

ADAPTING ACTIVE FIXED INCOME TO A NEW RISK REGIME

The drivers of excess return in fixed income have shifted from systematic risk premia to idiosyncratic selection. Has your manager?



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In the aftermath of the global financial crisis (GFC), systematic fixed income exposures offered both attractive absolute returns and helpful diversification. However, the environment has changed. The balance of active risk should change with it.

KEY TAKEAWAYS

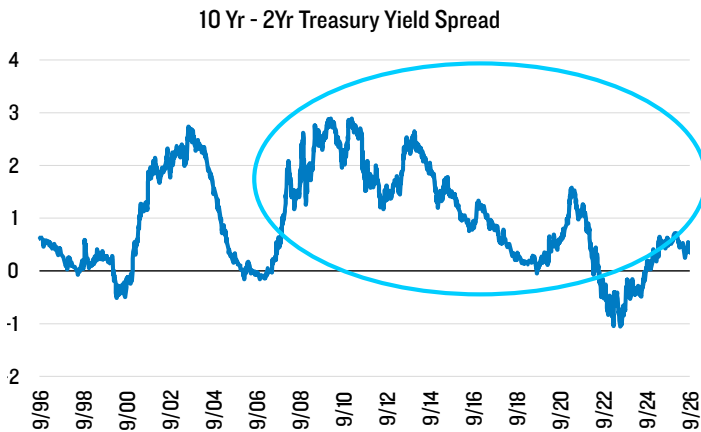
- The excess returns available through expressing a small number of large duration or credit views are shrinking. Yield and credit curves are flatter, and more persistent rate volatility is widening the distribution of outcomes around any directional rate view.
- Expanding the number of largely independent investment decisions can be a more durable route to improved outcomes. Because idiosyncratic drivers are more independent of one another, they may diversify better and support more consistent excess returns.
- We believe this new regime raises several practical implications for actively managed portfolios: selective systematic exposure, breadth over concentration, disciplined risk budgeting, and beta-aware measurement.

The post-financial crisis period was a particularly favorable environment for owning systematic fixed income risk. Three forces contributed to this: steep yield curves generated substantial carry and roll-down; depressed and largely one-directional rate volatility meant that “carry and roll” strategies in rates markets were rarely disrupted; and credit spreads steadily tightened as lending conditions eased, rewarding the simple ownership of spread. In combination, systematic exposures offered both attractive absolute returns and helpful diversification, indicating that directional

duration and strategic allocations to spread product did much of the work for an active fixed income strategy.

However, the emerging fixed income regime appears materially different. The yield curve is flatter than it was for most of the post-GFC period, so the carry embedded in long duration positioning is less. Meanwhile, rate volatility has become more persistent and two-sided, widening the distribution of outcomes around any directional rate view (Exhibit 1).

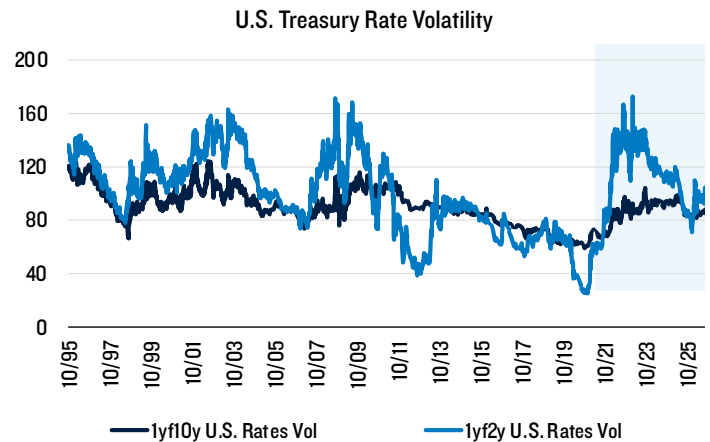
Exhibit 1: Rate volatility is elevated and the yield curve is flatter



Source: Barclays. As of July 2026.

On the credit side, spreads have remained stubbornly narrow in the current regime, leaving less room for further compression and raising the potential for asymmetric outcomes. Further, spread curves have trended flatter, offering less compensation for longer spread risk and less opportunity for carry and roll strategies (Exhibit 2).

