PIMCO

PIMCO Quarterly Pension Review

December 2024

What happened and what it means for pension plans

The Quarterly Pension Review provides a concise summary of recent market developments and their impact on pension plans. It is intended for both investment practitioners and those from other disciplines who are in plan governance roles. More than a market recap, we dissect data and share objective insights that will aid you in decision-making.

Table of contents

Macroeconomic Backdrop: Uncertainty Is Certain

Four economic themes

Potential U.S. policy pivots generate uncertainty

U.S. economic outperformance persists but appears to have peaked

Last mile of inflation reduction is in sight with labor markets cooling

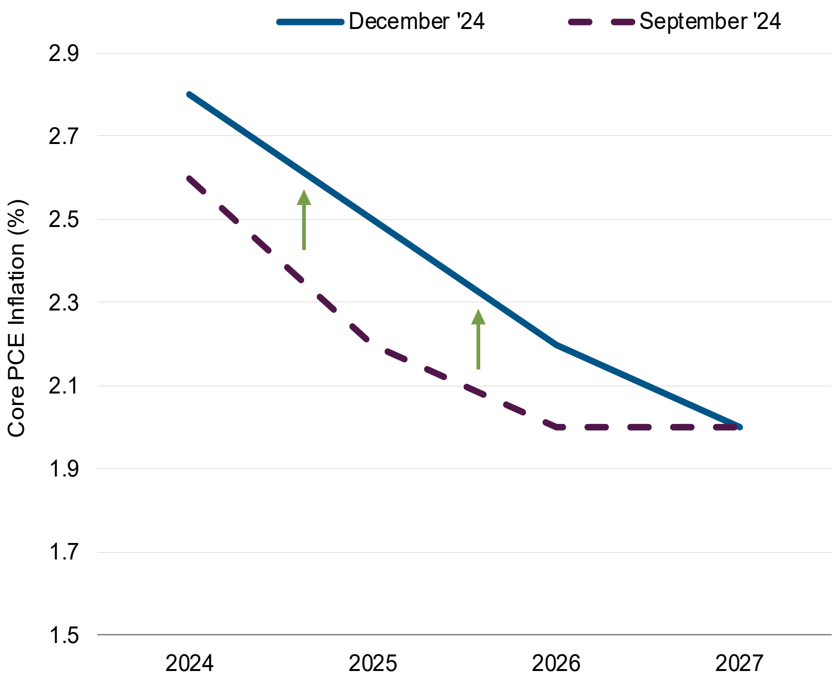
Most developed market central banks have room to cut in 2025

As of January 2025. Source: PIMCO
Refer to Appendix for additional outlook and risk information.

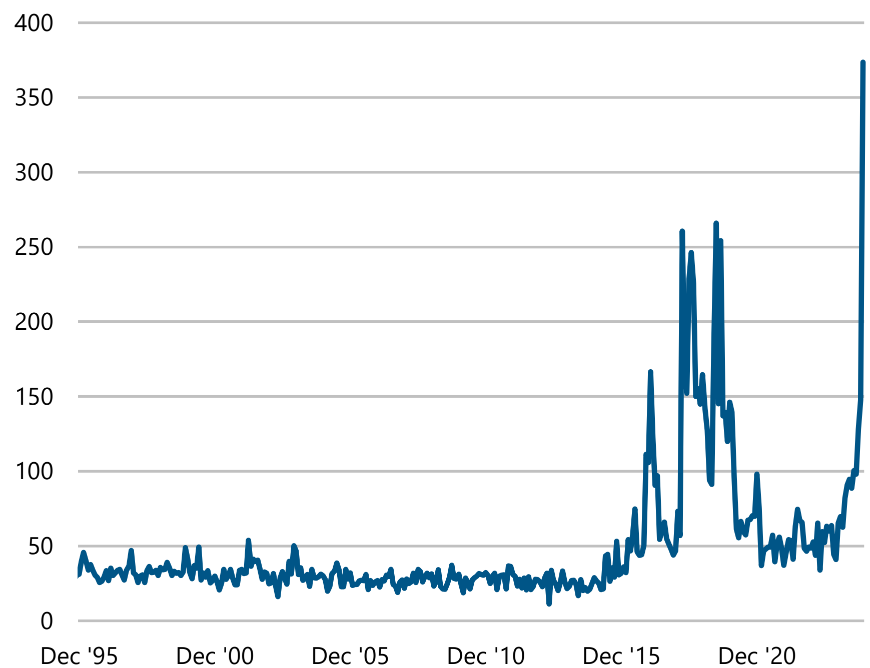
Macroeconomic Backdrop: Uncertainty Is Certain

Slowing progress on inflation and uncertainty surrounding the incoming Trump administration led the Fed to signal a slower pace of rate cuts going forward after delivering two 25 basis point reductions this quarter.

