PIMCO

PIMCO's Capital Market Assumptions – August 2023

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Executive Summary

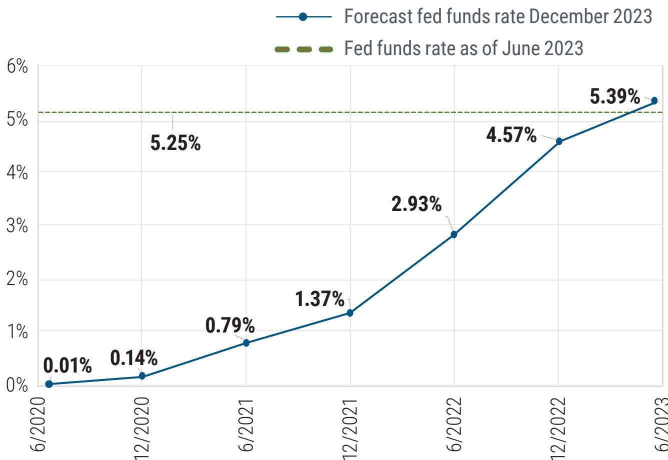
Fixed income has become attractive over the secular horizon following last year's dramatic repricing, which sent U.S. bond yields to their highest levels in a decade. Since our December 2022 capital market assumptions (CMAs) update, the equity market has rallied and the Federal Reserve (Fed) has hiked the federal funds rate four times, totaling 100 basis points (bps) year to date, suggesting equities are richer today relative to bonds. Our baseline scenario of a mild recession for the U.S. over the cyclical horizon, as well as signs of cooling U.S. inflation, imply a likely end to the current Fed rate-hiking cycle in the near future. We expect high quality bonds to potentially provide attractive returns and risk diversification in this environment. Five-year forecasts in our latest semiannual CMAs include:

- An average cash rate of 3.5%, up 0.2 percentage point from the fourth quarter of 2022, driven primarily by higher starting levels
- An expected annualized return of 6.5% for U.S. large cap equities based on the S&P 500, about 3 percentage points above the average U.S. cash rate, which is 50 bps lower than the expected excess return of large cap equities over cash in the fourth quarter of 2022
- Expected annualized U.S. government bond returns ranging between 4.1% and 5.2%, which are higher than our expected inflation rate of 2.6%, implying positive *real* returns
- Expected risk premiums of between 120 bps and 220 bps over cash on a foreign-exchange-hedged basis for other developed market sovereign bonds and corporate bonds

In the aftermath of the 2008 global financial crisis, bond investors faced low real and nominal bond yields as the era that PIMCO termed the *New Normal* took hold. Major central banks maintained short-term interest rates near or in some cases below zero for an extended period, resulting in historically meager returns for fixed income investments. The Fed started to raise the fed funds rate in 2015, hitting a peak of 2.25%-2.50% at the end of 2018. However, by early 2020, the Fed had cut rates back to near 0% amid the COVID-19 crisis. In 2022, an unexpectedly strong and hawkish central bank response driven by positive inflation shocks triggered a major increase in interest rates. As a result, 2022 proved to be challenging for both bond and equity investors. Despite risks going forward, the repricing in 2022 has resulted in the most compelling expected returns to fixed income in years.

While inflation remained relatively high and stable in the first half of 2023, the Fed continued to hike the fed funds rate, although in smaller increments than in 2022. Figure 1 illustrates the rapid rise in expectations for the future fed funds rate since June 2020. The blue line represents the forecast for the terminal fed funds rate in December 2023, as implied by fed funds futures over time. In June 2020, the market expected a zero fed funds rate in December 2023 – effectively predicting that the Fed would remain at the zero lower bound for several years. A year later, in June 2021, that prediction had moved up to only 79 bps. Even as recently as June 2022, the market expected a December 2023 fed funds rate of only 2.9%. However, as of June 2023, the expected December 2023 fed funds rate stood at 5.4%.