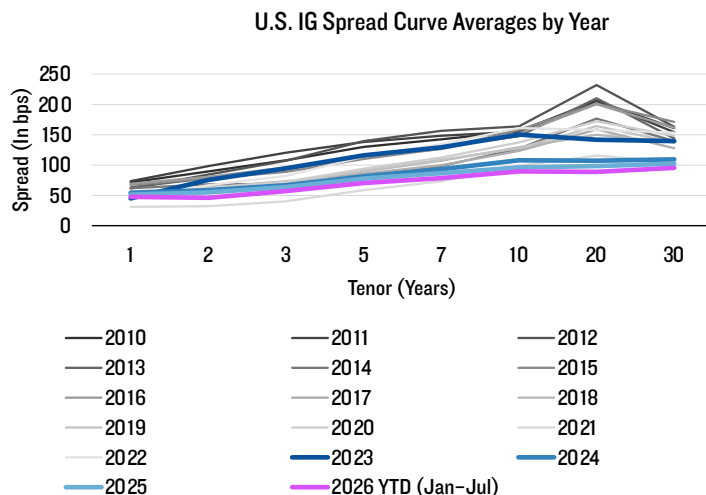
And the correlation structure that underpinned traditional diversification is likely less favorable and more uncertain today. Taken together, our analysis suggests that these developments lower the expected Sharpe ratio available from simply owning systematic rate and credit exposure.



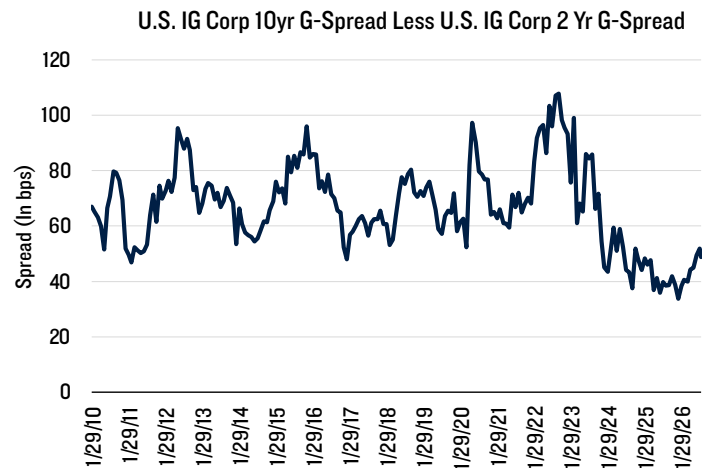
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The market has moved from a world of abundant, well-diversified risk premia to one in which those premia are more compressed, in some cases more volatile, and less reliably diversifying.”

Exhibit 2: Credit spread curves have both narrowed and flattened



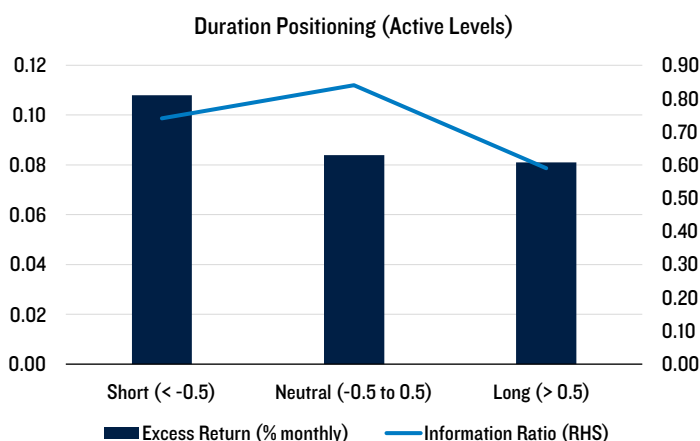
Source: PGIM and Bloomberg. As of July 2026.



ACTIVE SYSTEMATIC RISK HAS BEEN A NOISY SOURCE OF EXCESS RETURN

Even in a favorable period for systematic risk, managers often struggled to efficiently monetize active duration and credit risk. Exhibit 3 shows that, over the 20 years through July 2026, Core Plus funds with a short-duration bias generated the highest average excess returns, while duration-neutral funds achieved the highest information ratios. Long-duration funds produced the lowest average excess return and information ratio of the three groups. Considering that duration is by far the largest factor risk in the U.S. Aggregate Index, it is not surprising that increasing that exposure comes at a high cost to volatility and, ultimately, to efficiency.