U.S. Core PCE Projections



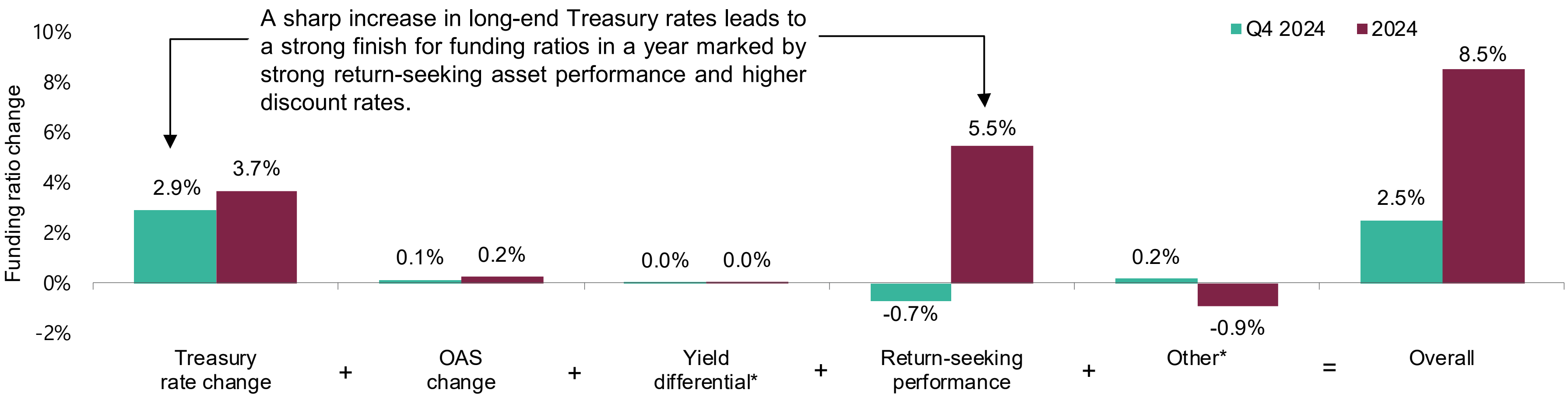
Trade Policy Uncertainty



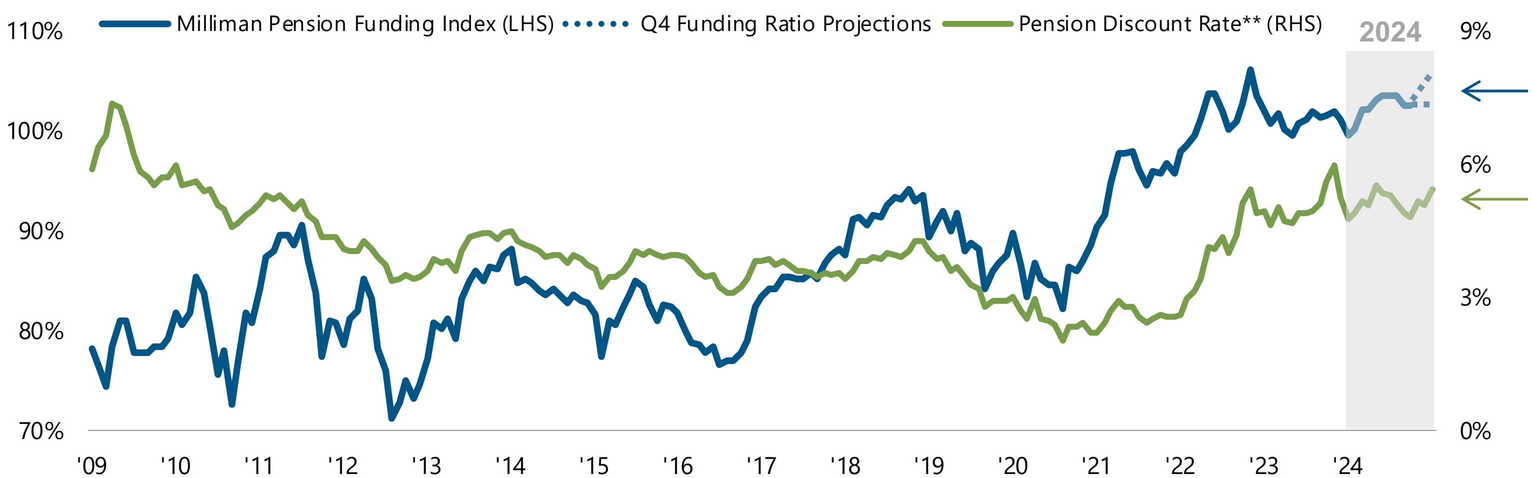
As of December 2024. Trade Policy Uncertainty ("TPU") is constructed by staff in the International Finance Division of the Federal Reserve Board and measures media attention to news related to trade policy uncertainty. The index reflects automated text-search results of the electronic archives of 7 leading newspapers discussing trade policy uncertainty: Boston Globe, Chicago Tribune, Guardian, Los Angeles Times, New York Times, Wall Street Journal, and Washington Post (accessed through ProQuest Historical Newspapers and ProQuest Newsstream). The index is scaled so that 100 indicates that 1% of news articles contain references to TPU.
Source: Commerce Department, Federal Reserve, Haver, PIMCO, Dario Caldara, Matteo Iacoviello, Patrick Molligo, Andrea Prestipino, and Andrea Raffo, "The Economic Effects of Trade Policy Uncertainty," manuscript presented at the 91st meeting of the Carnegie-Rochester-NYU Conference on Public Policy, April 2019. Refer to the appendix for additional outlook information.

Funding ratios increase in Q4 on the back of rising Treasury yields

Q4 ’24 Funding Ratio Attribution (hypothetical pension plan with 2.5% funding ratio increase in Q4)



Pension Funding Ratio and Discount Rate



Funding ratio estimates were broadly higher during Q4 as liability values declined

Liability discount rates rocketed higher in Q4, rising 65 basis points to finish the year just shy of 5.5%.

As of 31 December 2024. Source: Bloomberg, Milliman, FTSE, PIMCO.

* Yield differential refers to the yield of the fixed income portfolio compared to pension liabilities. Other refers to the residual of PIMCO’s internal attribution model for estimating the change in the hypothetical pension plan's funded status.

** Represented by the FTSE Pension Liability Index short discount rate

Refer to Appendix for additional investment strategy, outlook, and risk information.

Asset class returns through a pension lens

Liability-hedging assets

- Lingering inflation risks and uncertainties surrounding the incoming U.S. administration's policies slowed the expected trajectory of central bank rate cuts, prompting sovereign bond yields to rise broadly. In Q4'24, the Fed and ECB each delivered two 25-basis-point cuts, while the BoE delivered just one cut before pausing.
- Credit spreads tightened over the quarter amid resilient macroeconomic data and a supportive technical backdrop, moderately offset by the Fed signaling for fewer cuts than expected in 2025.

Q4 2024					
	Total Return	YTM	OAS Level (bp)	OAS Change (bp)	YTD Total Return
BBG Barclays Aggregate	-3.1%	4.9%	34	-2	1.3%
Intermediate Credit	-1.5%	5.1%	66	-7	4.0%
Long Credit	-6.3%	5.8%	100	-8	-2.0%
Long Corporate	-6.2%	5.8%	98	-9	-1.9%
Long Govt/Credit	-7.4%	5.3%	50	-5	-4.2%
Long Treasury	-8.6%	4.9%	-	-	-6.4%
20+ STRIPS	-13.5%	4.9%	-	-	-13.8%