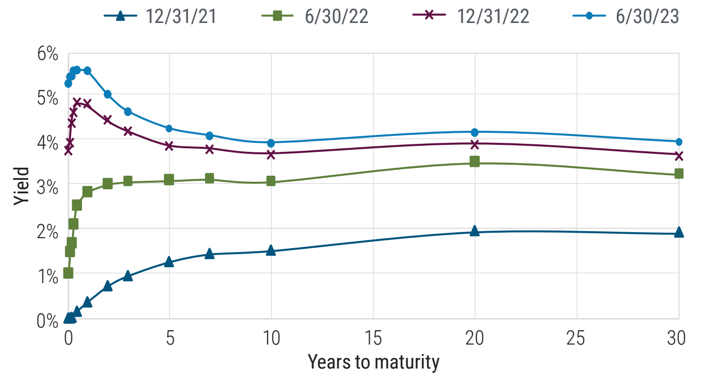
Figure 1 – Market expectations for the federal funds rate have soared over the past three years



Source: Bloomberg as of June 2023.

Figure 2 compares the U.S. Treasury yield curves for the past four of our semiannual CMA updates, dating back to December 2021. In June 2022, bond yields increased significantly compared with six months prior. This roughly coincided with the beginning of the inversion of the U.S. yield curve, which is a classic recession predictor. After a year of continued Fed rate hikes and intensified yield curve inversion, the two-year versus 10-year U.S. Treasury bond yield slope is more inverted today than it has been in more than four decades.

Figure 2 – The U.S. Treasury yield curve remains inverted



Source: Bloomberg as of June 2023.

Painful economic, financial and geopolitical disruptions over the past three years have resulted in massive fiscal and monetary policy interventions that likely will not be repeated in the next five years due to the fear of inflation and surging sovereign debt. With limited policy options to suppress volatility in the future, the global economy will likely face increased volatility and potential aftershocks over the cyclical horizon that could have long-lasting effects. The failures of three U.S. commercial banks, as well as the collapse of Credit Suisse, serve as recent examples. (For more, please read our latest *Secular Outlook*, "The Aftershock Economy.")

Our baseline scenario of a mild recession for the U.S. over the cyclical horizon, combined with signs of cooling U.S. inflation, suggests a possible end to the current Fed hiking cycle in the near future. Whether the Fed pauses or changes direction swiftly after that, historical data suggests that bonds can provide attractive returns and risk diversification. (For more discussion on this, read our latest *Asset Allocation Outlook*, "Whether Pause or Pivot, Look to Bonds.")

PIMCO's current capital market assumptions suggest some of the most attractive fixed income returns over a medium- to long-term horizon that we've seen in recent history. This stems from our expectation that central banks will succeed in bringing inflation and inflation expectations much closer to long-run targets, although the *average* level of inflation over the secular horizon will be somewhat higher than it was before the pandemic. In the aftershock economy, characterized by ongoing disruptions, today's starting yields and expectations that inflation will be contained suggest that high quality fixed income could offer attractive returns and serve as a hedge against equity risk.

PIMCO'S CAPITAL MARKET ASSUMPTIONS

Figure 3 shows PIMCO's five-year CMAs as of the second quarter of 2023 for key benchmarks. Much of last year's increase in yields occurred during the first half of the year, which had an unusually large impact on PIMCO's CMAs last summer. (Our CMAs are updated semiannually and generally evolve gradually.) Consequently, while changes versus December 2021 are significant, the changes since the second quarter of last year are relatively minor, with all three CMA updates indicating attractive fixed income returns over a long (five-year) horizon.