Exhibit 3: Duration-neutral funds delivered the highest information ratio over the last two decades



In Exhibit 4, we see that funds who varied active duration most aggressively earned the highest average excess returns over the 20-year period. However, those same funds also produced the lowest information ratios, with risk-adjusted efficiency improving as active duration volatility declined. Duration timing has proved to be a legitimate source of alpha, but an inherently noisy one. The pattern is directionally consistent across the Core and Core Plus universes and across 3-, 5-, 10-, and 20-year windows.

Credit has been a more efficient source of excess return than duration. The same universe study in Exhibit 5 shows that information ratios were highest at moderate high-yield allocations, indicating that the diversification properties of this systematic risk helped portfolio efficiency.

Exhibit 4: More aggressive duration timing increased return but reduced efficiency

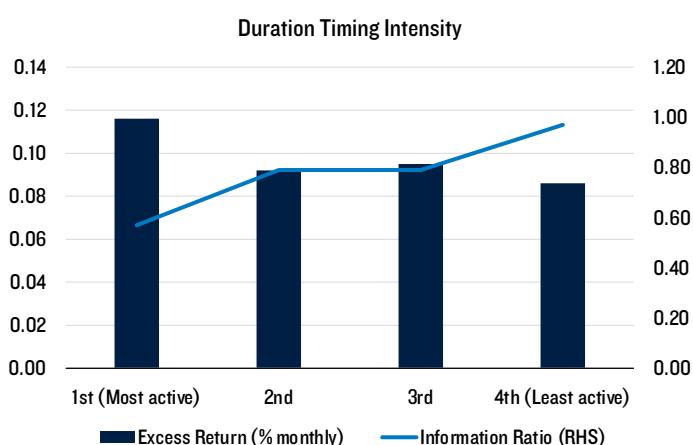


Exhibit 5: Moderate credit exposure improved risk-adjusted efficiency

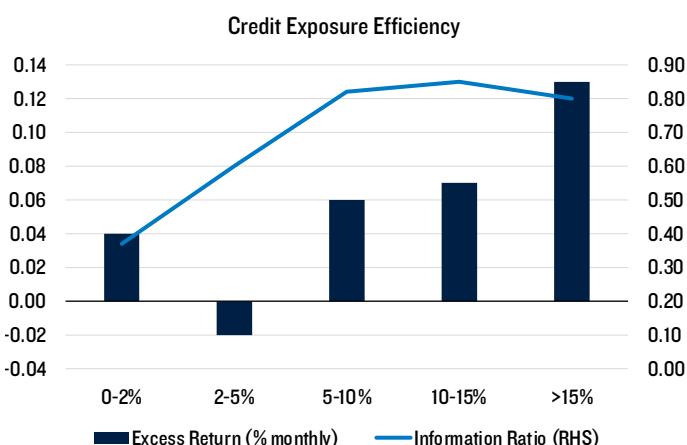
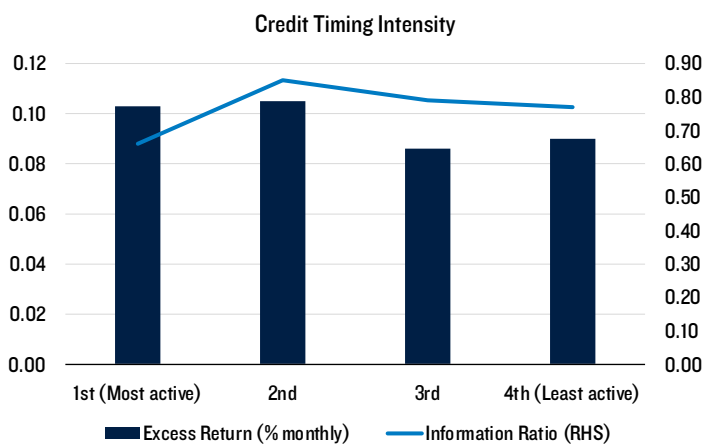