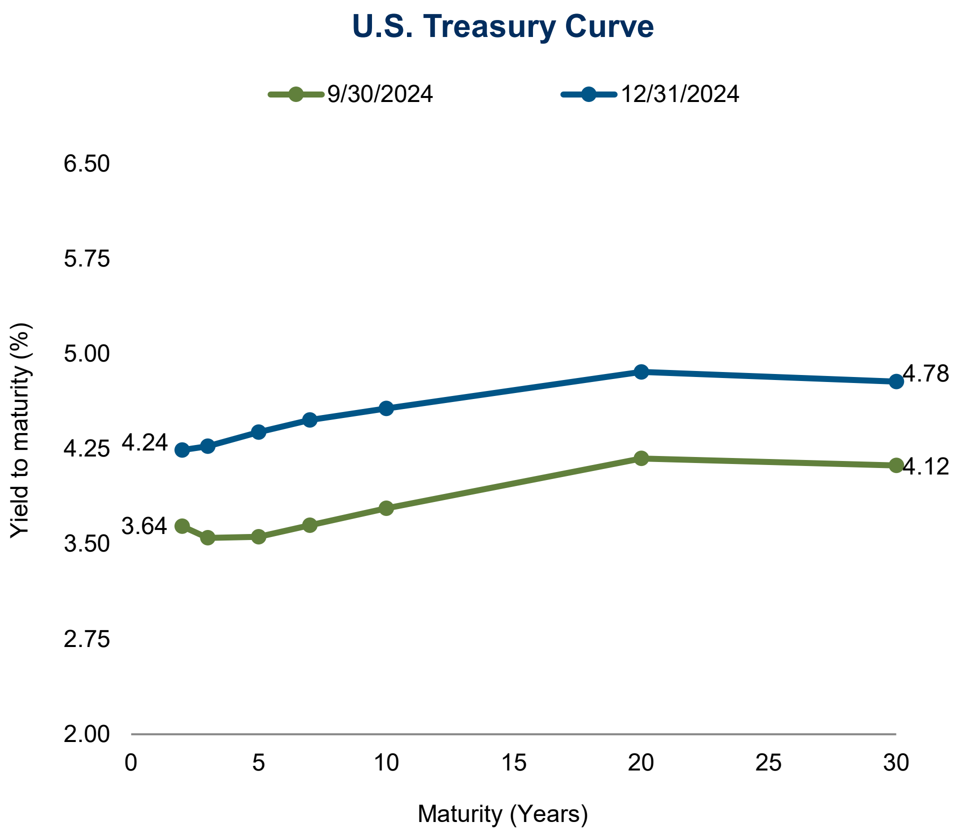
Return-seeking assets

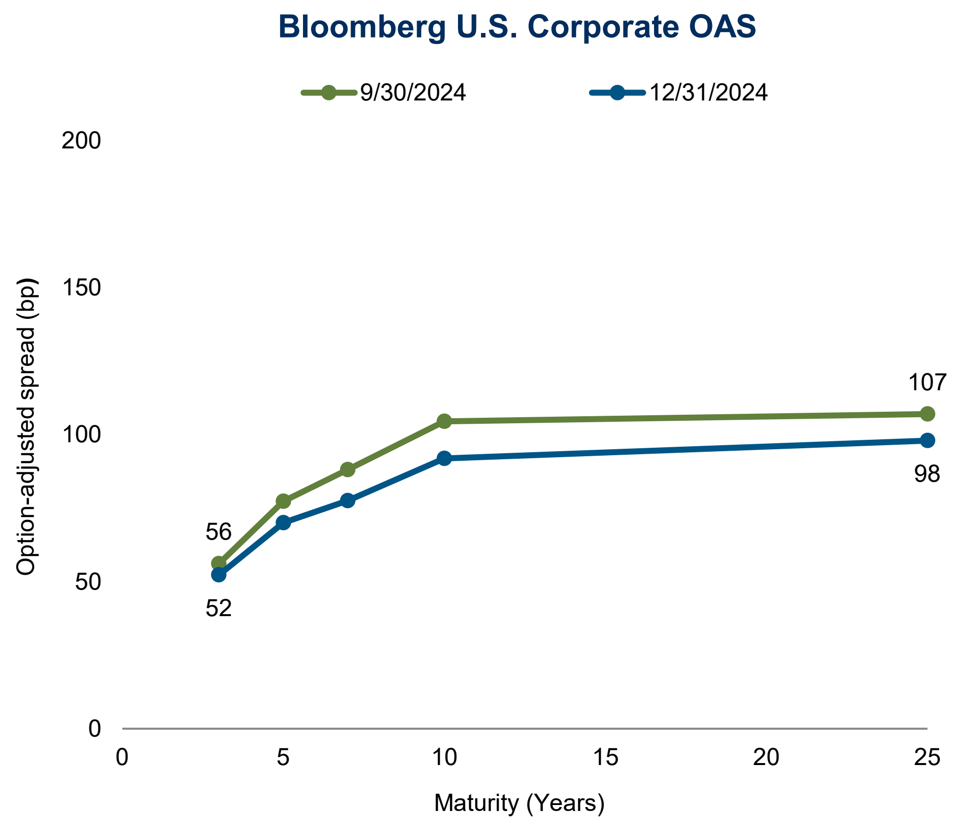
- Risk assets performance was mixed in Q4'24. Both DM and EM equities finished the quarter with a loss, influenced by the Fed's stance on potential rate cuts for 2025.
- The EM asset class delivered negative returns during the quarter, and the EM landscape is expected to remain challenged characterized by slowing growth primarily driven by US policy changes and uncertainties surrounding China.
- Global high yield bond spreads tightened over the quarter. The lower quality segment of the high yield market outperformed.

Q4 2024			
	Total Return	Index Level	YTD Total Return
S&P 500	2.4%	5,882	25.0%
Russell 2000	0.3%	2,230	11.5%
MSCI World	-0.1%	3,708	19.2%
MSCI ACWI	-0.9%	841	18.0%
MSCI EM	-7.9%	1,075	8.0%
EM External	-2.1%	-	5.7%
EM Local	-7.0%	-	-2.4%
High Yield	0.2%	-	8.2%

As of 31 December 2024
Source: Bloomberg, Barclays
Past performance is not a guarantee or a reliable indicator of future results. See the Appendix for the indices used as the proxy for each asset class
Refer to Appendix for additional index, index proxies, OAS, outlook and risk information.

Yield curve and credit curve snapshot





In Q4, yields ended higher across the curve as the expected trajectory of central bank rate cuts slowed.

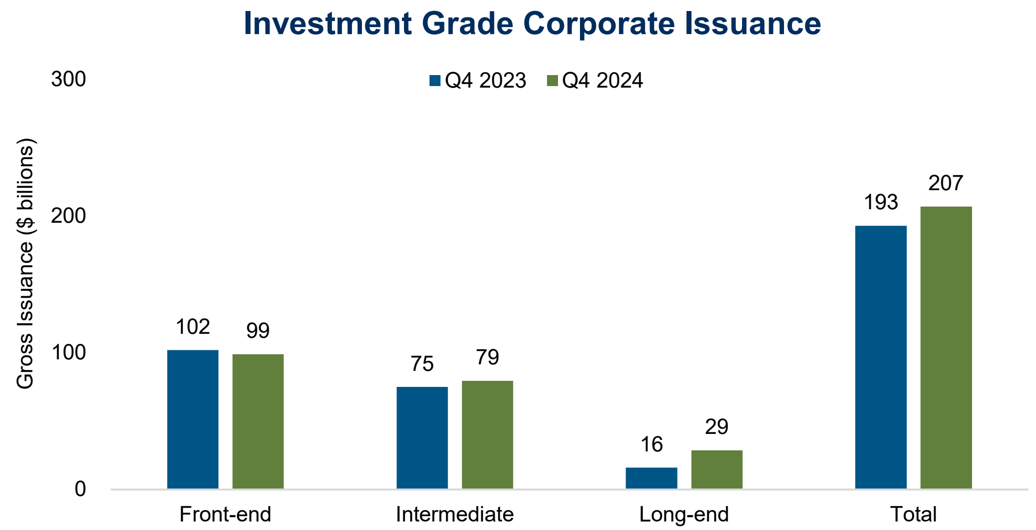
Credit spreads tightened across the curve during the quarter.

As of 31 December 2024. Source: Barclays, Bloomberg
Refer to Appendix for additional index, OAS, and risk information.

