Evolving and Adapting to a New Market Structure

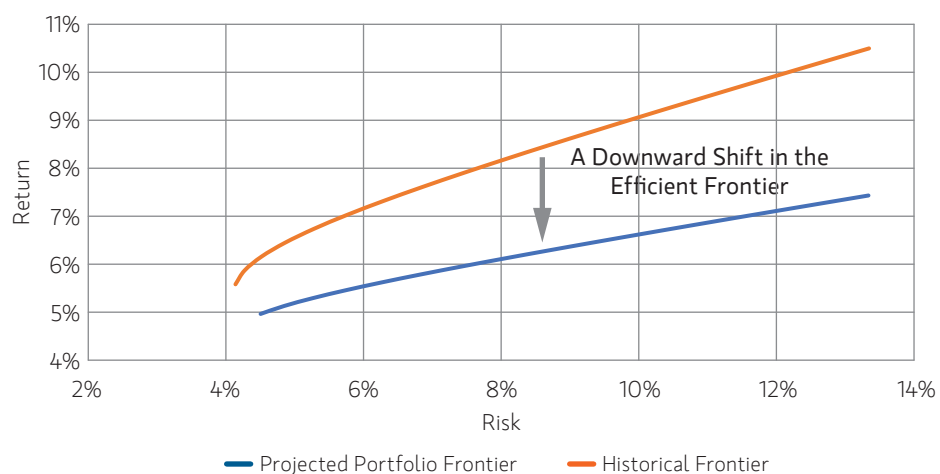
We have demonstrated that our GBaR strategy can achieve a stable return volatility by actively managing a multi-asset portfolio. But this is not enough.

The new market regime requires us to evolve our portfolio construction and implementation techniques with the goal of increasing/achieving stable returns that come from identifying and isolating beta and alpha from our investment selection process.

The benefit is to switch the focus of our strategy on optimizing the potential to capture market returns rather than sacrificing returns merely for the sake of setting a volatility range. Said differently, our priority

DISPLAY 5

The Downward Shift in the Efficient Frontier Requires a Change in Management Techniques To Achieve Target Returns



Source: Bloomberg, MSIM Capital Markets Group. As of March 31, 2024. Bonds are represented by the Bloomberg U.S. Aggregate Bond Index; equities are represented by the S&P 500 Index. Historical Frontier covers period from February 1988 – March 2024. Projected frontier is an illustration based on PSG's long term CMA assumptions. Index definitions can be found in the disclosure section. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. The indexes do not include any expenses, fees or sales charges, which would lower performance. The index is unmanaged and should not be considered an investment. It is not possible to invest directly in an index. **Past performance is no guarantee of future results.**

shifts to capturing returns made available by the market while still maintaining a risk-aware discipline that seeks to optimize alpha.

In this form of strategic asset allocation, when this method is applied, the alpha contribution to our portfolio does not solely come from our risk control process. This is also an important evolution to our investment strategy because in addition to risk awareness we will also control for active management exposure, via our tactical baskets.

Simply stated, we are isolating the exposures we want to have in our investment portfolio and reducing the exposure to risks we don't want. This helps us hyper-focus on portfolio return characteristics that both match our views and client goals.

Conclusion

As markets evolve, we must evolve with them. But what has remained the same is our objective to deliver

stable and persistent returns no matter what the regime is, or what the regime may become. We believe the efficient frontier, which illustrates the relationship between risk and return, has shifted down and toward the right, making it harder to achieve the same risk-adjusted returns experienced from 1988 – March 2024 (Display 5). As a result, we need to employ the additional portfolio management techniques described to source additional alpha and enhance risk-adjusted returns. This is necessary to achieve required stable target returns in the future market environment.

We believe we have a proven track record that supports our capabilities to adapt to changing market regimes through portfolio construction and implementation techniques while remaining risk aware. We also have the capabilities and experience to use multiple asset classes as a necessary requirement to provide this solution and achieve the goals that investors demand from our strategies.

Risk Considerations

There is no assurance that the strategy will achieve its investment objective. Portfolios are subject to market risk, which is the possibility that the market values of securities owned by the portfolio will decline and that the value of portfolio shares may therefore be less than what you paid for them. Market values can change daily due to economic and other events (e.g. natural disasters, health crises, terrorism, conflicts and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects (e.g. portfolio liquidity) of events. Accordingly, you can lose money investing in this portfolio. Please be aware that this strategy may be subject to certain additional risks. There is the risk that the Adviser's **asset allocation methodology** and assumptions regarding the underlying portfolios may be incorrect in light of actual market conditions and the portfolio may not achieve its investment objective. Share prices also tend to be volatile and there is a significant possibility of loss. The portfolio's investments in **commodity-linked notes** involve substantial risks, including risk of loss of a significant portion of their principal value. In addition to commodity risk, they may be subject to additional special risks, such as risk of loss of interest and principal, lack of secondary market and risk of greater volatility, that do not affect traditional equity and debt securities. **Currency fluctuations** could erase investment gains or add to investment losses. **Fixed-income securities** are subject to the ability of an issuer to make timely principal and interest payments (credit risk), changes in interest rates (interest-rate risk), the creditworthiness of the issuer and general market liquidity (market risk). In a rising interest-rate environment, bond prices may fall and may result in periods of volatility and increased portfolio redemptions. In a declining interest-rate environment, the portfolio may generate less income. Longer-term securities may be more sensitive to interest rate changes. **Equity and foreign securities** are generally more volatile than fixed income securities and are subject to currency, political, economic and market risks. Equity values fluctuate in response to activities specific to a company. Stocks of **small-capitalization companies** carry special risks, such as limited product lines, markets and financial resources, and greater market volatility than securities of larger, more established companies. The risks of investing in **emerging market countries** are greater than risks associated with investments in foreign developed markets. **Exchange traded funds (ETFs)** shares have many of the same risks as direct investments in common stocks or bonds and their market value will fluctuate as the value of the underlying index does. By investing in ETFs and other investment funds, the portfolio absorbs both its own expenses and those of the ETFs and investment funds it invests in. Supply and demand for ETFs and Investment Funds may not be correlated to that of the underlying securities. **Derivative instruments** can be illiquid, may disproportionately increase losses and may have a potentially large negative impact on the portfolio's performance. A **currency forward** is a hedging tool that does not involve any upfront payment. The use of leverage may increase volatility in the Portfolio. **Diversification** does not protect you against a loss in a particular market; however, it allows you to spread that risk across various asset classes.

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The **S&P 500® Index** measures the performance of the large cap segment of the U.S. equities market, covering approximately 75% of the U.S. equities market. The index includes 500 leading companies in leading industries of the U.S. economy.

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