Exhibit 6: Credit timing did not produce a consistent efficiency advantage



Source: PGIM and Morningstar. Core Plus Universe vs. the Bloomberg U.S. Aggregate Bond Index; 20 years to July 2026. Mean monthly excess return and mean rolling 3-year information ratio. Results are based on the Core Plus universe and are presented gross of fees. The deduction of fees and expenses would reduce returns. Results reflect the observations, methodology and periods analyzed and may not be representative of other managers, funds or periods. The Bloomberg U.S. Aggregate Bond Index is unmanaged, cannot be invested in directly and does not reflect fees or expenses. The funds or managers analyzed may differ from the index in their holdings, exposures, investment objectives and risks. See Notes for methodology.¹

Exhibit 6 shows that timing credit was surprisingly unhelpful, with returns relatively similar across variation quartiles and a slight efficiency hit for the most active credit funds. As such a mean-reverting series, credit spreads may appear easier to time than rates, but anyone who has lived through a credit crisis knows that flows and market fears often trump the “buy low, sell high” price logic.

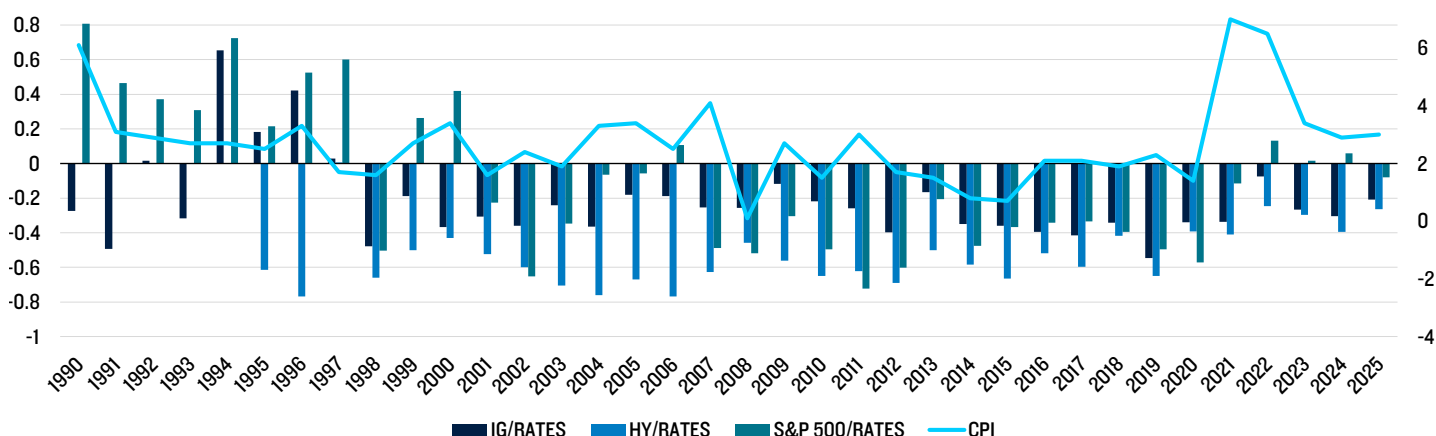
Based on our analysis in Exhibits 3-6, this suggests that over recent history credit has worked to add efficient return, but timing credit risk has not worked out, on average. Meanwhile rates exposure and timing rates have added to volatility, though some excess return was added through timing, on average.

What about going forward? Spreads sit near historical highs after adjusting for rating and maturity, financing conditions are broadly benign, and the incremental compensation for assuming additional spread risk is below its historical average. We believe this justifies a shift in emphasis from credit beta toward credit alpha, focusing on activities such as issuer selection, capital-structure and relative-value positioning, and sector selection to take advantage of dispersion rather than



Many traditional active strategies implicitly rely on diversification assumptions that a higher-inflation, two-sided regime no longer guarantees. Portfolio construction should reflect a less stable covariance matrix, not a benign one.”

Exhibit 7: Correlations have shifted post-2022



Source: PGIM and Bloomberg. As of July 2026.

the directionality of credit. On the rates side, as noted, we expect more two-sided risk and believe flatter yield curves provide less opportunity for a structural overweight to rates. Timing rates can add value, but the volatility cost should warrant restraint.