Credit markets update

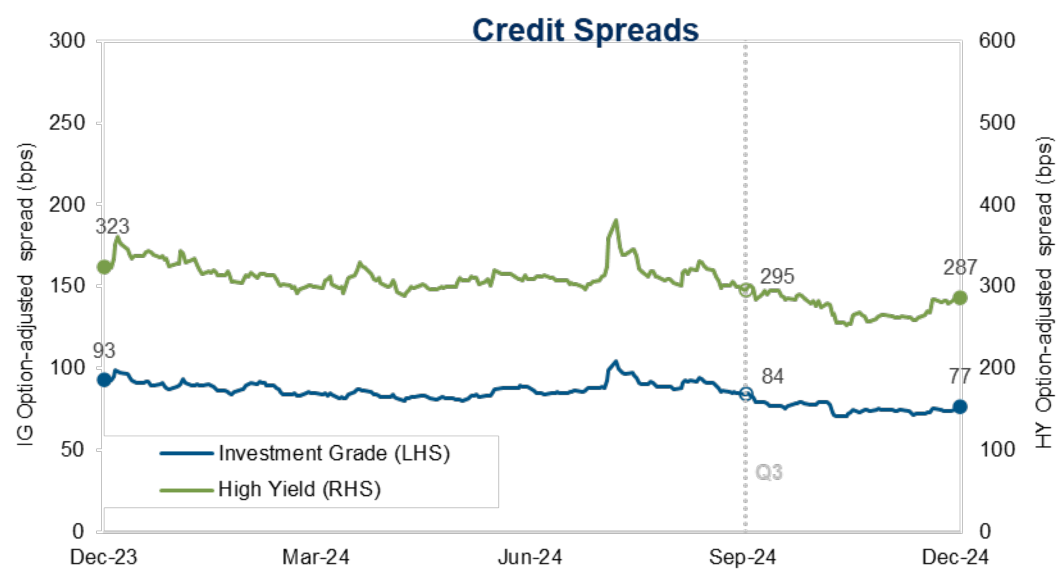
Investment Grade

- U.S. investment grade credit spreads tightened by 7 bps, ending the quarter at 77 bps. The sector returned -3.04%, outperforming like-duration treasuries by 0.72%.
- Credit spreads tightened over the quarter amid improving macroeconomic clarity and a supportive technical backdrop, moderately offset by the Fed signaling for fewer cuts than expected in 2025.
- Investment grade corporate gross issuance totaled $207 billion in Q4 2024, lower than gross issuance in Q3 2024.



High Yield

- U.S. high yield credit returned 0.2% as constructive economic growth expectations and generally resilient fundamentals were tempered by a cut by the Fed. High yield credit spreads tightened by 8 basis points during the fourth quarter of 2024, ending at 287 basis points.
- In Q4'24, the lowest quality segment of the high yield market outperformed as the CCC-rated segment saw a total return of 1.91%, while the BB-rated and B-rated segments saw a total return of 0.28% and 0.75%, respectively.



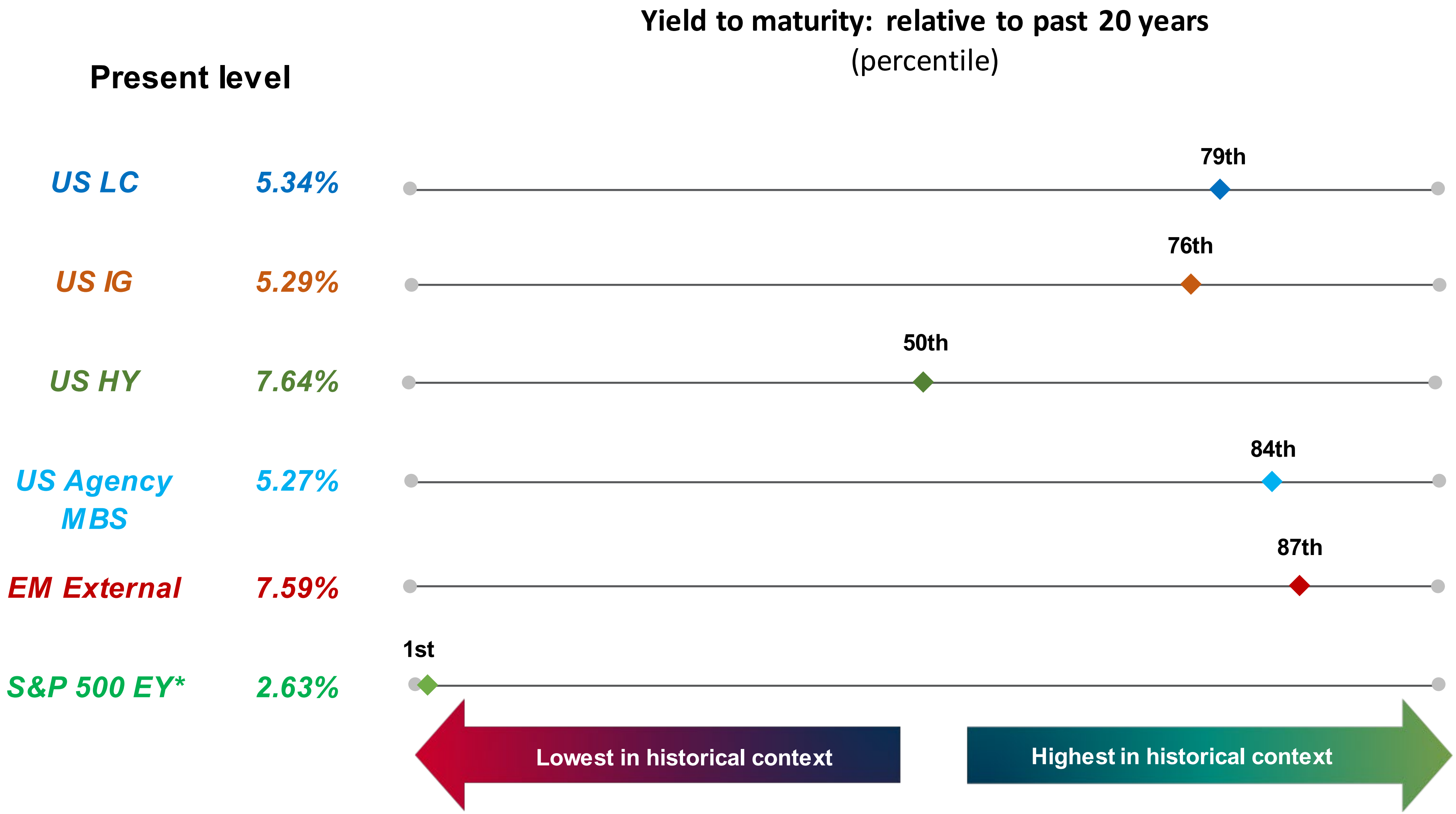
As of 31 December 2024. Source: Barclays

Front-end = 1-5 year, Intermediate = 6-12 year, Long-end = 13+ year

Investment Grade spreads represented by Bloomberg U.S. Investment Grade Credit Index. High yield spreads represented by Bloomberg U.S. Corporate High Yield Index.

Refer to the Appendix for additional credit quality, index, OAS, outlook and risk information.