Figure 3 – Five-year capital market assumptions for select benchmarks

		Unhedged			USD-hedged (for global indices)		
	Index	5-year nominal return[1]	Volatility[2]	Sharpe ratio[3]	5-year nominal return[1]	Volatility[2]	Sharpe ratio[3]
EQUITIES	S&P 500 Index	6.5%	16.2%	0.19			
	Russell 2000 Index	6.5%	21.7%	0.14			
	MSCI World Index	6.4%	15.4%	0.19	6.6%	14.9%	0.21
	MSCI EAFE Index	6.2%	15.3%	0.17	6.7%	12.6%	0.26
	MSCI Emerging Markets Index	7.4%	19.8%	0.20	6.8%	15.9%	0.21
	MSCI All Country World Index	6.5%	15.5%	0.20	6.6%	14.6%	0.21
	Index	5-year nominal return[1]	Volatility[2]	Sharpe ratio[3]	5-year nominal return[1]	Volatility[2]	Sharpe ratio[3]
FIXED INCOME	Bloomberg Global Aggregate Bond Index	4.6%	5.5%	0.20	4.7%	3.5%	0.34
	Bloomberg U.S. Aggregate Bond Index	4.6%	4.3%	0.26			
	Bloomberg Euro Aggregate Bond Index	3.4%	9.8%	-0.01	4.8%	5.0%	0.26
	Bloomberg U.S. Government Bond Index	4.1%	4.2%	0.13			
	Bloomberg U.S. Credit Index	5.1%	5.4%	0.31			
	Bloomberg U.S. Treasury Long Index	5.2%	11.1%	0.15			
	Bloomberg U.S. Long Credit Index	5.7%	9.9%	0.22			
	Bloomberg U.S. Long Government/Credit Index	5.5%	9.4%	0.21			
	Bloomberg U.S. High Yield Index	5.3%	6.9%	0.27			
	Bloomberg U.S. TIPS Index	4.4%	4.8%	0.19			
	Bloomberg Municipal Bond Index	5.8%	4.2%	0.56			
	Bloomberg High Yield Municipal Bond Index	7.2%	6.8%	0.55			
	Bloomberg Fixed-Rate MBS Index	5.0%	4.9%	0.31			
	JPMorgan EMBI Global Index	6.6%	7.0%	0.45			
	JPMorgan GBI-EM Global Div Index	5.7%	10.0%	0.22	4.4%	3.6%	0.25
	Index	5-year nominal return[1]	Volatility[2]	Sharpe ratio[3]	5-year nominal return[1]	Volatility[2]	Sharpe ratio[3]
FX	US Dollar Index (DXY)	-0.3%	7.1%	-0.54			

Source: PIMCO as of June 2023. **Capital market assumptions are hypothetical and provided for illustrative purposes only.**

Returns for the Bloomberg Municipal Bond Index and the Bloomberg High Yield Municipal Bond Index are reported on a tax-equivalent basis using a 37% federal tax rate plus 3.8% Medicare tax. Income from municipal bonds for U.S.-domiciled investors is exempt from federal income tax and may be subject to state and local taxes and at times the alternative minimum tax. Income from municipal bonds for investors domiciled outside of the U.S. may be taxable. PIMCO does not provide legal or tax advice. Please consult your tax and/or legal counsel for specific tax or legal questions and concerns.

1 For indices and asset class models, return estimates are based on the product of risk factor exposures and projected risk factor premia which rely on historical data valuation metrics and qualitative inputs from senior PIMCO investment professionals.

2 PIMCO's estimate of volatility over the secular horizon

3 The Sharpe ratio calculation is as follows: (estimated asset return – estimated cash return)/estimated asset volatility. Estimated cash return = 3.5%.

We expect the **U.S. cash rate** to average 3.5% over the five-year horizon, which reflects a migration from today's cash rate of around 5.3% to 2.75% in five years. A cash rate of 2.75% is consistent with our long-term view that inflation will be contained and indicates a modest real return for investors who hold short-term U.S. government bonds. This would be welcome given that for the better part of a decade investors have suffered negative real returns at the front end of the curve.

Our annualized five-year CMA for **large cap U.S. equities** as measured by the S&P 500 is 6.5%, or an equity risk premium over cash of about 3 percentage points. Compared with last December, when equity valuations were generally fair, they now appear rich based on various metrics. We expect equities will suffer a negative repricing effect as multiples revert to the mean, although this may be partially offset by a slight decrease in real yield. Overall, our expected five-year Sharpe ratios for most equity markets on a foreign exchange (FX)-hedged basis are around 0.2, lower than last December's approximately 0.25.

Developed market (DM) sovereign and corporate bonds are seen earning a risk premium of between 60 bps and 220 bps over cash on an FX-hedged basis, depending on the index. This produces fixed income Sharpe ratios higher than those of equities on an FX-hedged basis. Importantly, expected fixed income returns exceed our five-year expected inflation rate of 2.6%, implying positive *real* returns, a welcome change from much of the past decade. U.S. investment grade (IG) credit and agency mortgage-backed securities (MBS) in particular are expected to earn a risk premium of between 150 bps and 160 bps over cash, with an expected Sharpe ratio of 0.3.