THE DIVERSIFICATION REGIME HAS CHANGED

Perhaps the most consequential regime change is in the relationship of these two systematic risks to each other. For much of the post-GFC period, investors could rely on rates to hedge growth-sensitive exposures. Growth shocks pushed Treasury yields lower, the resulting price gains offset losses elsewhere, and multi-asset portfolios benefited from a stable, negative stock–bond correlation. As inflation has re-emerged as a significant independent risk factor, the U.S. Federal Reserve faces a more balanced, two-sided set of risks rather than a one-directional imperative to spur growth and promote full employment. Rates can now selloff alongside risk assets, and credit can widen at the same time.

The stock–bond correlation varies with the level of inflation and with the relative volatility of growth and inflation shocks: when inflation uncertainty dominates, the correlation turns positive and rates lose their hedging property. Exhibit 7 shows this relationship through daily correlations over each year of investment grade and high yield credit spreads, as well as S&P 500 returns, with 10-year Treasury rate changes. S&P 500 returns are inverted to match the sign convention. These correlations were negative from 2000 through 2021 and moved to more neutral and positive in some cases in 2022 and later years.

SEPARATING ALPHA FROM BETA: OUR USE OF THE MARKET PRINCIPAL COMPONENT (MPC1)

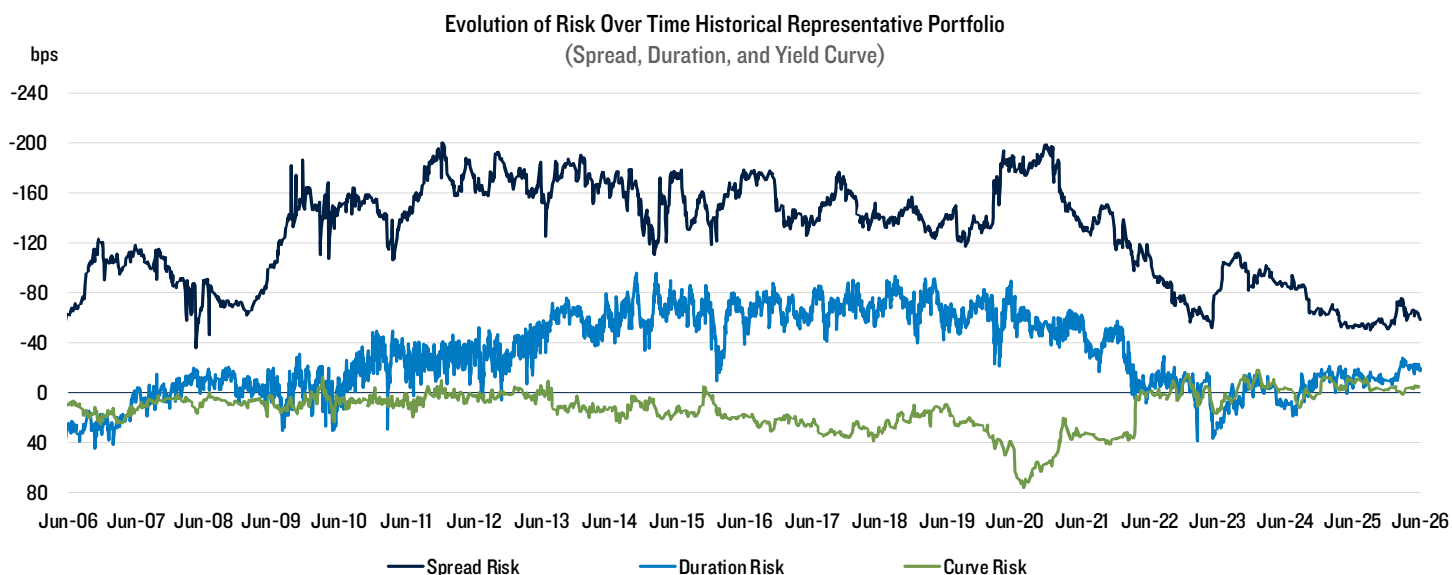
The decline in reliability of systematic risk premia as a source of dependable excess return coincided with the evolution and popularity of fixed income indexing. Indexing popularity has also likely contributed to the compression of those premia. Longstanding manager overweights to credit have generated excess return simply because credit outperforms cash over time. But the market is increasingly recognizing that this is beta, which can be replicated cheaply, and is not necessarily an active skill worth paying for.