Credit markets update: putting yields in context

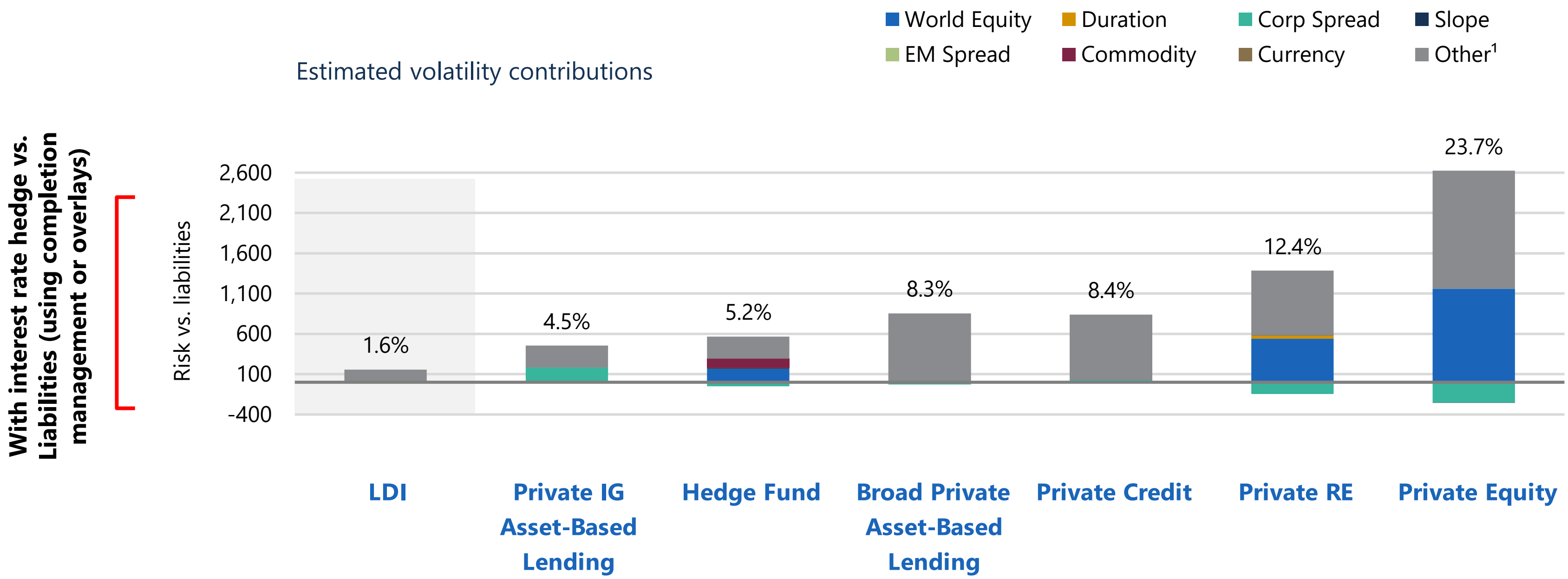


As of 31 December 2024. SOURCE: PIMCO, Bloomberg
Yields using data over last 20 years or relative to the period from index inception to as of date. US LC= BBG U.S. Long Credit Index, US IG = BBG U.S. Credit Aggregate Credit Index, US HY = BBG U.S. Corporate High Yield Index, US Agency MBS=BBG U.S. Mortgage Backed Securities Index, EM External = JPM EM Bond Index Global Yield
*The S&P 500 EY is 10y Cyclically Adjusted Earnings Yield (1/CAPE).
Refer to appendix for additional index, investment strategy, OAS, and risk information.

Comparing potential LDI portfolio diversifiers

Risk-return tradeoff relative to liabilities

Estimated volatility contributions



Portfolio Statistics							
Estimated asset only return[2]	6.2%	6.3%	5.7%	8.3%	9.8%	8.1%	9.5%
Risk vs. liabilities	1.6%	4.5%	5.2%	8.3%	8.4%	12.4%	23.7%
Return to risk vs. liabilities	3.9	1.4	1.1	1.0	1.2	0.7	0.4

> 1.25	: **Tier I LDI diversifier**	| Green
0.75 to 1.25	: **Tier II LDI diversifier**	| Yellow
< 0.75	: **Unsuitable LDI diversifier, belongs in return-seeking portfolio**	| Red

As of 31 December 2024. SOURCE: PIMCO, Sample Client**. For illustrative purposes only. Figure is not indicative of the past or future results of any PIMCO product or strategy. There is no assurance that the stated results will be achieved**
1 Other factors include: Idiosyncratic (specific), Convexity, and "Style" factors such as Industry. 2 Zero return impact from overlays is factored here. See Appendix for additional information regarding return estimates. 3 See Appendix for additional information regarding volatility estimates. There is no guarantee that an investment in any strategy or portfolio will achieve the investment objectives or that the stated results will be realized.
LDI [80% Bloomberg Long Corporate/ 20% Bloomberg Long Government + Treasury Futures Overlay]; Private Asset-Based Lending [Private IG ABL Model]; Broad Asset-Based Lending [a blend of Private IG ABL Model and Private ABL Model]; Private Credit [Private Corporate Lending Model]; Hedge Fund [HFRI Fund Weighted Composite Index]; Private RE [Private Core Real Estate Model]; Private Equity [Private Equity Model]. See Appendix for additional information regarding models.
Refer to Appendix for additional hypothetical illustration, index, investment strategy, models, portfolio analysis and risk information.

Thought Leadership

Retirement

QDIAs & Consultant Expectations: Meeting Retiree Needs and Enhancing Personalization
PIMCO + Cerulli Associates I October 2024

Enhancing DC Plan Menus with Multi-Sector Fixed Income | PIMCO Income Fund
Prerna Gupta I October 2024

Economy and Outlook

Cyclical Outlook: Uncertainty is Certain
Tiffany Wilding, Andrew Balls I January 2025

December Fed Takeaway: A Foggier Outlook and a More Cautious Path
Tiffany Wilding, Allison Boxer | December 2024

Taxes and Fiscal Policy: Navigating the New Washington Landscape
Libby Cantrill | November 2024

Thoughts from the Bond Vigilantes
Marc Seidner, Pramol Dhawan | December 2024

From Cash to Bonds: A Strategic Shift in Post-Pandemic Investing
Richard Clarida, Mohit Mittal I December 2024

Capitalizing on the Inverse Stock-Bond Relationship with Multi-Asset Portfolios
Erin Browne, Emmanuel Sharef I December 2024

Markets and Investments

Q3 Income Strategy Update
Dan Ivascyn, Esteban Burbano | December 2024

View from the Investment Committee: Deficit Dynamics: Navigating the U.S. Fiscal Landscape
Dan Ivascyn, Kim Stafford | November 2024

Private Credit: Asset-Based Finance Shines as Lending Landscape Evolves
Kristofer Kraus, Harin de Silva, Jason Steiner December 2024

Actionable Alternatives: Data Infrastructure
Kristofer Kraus I December 2024

Turning the Corner? Commercial Real Estate Themes for 2025 - John Murray, François Trausch, Russell Gannaway, and Seray Incoglu | December 2024

Finding an Active Edge in Global Bonds
Andrew Balls, Sachin Gupta I November 2024

As of January 2025. Source: PIMCO
Refer to Appendix for additional investment strategy and risk information.

Resources

Webinars and Podcasts

Cyclical Outlook Webcast
Tiffany Wilding, Dan Ivascyn, Dr. Ben Bernanke I January 2025

Insights on the Evolving U.S. Investment Landscape
Dan Ivascyn, Libby Cantrill, Kim Stafford | November 2024

Income Fund Update: Navigating Rate Cuts with Flexibility and a High Quality Focus
Dan Ivascyn, Esteban Burbano | October 2024

Straight from the Trading Desk: Emerging Markets Audiocast
Pramol Dhawan, Michael Story I December 2024

The PIMCO Pod - can be listened to on the following platforms - Spotify | Apple

Market and Industry Insights

View our Client Solutions & Analytics team's market dashboard.