Emerging market (EM) local (unhedged) and external bonds are expected to earn a risk premium of between 220 bps and 310 bps over cash. **Municipal bond** returns continue to look highly attractive on a long-term basis for those in the highest marginal federal tax brackets, with expected tax-equivalent total returns of 5.8% and 7.2% for the Bloomberg Municipal Bond and Bloomberg High Yield Municipal Bond indices, respectively. Finally, our CMA for the **U.S. Dollar Index (DXY)** is -0.3%, reflecting our general view of a slightly overvalued U.S. currency.

FOCUS ON FIXED INCOME

As discussed above, our base-case view is that inflation is likely to be reasonably contained over a five-year horizon. As a result, we expect terminal cash rates will be below today's levels as the nominal cash rate adjusts to a more normalized inflationary regime. Because longer-term yields are likely to follow the path of the front end of the curve, bond markets should receive a tailwind over the next five years.

Figure 4 shows the starting (June 2023) levels and expected terminal levels in five years for U.S. nominal and real yields for various tenors. The path of modestly declining yields should produce favorable returns for U.S. government bonds. As shown in the figure, our base-case rate path results in an expected Sharpe ratio of 0.14 for a hypothetical 10-year (monthly rebalanced) U.S. government bond. For comparison, our expected Sharpe ratio for this same bond was a mere 0.03 at the end of 2021, indicating our expectation for meager returns to U.S. sovereign debt at that time. Given a relatively sanguine market view of inflation as measured by breakeven inflation (implied by the difference between nominal and real bond yields), we are modestly more constructive on Treasury Inflation-Protected Securities (TIPS) relative to nominal bonds. In particular, there are right tail risks to the inflation rate today that would likely produce an outsize return to TIPS should such risks materialize.

Figure 4 also shows that U.S. investment grade and high yield (HY) credit spreads at the end of the second quarter this year were still slightly below their long-term expected terminal levels. For example, the U.S. IG spread is expected to migrate from 1.26% in June 2023 to 1.50% in five years. However, this still produces a positive risk premium for duration-hedged credit, although nowhere near as high as it was in, say, the depths of the COVID-19 crisis. Therefore, we believe that investors in both IG and HY fixed income will be rewarded over the secular horizon, with expected Sharpe ratios for duration-hedged credit of 0.23 and 0.20 for IG and HY, respectively.

Figure 4 – Five-year rate forecasts for U.S. nominal and real rates

	Q2 2023		
Risk factors	**Current level**	**Level at 5-year horizon**	**Sharpe ratio[1]**
U.S. Treasury 3M yield	5.27%	2.75%	
U.S. Treasury 2Y yield	4.49%	2.77%	
U.S. Treasury 10Y yield	3.64%	3.23%	0.14
U.S. Treasury 30Y yield	3.83%	3.63%	
Bloomberg US Credit Index: Spread Level (OAS)	1.26%	1.50%	0.23
Bloomberg US High Yield: Spread Level (OAS)	4.07%	5.25%	0.20

	Q2 2023		
Risk factors	**Current level**	**Level at 5-year horizon**	**Sharpe ratio[1]**
U.S. TIPS 2Y real yield	2.35%	0.60%	
U.S. TIPS 10Y real yield	1.51%	1.15%	0.21
U.S. TIPS 30Y real yield	1.63%	1.58%	

Source: Bloomberg as of June 2023. **Hypothetical forecast for illustrative purposes only.**

For indexes and asset class models, return estimates are based on the product of risk factor exposures and projected risk factor premia which rely on historical data, valuation metrics and qualitative inputs from PIMCO.

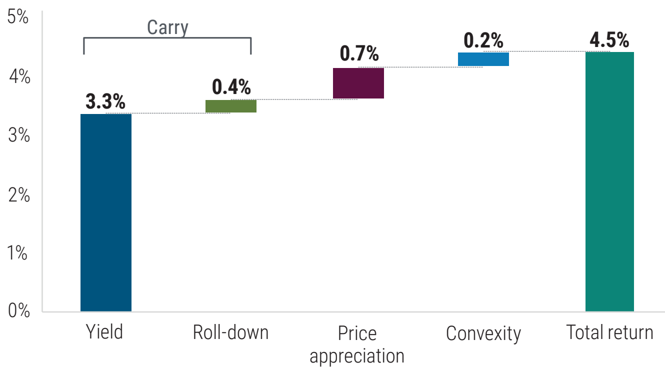
1 To estimate the Sharpe ratios, we map nominal or real yields to the corresponding par-coupon bonds and map spreads to the corresponding duration-hedged credit indices. The formula is Sharpe ratio = (estimated asset return – estimated cash return)/estimated asset volatility. Estimated cash return = 3.5%.