This does not mean a portfolio should avoid credit risk. Frequently, a manager should be overweight credit risk because the exposure is additive. However, conflating it with alpha overstates repeatable skill and understates how much of a track record depends on a single, correlated market factor. Further, today's tight credit-spread backdrop makes the setup for credit risk markedly different from the typical setup over the last 20 years.

To make that distinction operational, PGIM estimates the first principal component of credit-market returns (an internal measure we term the market principal component, or MPC1) and removes that market factor from performance attribution before evaluating the contribution of active sector weightings and security selection. What remains is more representative of the return earned from sector rotation and issuer selection rather than from simply being long the credit market.

Because those idiosyncratic drivers are, by construction, more independent of one another, they may diversify better and support more consistent excess returns, as measured by higher information ratios. Exhibit 8 shows that, in the example of our Core Plus strategy, PGIM has de-emphasized systematic risks of spread, duration, and curve in this new market regime. In Exhibit 9, we show the excess return and tracking error of large funds² in the Core and Core Plus space over the last five and three years. While the five-year results are roughly in line with the peer group, the three-year information ratios and excess returns compared favorably with the category peers shown, based on our analysis.

Exhibit 8: PGIM's Core Plus Strategy limited its systematic risk in the new market regime



Source: PGIM. As of June 30, 2026. The above chart compares characteristics of the representative portfolio within the Core Plus Fixed Income Composite relative to its benchmark. These risk characteristics are not past or projected performance of the strategy. This information is used to describe our investment/risk management processes across all multi-sector market strategies managed by the investment team and may not be the representative portfolio of the strategy currently under consideration. This information is provided for illustrative purposes only, is subject to change, and should not be deemed representative of future characteristics for any multi-sector strategy. Actual results may vary for each client due to specific client guidelines and other factors. Spread, Duration and Yield Curve: Represents the principal component risk of tracking error.

Exhibit 9: PGIM Core and Core Plus results relative to Morningstar category peers



Source: Morningstar, U.S. Core and U.S. Core Plus Fixed Income categories vs. Bloomberg U.S. Aggregate Bond Index, as of July 31, 2026. Gross uses the oldest share class; net uses the lowest-cost share class. Gross results do not reflect the deduction of fees and expenses, which would reduce returns. See Notes for methodology.³

WHY BREADTH? THE FUNDAMENTAL LAW OF ACTIVE MANAGEMENT

The economic intuition behind emphasizing idiosyncratic return is captured by the Fundamental Law of Active Management (Grinold and Kahn).⁴ In its familiar form, a manager's information ratio is approximately the product of skill and the square root of the number of independent bets:

$$IR \approx IC \times \sqrt{\text{Breadth}}$$

where IR is the information ratio, IC is the information coefficient (a measure of forecasting skill), and Breadth is the number of independent investment insights applied per year. A more complete version multiplies by a transfer coefficient, TC (or, how faithfully those insights survive constraints, risk limits, and transaction costs), giving $IR \approx TC \times IC \times \sqrt{\text{Breadth}}$.

Historically, a manager could generate meaningful active return by expressing a small number of large duration or credit views, because each carried a substantial and reliable premium. As those premia shrink and become less

dependable, increasing breadth — the number of largely independent decisions — becomes the more durable route to a high information ratio. A manager with modest per-bet skill, but many uncorrelated insights, may compare favorably to the manager who concentrates on a few correlated macro views on a risk-adjusted basis.

In fixed income, that breadth is available across a wide opportunity set including security selection, relative-value trades, sector allocation, capital-structure positioning, securitized-product selection, and public-versus-private relative value, depending on the risk and scope of the mandate. Applying skill over breadth is easy to state and hard to do. It requires deep research skill and portfolio management expertise. It is why PGIM employs hundreds of analysts and portfolio managers who have decades of experience in their industries. We believe that depth supports our security selection capabilities, which we can scale in multi-sector strategies to help provide breadth as we pursue the excess returns that matter to our clients.

⁴ Grinold, R. and Kahn, R., Active Portfolio Management (Fundamental Law of Active Management); Brixton, Brooks, Hecht, Ilmanen, Maloney and McQuinn, "A Changing Stock-Bond Correlation: Drivers and Implications," AQR/JPM, 2023; Molenaar, Sénéchal, Swinkels and Wang, "Empirical Evidence on the Stock-Bond Correlation," Financial Analysts Journal, 2024.