Understanding the Defined Contribution landscape: 2024 PIMCO US Defined Contribution Consulting Study

Washington Outlook: *For regular insights on U.S. policy via email, please sign up here to receive* Washington Watch *from Libby Cantrill, Head of Public Policy.*

Macro Signposts: *For weekly insights on the global macro landscape, sign up here to receive* Macro Signposts *from Tiffany Wilding, Economist.*

Tools

PIMCO Pro: Digital Engagement Platform: Login today or register as a new user to utilize our dynamic, self-service features for your PIMCO investments.

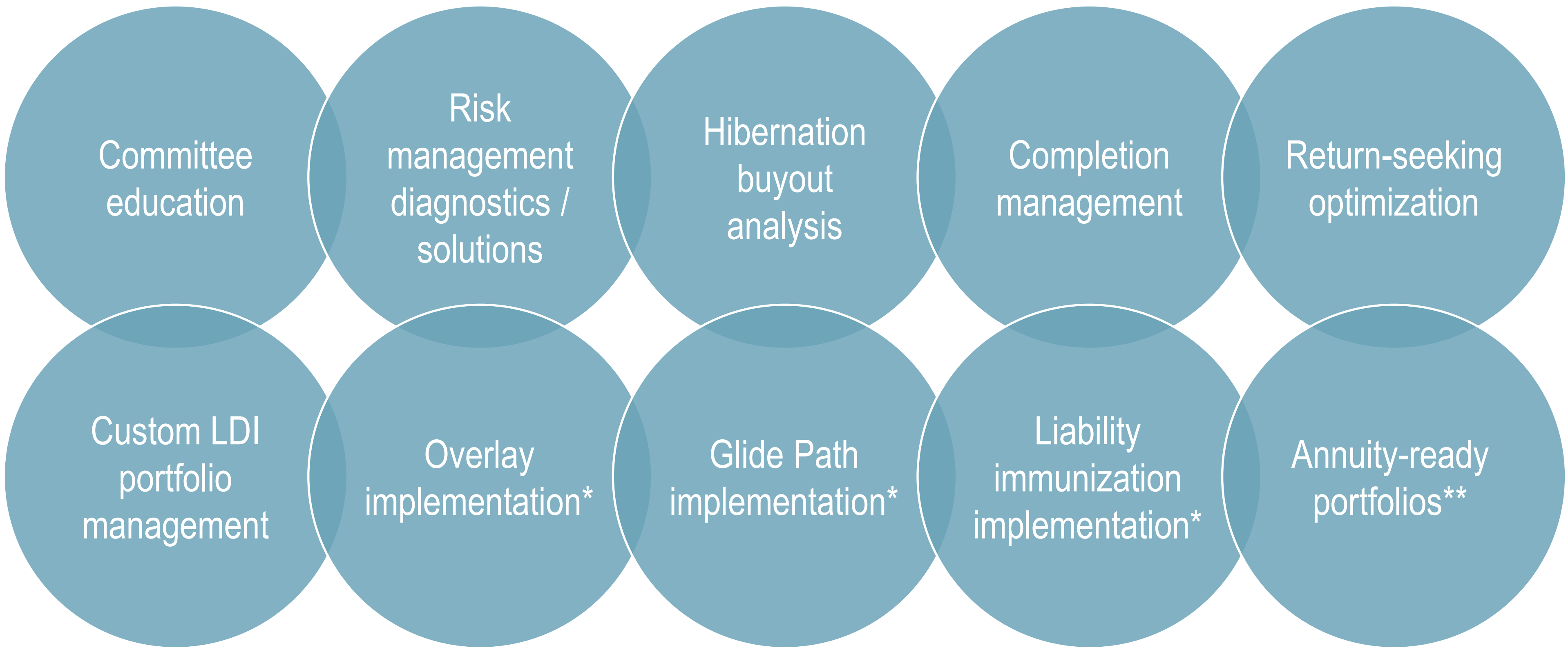
PIMCO's OPTI Tool: Explaining the "Three T's" or Private Assets. Watch Now

As of January 2025. Source: PIMCO
Refer to Appendix for additional investment strategy and risk information.

Pension Risk Management Solutions

PIMCO's suite of services: Strategic and implementation partnership

Linking together multiple services for clients based on plan sponsor objectives



Please reach out to your PIMCO Account Manager or QPRTeam@pimco.com with any questions

Source: PIMCO. **For illustrative purposes only**
* Including design, monitoring, rebalancing
** PIMCO does not offer insurance guaranteed products or products that offer investments containing both securities and insurance features.
Refer to Appendix for additional investment strategy and risk information.

Appendix: Risk factor definitions

PIMCO employs highly granular holdings-based models to generate risk factor exposures. In our analysis, we may display aggregated risk factor data for ease of interpretation, but the granularity of the underlying models is maintained. For Alternatives/Illiquids and in selected cases where holdings information is unavailable or unreliable, PIMCO may use returns-based regression models to generate risk factor exposures.

EQUITY

- Equity risk factors are based on the MSCI Barra Global Equity Model (GEM3). The exposure to each equity country or industry factor is the market value weight of stocks categorized in that country or industry. Style factors (such as size, value, and momentum) are standardized to have a mean of 0 and a standard deviation of 1. Please refer to Barra GEM3 documentation for more details.
- PIMCO disaggregates the Barra world equity factor into additive country exposures. Thus, the risk contribution from a certain country's equity exposure includes contributions from both the world equity factor and the country equity factor in the original Barra model.

INTEREST RATE DURATION

- Measured in years, interest rate duration is the price sensitivity to a change in interest rates (e.g. the price of a bond with a duration of 5 years will fall by approximately 5% if interest rates instantaneously rise by 1%).
- PIMCO calculates both real and nominal durations – sensitivities to real and nominal interest rates, respectively – as well as duration exposures to interest rates in different currencies.
- The duration risk factor exposure measures a security's price sensitivity to a parallel shock of the par yield curve. PIMCO's systems use a scenario-based duration calculation by re-pricing securities under different rate shock scenarios. For securities with embedded options, effective duration is estimated by taking into account the potential impact of yield changes on future cash flows.

SLOPE DURATION

- Interest rate duration reflects sensitivity to a parallel shift of the yield curve. However, parallel shifts rarely occur; the yield curve typically steepens or flattens as interest rates move.
- Measured in years, slope duration is the price sensitivity to steepening or flattening of the yield curve. PIMCO employs a 2-10 slope factor, which reflects sensitivity to the slope of the front end of the par yield curve, and a 10-30 slope factor, which reflects sensitivity to the slope of the long end of the par yield curve.
- The 2-10 slope risk factor exposure measures the sensitivity to a steepening or flattening of the 2-year yield relative to the 10-year yield (e.g. the price of a bond with a 2-10 slope duration of 3 years will increase by approximately 3% if the difference between 10-year and 2-year yields widens by 1% while the 10-year yield remains constant).
- The 10-30 slope risk factor exposure measures the sensitivity to a steepening or flattening of the 30-year yield relative to the 10-year yield (e.g. the price of a bond with a 10-30 slope duration of 6 years will increase by approximately 6% if the difference between 30-year and 10-year yields narrows by 1% while the 10-year yield remains constant)

Appendix: Risk factor definitions (cont'd)

SPREAD DURATION

- Measured in years, spread duration is the price sensitivity to a change in spread.
- For some spread factors, we calculate spread duration for a security based on the price sensitivity to a change in its own spread.
- For other spread factors, we measure credit spread duration relative to a common reference set of securities, in order to normalize spread duration exposures across securities with different risk levels. For these factors, credit spread duration is estimated in two steps:
  1. Calculate the sensitivity of the security's price to its own spread.
  2. Translate this sensitivity into spread duration relative to a reference spread using a proprietary model. This process utilizes the security's OAS and the OAS of the reference set of securities.