CONCLUSION

Since the dramatic market repricing in 2022, longer-term U.S. bond yields have surged to their highest levels of the past decade, making fixed income attractive over the secular horizon. Compared with last December, the equity market rally and continued rate hikes during the first half of 2023 indicate equities are now more expensive relative to bonds. Our baseline forecast of a mild recession for the U.S. over the cyclical horizon and signs of cooling U.S. inflation imply the Fed's rate-hiking cycle will likely end in the near future. In this environment, we expect high quality bonds to provide attractive returns and risk diversification.

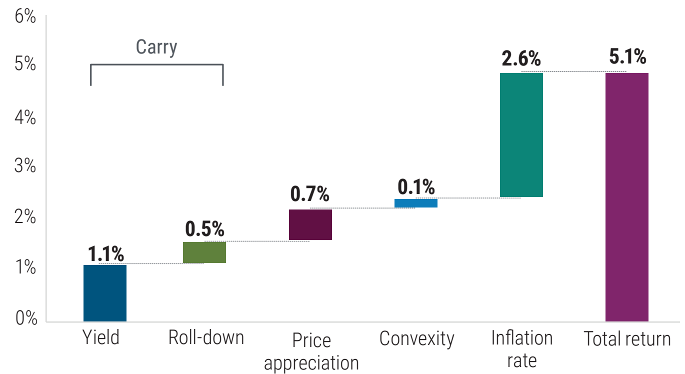
APPENDIX: ESTIMATED RETURN DECOMPOSITIONS FOR KEY ASSET CLASSES (FIVE-YEAR HORIZON)

10-year U.S. Treasury bond



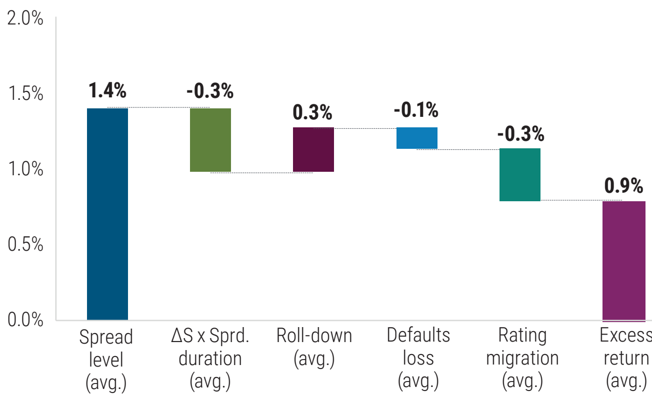
Source: PIMCO as of June 2023. **Hypothetical return estimates shown for illustrative purposes only.** Total return estimate represents 10-year U.S. government bond return decomposed into carry (average yield plus roll-down) and price appreciation/losses due to yield changes.

10-year U.S. TIPS bond



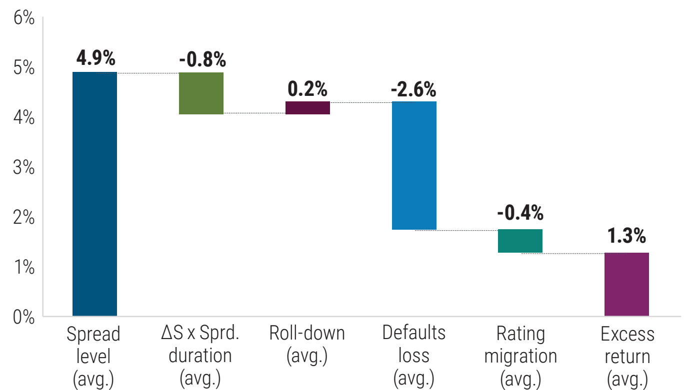
Source: PIMCO as of June 2023. **Hypothetical return estimates shown for illustrative purposes only.** Total return estimate represents 10-year U.S. TIPS return decomposed into carry (average yield plus roll-down) and price appreciation/losses due to yield changes.