PORTFOLIO IMPLICATIONS

We believe this market regime is one where systematic risk should be employed selectively and tactically, with the bulk of excess return sourced from sector rotation and idiosyncratic security selection. An overweight to rates and credit beta was justified in the post-GFC environment and may someday be again. But today, that environment has changed, and the balance of active risk should change with it. In practice, we believe this argues for:

- **Selective systematic exposure:** targeted, tactical use of duration and broad credit beta;
- **Breadth over concentration:** a deliberate tilt of the active-risk budget toward higher-information-ratio

sources, such as sector allocation and security selection, which offer greater breadth and better diversification;

- **Disciplined risk budgeting:** a risk-budgeting framework that allocates active risk by projected tracking error so that correlated risk is additive and uncorrelated risk diversifies, complemented by explicit issuer, industry, country, and liquidity-stress limits;
- **Beta-aware measurement:** attribution that removes the market principal component so that clients and the investment team can see how much excess return came from beta versus other, more meaningful characteristics of the decision-making process.

NOTES

- Exhibits 3–6 are based on the Morningstar US Fund Intermediate Core-Plus Bond category (the “Core Plus Universe”), measured against the Bloomberg U.S. Aggregate Bond Index (the “Benchmark”) over the 240 months from August 2006 through July 2026. The Core Plus Universe includes only actively managed open-end mutual funds and exchange-traded funds (each, a “Fund”); index funds are excluded. To reduce survivorship bias, it also includes Funds that were later merged or liquidated. In total, the Core Plus Universe comprises 240 Funds (192 currently active and 48 merged or liquidated; 182 open-end funds and 58 ETFs). All figures are gross of fees and were exported from Morningstar Direct.

Each observation represents a Fund, not a manager or a share class. Where a firm manages more than one Fund in the category, each Fund is treated as a separate observation. Where a Fund offers multiple share classes, only its oldest share class is used, to get the longest available performance history. Each Fund therefore appears only once in the Core Plus Universe. Group statistics are averages of the monthly observations for the Funds in each group (each, a “Fund-month”). The number of Funds and Fund-months with available excess return in each group is as follows: Exhibit 3: Short 167 Funds / 5,865 Fund-months, Neutral 198 / 11,114 and Long 124 / 1,881 (211 Funds in total; a Fund may appear in more than one group as its positioning changes over time); Exhibit 4: 1st quartile 35 Funds / 6,974 Fund-months, 2nd 35 / 7,069, 3rd 35 / 6,401 and 4th 35 / 6,062 (140 Funds); Exhibit 5: 0–2% 75 Funds / 897 Fund-months, 2–5% 117 / 1,102, 5–10% 175 / 3,853, 10–15% 169 / 3,524 and greater than 15% 128 / 2,883 (212 Funds in total; a Fund may appear in more than one group); Exhibit 6: 1st quartile 43 Funds / 7,900 Fund-months, 2nd 42 / 7,756, 3rd 41 / 7,986 and 4th 42 / 5,379 (168 Funds). For Exhibits 3 and 5, every Fund-month with the required data is included. Groups were created as follows. For Exhibit 3, a Fund’s active duration is its Morningstar average effective duration minus the Benchmark’s option-adjusted duration, measured each month. Fund-months are classified as Short (active duration below –0.5 years), Neutral (–0.5 to 0.5 years, inclusive) or Long (above 0.5 years). For Exhibit 4, the duration timing quartiles measure how much each Fund varied its active duration over time. For each Fund, the standard deviation of its monthly active duration from August 2006 through July 2026 is calculated using only months with available data. Only Funds with more than 48 months of active duration data are ranked. Eligible Funds are ranked against other eligible Funds in the Core Plus Universe by percentile, from the highest standard deviation to the lowest. Funds in the top 25% are assigned to the 1st quartile (most active), those above 25% through 50% to the 2nd, those above 50% through 75% to the 3rd, and the rest to the 4th quartile (least active).