CURRENCY

- Currency risk factors capture a portfolio's percent exposure to any currency other than the base currency.

COMMODITY

- Commodity risk factor exposures are measured in percentage weights.
- PIMCO decomposes commodity exposure to specific commodity sub-baskets such as energy, precious metal, and livestock.

ALTERNATIVES/ILLIQUIDS

- Risk factor exposures in this category are regression-based measures of the sensitivity of a portfolio to changes in risk factors that are relevant to alternative strategies or illiquid assets, such as volatility, liquidity, and trend-following.

IDIOSYNCRATIC

- Idiosyncratic risk is generally asset-specific and accounts for volatility that is not attributable to broad market factors.
- In analyses involving PIMCO strategies, idiosyncratic risk describes non-factor risk and may account for the potential overlap of idiosyncratic risk across PIMCO strategies. In these instances, idiosyncratic risk will account for 1) common sources of non-factor risks between PIMCO strategies and 2) residual idiosyncratic risk (which may account for residual correlation between PIMCO strategies).

Appendix

PERFORMANCE AND FEE

Past performance is not a guarantee or a reliable indicator of future results. Performance figures reflect reinvestment of earnings and dividends. The "gross of fees" performance figures do not reflect the deduction of investment advisory fees, but they do reflect commissions and other expenses (except custody). Such fees that a client may incur in the management of their investment advisory account may reduce the client's return. The "net of fees" performance figures reflect the deduction of investment advisory fees and brokerage commissions. Separate investment accounts typically do not reflect the deduction of custodial fees, but "net of fees" performance results for pooled investment vehicles will typically be reduced by such fees. Actual fees incurred by client accounts may vary. All periods longer than one year are annualized. Separate account clients may elect to include PIMCO sector funds in their portfolio; sector funds may be subject to additional terms and fees.

CREDIT QUALITY

The credit quality of a particular security or group of securities does not ensure the stability or safety of an overall portfolio. The quality ratings of individual issues/issuers are provided to indicate the credit-worthiness of such issues/issuer and generally range from AAA, Aaa, or AAA (highest) to D, C, or D (lowest) for S&P, Moody's, and Fitch respectively.

HYPOTHETICAL ILLUSTRATIONS

Hypothetical illustrations have many inherent limitations, some of which are described below. No representation is being made that any account will or is likely to achieve results similar to those shown. In fact there are frequently sharp differences between hypothetical results and actual results subsequently achieved by any particular trading program.

One of the limitations of hypothetical results is that they are generally prepared with the benefit of hindsight. In additional, hypothetical scenarios do not involve financial risk, and no hypothetical illustration 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 if any specific trading program which cannot be fully accounted for in the preparation of a hypothetical illustration and all of which can adversely affect actual results.

INDEX PROXIES

Indices used as proxy for asset class returns: Long Govt/Credit: Bloomberg U.S. Long Government/Credit Index; Long Credit: Bloomberg; U.S. Long Credit Index; Long Corporate: Bloomberg U.S. Long Corporate Index; Long Treasury: Bloomberg U.S. Long Treasury Index; STRIPS: FTSE 20+ Year U.S. Treasury STRIPS Index; BBG Aggregate: Bloomberg U.S. Aggregate Index; S&P 500: S&P 500 Index; Russell 2000: Russell 2000 Index; MSCI World: MSCI World Index; ACWI: MSCI ACWI Index; MSCI EM: MSCI Emerging Markets Index; EM External: J.P. Morgan EMBI Global Index; EM Local: J.P. Morgan GBI -; EM Global Diversified Composite Unhedged USD; High Yield: Bloomberg U.S. Corporate High Yield Index; Investment Grade: Bloomberg U.S. Corporate Index; Long Govt: Bloomberg; U.S. Long Government Index; Intermediate Credit: Bloomberg U.S. Intermediate Credit Index.

INDEX

Bloomberg Long-Term Government/Credit Index is an unmanaged index of U.S. Government or Investment Grade Credit Securities having a maturity of 10 years or more. It is not possible to invest directly in an unmanaged index.

Bloomberg U.S. Long Credit Index includes both corporate and non-corporate sectors with maturities equal to or greater than 10 years. The corporate sectors are Industrial, Utility, and Finance, which include both U.S. and non-U.S. corporations. The non-corporate sectors are Sovereign, Supranational, Foreign Agency, and Foreign Local Government. It is not possible to invest directly in an unmanaged index.

The Bloomberg Long Corporate Index is a component of the Bloomberg U.S. Long Credit index. Bloomberg U.S. Long Credit Index is the credit component of the Bloomberg U.S. Government/Credit Index, a widely recognized index that features a blend of U.S. Treasury, government-sponsored (U.S. Agency and supranational), and corporate securities limited to a maturity of more than ten years.

Bloomberg Long-Term Treasury Index consists of U.S. Treasury issues with maturities of 10 or more years. It is not possible to invest directly in an unmanaged index.

FTSE STRIPS Index, 20+ Year Sub-Index represents a composition of outstanding Treasury Bond and Notes with a maturity of at least twenty years. The index is rebalanced each month in accordance with underlying Treasury figures and profiles provided as of the previous month- end. The included STRIPS are derived only from bonds in the FTSE U.S. Treasury Bond Index, which include coupon strips with less than one year remaining to maturity. It is not possible to invest directly in an unmanaged index.

Appendix

INDEX cont'd

Bloomberg U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis. It is not possible to invest directly in an unmanaged index.

S&P 500 Index is an unmanaged market index generally considered representative of the stock market as a whole. The Index focuses on the large-cap segment of the U.S. equities market. It is not possible to invest directly in an unmanaged index.

Russell 2000® Index is composed of 2,000 of the smallest companies in the Russell 3000 Index and is considered to be representative of the small cap market in general. It is not possible to invest directly in an unmanaged index.

The MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of non-U.S. developed markets. The index covers approximately 85% of the free-float adjusted market capitalization in each country. The MSCI World reflects the views and practices of the international investment community by striking a balance between a country's economic development and the accessibility of its market while preserving index stability.

The MSCI All Country World Index is a free-float adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI All Country World Index consists of 46 country indexes comprising developed and emerging market indexes.

The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. It is not possible to invest directly in the index.

J.P. Morgan Emerging Markets Bond Index (EMBI) Global tracks total returns for United States Dollar denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, and Eurobonds. It is not possible to invest directly in an unmanaged index.

JPMorgan Government Bond Index-Emerging Markets Global Diversified Index (Unhedged) is a comprehensive global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure. It is not possible to invest directly in an unmanaged index.

The Bloomberg US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Barclays EM country definition, are excluded.

The Bloomberg US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

Bloomberg Long Term Government Index is an unmanaged index of U.S. Government Securities having a maturity of 10 years or more.