Duration-hedged U.S. investment grade credit



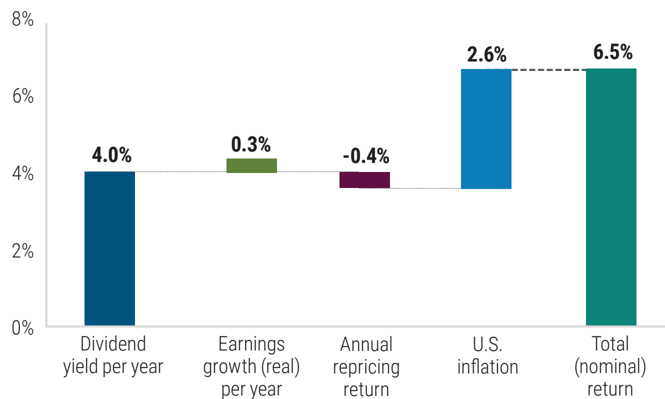
Source: PIMCO as of June 2023. **Hypothetical return estimates shown for illustrative purposes only.** Estimate of U.S. IG credit spread excess return (over duration-matched governments) decomposed into carry (average spread level adjusted for losses due to defaults), roll-down and price appreciation/losses due to spread changes adjusted for losses due to downgrades.

Duration-hedged U.S. high yield bonds



Source: PIMCO as of June 2023. **Hypothetical return estimates shown for illustrative purposes only.** Estimate of U.S. HY spread excess return (over duration-matched governments) decomposed into carry (average spread level adjusted for losses due to defaults) and price appreciation/losses due to spread changes.

U.S. large cap equity*



Source: PIMCO as of June 2023. **Hypothetical return estimates shown for illustrative purposes only.**

* Decomposition based on the S&P 500. Dividend yield includes buybacks.

Past performance is not a guarantee or a reliable indicator of future results.

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ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.

Because of limitations of these modeling techniques, we make no representation that use of these models will actually reflect future results, or that any investment actually will achieve results similar to those shown. Hypothetical or simulated performance modeling techniques have inherent limitations. These techniques do not predict future actual performance and are limited by assumptions that future market events will behave similarly to historical time periods or theoretical models. Future events very often occur to causal relationships not anticipated by such models, and it should be expected that sharp differences will often occur between the results of these models and actual investment results.

Return assumptions are for illustrative purposes only and are not a prediction or a projection of return. Return assumption is an estimate of what investments may earn on average over a 5 year period. Actual returns may be higher or lower than those shown and may vary substantially over shorter time periods. Return assumptions are subject to change without notice.

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All investments contain risk and may lose value. Investing in the **bond market** is subject to risks, including market, interest rate, issuer, credit, inflation risk, and liquidity risk. The value of most bonds and bond strategies are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and volatile than those with shorter durations; bond prices generally fall as interest rates rise, and low interest rate environments increase this risk. Reductions in bond counterparty capacity may contribute to decreased market liquidity and increased price volatility. Bond investments may be worth more or less than the original cost when redeemed. **Inflation-linked bonds (ILBs)** issued by a government are fixed income securities whose principal value is periodically adjusted according to the rate of inflation; ILBs decline in value when real interest rates rise. **Treasury Inflation-Protected Securities (TIPS)** are ILBs issued by the U.S. government. **Sovereign securities** are generally backed by the issuing government. Obligations of U.S. government agencies and authorities are supported by varying degrees, but are generally not backed by the full faith of the U.S. government. Portfolios that invest in such securities are not guaranteed and will fluctuate in value. Investing in **foreign-denominated and/or -domiciled securities** may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in **emerging markets**. **Currency rates** may fluctuate significantly over short periods of time and may reduce the returns of a portfolio. **High yield, lower-rated securities** involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. **Equities** may decline in value due to both real and perceived general market, economic and industry conditions. Investors should **consult their investment professional** prior to making an investment decision.

To calculate **estimated volatility** 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 proxy 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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