The Bloomberg US Intermediate Credit Index measures the performance of investment grade, US dollar-denominated, fixed-rate, taxable corporate and government-related debt with less than ten years to maturity. It is composed of a corporate and a noncorporate component that includes non-US agencies, sovereigns, supranationals and local authorities.

Bloomberg U.S. Credit Index is an unmanaged index comprised of publicly issued U.S. corporate and specified non-U.S. debentures and secured notes that meet the specified maturity, liquidity, and quality requirements. To qualify, bonds must be SEC-registered. This index was formerly known as the Bloomberg Credit Investment Grade Index.

It is not possible to invest directly in an unmanaged index.

Appendix

MODELS

Private Corporate Lending Model: Model risk factor exposures are estimated using holdings data in PIMCO systems which align with the corporate lending sector. Leverage assumptions are based on existing PIMCO accounts. We then add adjustments for illiquidity premia and idiosyncratic risk based on the historical distribution of alpha (relative to the PME benchmark for private credit) in the Preqin category.

Private Core Real Estate Model: Model risk factor exposures are estimated through a regression on the NCREIF (ODCE) Core Real Estate Index. We unsmooth returns to remove the bias from accounting-based reporting.

Private IG ABL Model: Model risk factor exposures are estimated using holdings data in PIMCO systems which align with private senior secured specialty finance, residential and commercial mortgage, and corporate loans. Weights to each sector are based on existing PIMCO accounts. No leverage is assumed.

Private IG ABL Model: Model risk factor exposures are estimated based on a public equivalent benchmark and alpha estimates derived from historical data on private funds in the Preqin Private Credit Universe. The public market equivalent is an equally-weighted blend of consumer, non-consumer, diversifying asset-backed credit, and residential mortgage debt. We also include 3 years of US interest rate duration exposure. Leverage assumptions are based on existing PIMCO accounts. We then add adjustments for illiquidity premia and idiosyncratic risk based on the historical distribution of alpha (relative to the PME benchmark for private credit) in the Preqin category.

Private Equity Model: Model risk factor exposures are estimated based on a public equivalent benchmark and alpha estimates are derived from historical data on private funds in the Preqin Private Equity Universe (ex-VC). The public market equivalent is a custom index of publicly traded US firms matched to the size, EBITDA multiple, and revenue multiple observed from PE deals in the Preqin database. We also add additional filters for value (top half of Book-to-Market, top half of Earnings Yield), leverage and equity return volatility (filtered to approximately match HY CDX issuers), and eliminate outliers. We then add adjustments for illiquidity premia and idiosyncratic risk based on the historical distribution of alpha (relative to the PME benchmark) in the Preqin category. Median and top quartile models reflect alpha estimates from the median and 75th percentile of the historical alpha distribution, respectively. Unless otherwise specified, models reflect the median of the historical alpha distribution.

OAS

The option adjusted spread (OAS) measures the spread over a variety of possible interest rate paths. A security's OAS is the average earned over Treasury returns, taking multiple future interest rate scenarios into account.

OUTLOOK

Statements concerning financial market trends or portfolio strategies are based on current market conditions, which will fluctuate. There is no guarantee that these investment strategies will work under all market conditions or are appropriate for all investors and each investor should evaluate their ability to invest for the long term, especially during periods of downturn in the market. Outlook and strategies are subject to change without notice.

Appendix

PIMCO OPTIMIZER

This material contains hypothetical results based on a proprietary tool, PIMCO OPTIMIZER. PIMCO OPTIMIZER enables PIMCO to: (1) analyze client liability streams; (2) construct a customized benchmark to help meet the client's liability streams; (3) calculate tracking error; (4) graphically display the differences between the client's liability stream and PIMCO OPTIMIZER customized benchmark. Like any model, PIMCO OPTIMIZER may be useful to help identify portfolio strategies, but it does not represent a prediction of actual portfolio results. The results may vary with each use and over time.

PORTFOLIO ANALYSIS

The portfolio analysis is based on indices. No representation is being made that the structure of the average portfolio or any account will remain the same or that similar returns will be achieved. The analysis may not be attained and should not be construed as the only possibilities that exist. Real results will vary and are subject to change with market conditions. Different weightings in the asset allocation illustration will produce different results. Actual results will vary and are subject to change with market conditions. There is no guarantee that results will be achieved. No fees or expenses were included in the estimated results and distribution. The scenarios assume a set of assumptions that may, individually or collectively, not develop over time. The sample analysis reflected in this information is based upon data at time of analysis. Forecasts, estimates, and certain information contained herein are based upon proprietary research and should not be considered as investment advice or a recommendation of any particular security, strategy or investment product.

PIMCO routinely reviews, modifies, and adds risk factors to its proprietary models. Due to the dynamic nature of factors affecting markets, there is no guarantee that simulations will capture all relevant risk factors or that the implementation of any resulting solutions will protect against loss. All investments contain risk and may lose value. Simulated risk analysis contains inherent limitations and is generally prepared with the benefit of hindsight. Realized losses may be larger than predicted by a given model due to additional factors that cannot be accurately forecasted or incorporated into a model based on historical or assumed data.

RISK

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. 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. **Mortgage and asset-backed securities** may be sensitive to changes in interest rates, subject to early repayment risk, and their value may fluctuate in response to the market's perception of issuer creditworthiness; while generally supported by some form of government or private guarantee there is no assurance that private guarantors will meet their obligations. **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. **Derivatives** may involve certain costs and risks such as liquidity, interest rate, market, credit, management and the risk that a position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested.

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 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.

Appendix

These materials are being provided on the express basis that they and any related communications (whether written or oral) will not cause Pacific Investment Management Company LLC (or any affiliate) (collectively, "PIMCO") to become an investment advice fiduciary under ERISA or the Internal Revenue Code, as the recipients are fully aware that PIMCO (i) is not undertaking to provide impartial investment advice, make a recommendation regarding the acquisition, holding or disposal of an investment, act as an impartial adviser, or give advice in a fiduciary capacity, and (ii) has a financial interest in the offering and sale of one or more products and services, which may depend on a number of factors relating to PIMCO (and its affiliates') internal business objectives, and which has been disclosed to the recipient. These materials are also being provided on PIMCO's understanding that the recipients they are directed to are all financially sophisticated, capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies. If this is not the case, we ask that you inform us immediately. You should consult your own separate advisors before making any investment decisions.

These materials are also being provided on the express basis that they and any related communications will not cause PIMCO (or any affiliate) to become an investment advice fiduciary under ERISA or the Internal Revenue Code with respect to any recipient or any employee benefit plan or IRA because: (i) the recipients are all independent of PIMCO and its affiliates, and (ii) upon review of all relevant facts and circumstances, the recipients have concluded that they have no financial interest, ownership interest, or other relationship, agreement or understanding with PIMCO or any affiliate that would limit any fiduciary responsibility that any recipient may have with respect to any Plan on behalf of which this information may be utilized. If this is not the case, or if there is any relationship with any recipient of which you are aware that would call into question the recipient's ability to independently fulfill its responsibilities to any such Plan, we ask that you let us know immediately.

The information provided herein is intended to be used solely by the recipient in considering the products or services described herein and may not be used for any other reason, personal or otherwise.