For Exhibit 5, a Fund’s high yield allocation is the percentage of its portfolio rated below investment grade (BB, B and below B), as reported in Morningstar’s credit quality survey. Fund-months are grouped into 0–2%, 2–5%, 5–10%, 10–15% and greater than 15%. For Exhibit 6, the credit timing quartiles measure how much each Fund varied its high yield allocation over time. The Benchmark holds no high yield bonds, so a Fund’s high yield allocation is also its active credit exposure. For each Fund, the standard deviation of its high yield allocation from August 2006 through July 2026 is calculated using only periods with available data. Only Funds with more than 16 credit quality observations are ranked. The minimum data requirements differ because Morningstar collects average effective duration monthly, while credit quality breakdowns are generally reported quarterly. The requirements of more than 48 monthly duration observations and more than 16 quarterly credit quality observations therefore each represent four years of history over the 20-year period. Eligible Funds are then ranked and assigned to quartiles the same way as in Exhibit 4, with the 1st quartile (most active) showing the most variation in high yield allocation and the 4th quartile (least active) the least. In both Exhibits 4 and 6, each Fund is assigned to one quartile for the whole period, based on its full history. All of the Fund’s available Fund-months are then included in that quartile’s average excess return and average information ratio.

Excess return and information ratio were calculated by Morningstar and exported directly from Morningstar Direct. Excess return is a Fund’s monthly return minus the Benchmark’s return for the same month, and the exhibits show the average monthly excess return (%) for each group. Tracking error is the standard deviation of a Fund’s monthly excess returns over the trailing 36 months, annualized by multiplying by $\sqrt{12}$. The information ratio is Morningstar’s 3-year arithmetic information ratio: annualized excess return divided by annualized tracking error. Annualized excess return is the Fund’s annualized 36-month return minus the Benchmark’s, with each annualized from compounded monthly returns. The information ratio is calculated each month on a rolling basis, and the exhibits show the average of these rolling 3-year values for each group. Because a Fund needs 36 months of history before an information ratio is available, the information ratio averages use fewer Fund-months than the excess return averages. Results for the Morningstar US Fund Intermediate Core Bond category (the “Core Universe,” 554 Funds) and for 3-, 5- and 10-year periods are not shown but were reviewed for consistency.

- “Large funds” are actively managed open-end mutual funds and ETFs that meet a minimum size threshold, measured at the fund level (all share classes combined) as of July 31, 2026. The threshold is more than \$2 billion in assets for the Morningstar US Fund Intermediate Core Bond category (the “Core Peer Group”) and more than \$10 billion for the Morningstar US Fund Intermediate Core-Plus Bond category (the “Core Plus Peer Group”). The Core Peer Group includes 36 Funds and the Core Plus Peer Group includes 23 Funds, as of July 31, 2026. PGIM is represented by PGIM Core Bond R6 and PGIM Total Return Bond R6, which meet the same size and 5-year history criteria applied to peer Funds. To be included, a Fund must also be classified in the applicable category and have a full five-year return history as of July 31, 2026, so that it appears in both the three- and five-year charts. Index funds are excluded. The higher threshold for the Core Plus Peer Group is due to the larger average fund size in that category, and keeps both peer groups to a comparable number of the largest, most widely held funds. Each Fund is represented by a single share class, as described in the share class methodology for this exhibit.

The Morningstar Intermediate Core Bond and Intermediate Core-Plus Bond categories are appropriate comparators because they group funds with mandates similar to the PGIM Core and Core Plus Fixed Income strategies. Funds in both categories invest primarily in U.S. investment-grade bonds, keep duration close to that of the broad U.S. bond market, and are commonly benchmarked to the Bloomberg U.S. Aggregate Bond Index, the same benchmark used in this exhibit. The Core-Plus category also covers funds that, like the PGIM Core Plus strategy, can invest in sectors outside the index, such as high yield and non-U.S. debt. Using these categories means PGIM is compared with funds that take similar risks against the same benchmark.

- Exhibit 9 shows both gross and net returns, and each is based on a different share-class rule chosen to fit what that chart measures. Each rule is applied the same way to PGIM and to every peer Fund. Within each chart, every Fund, including PGIM’s, appears only once and is represented by a single share class.

The gross charts use each Fund’s oldest share class. Gross returns add back fund expenses, so share classes of the same Fund, which hold the same underlying portfolio, generally have very similar gross returns. The main remaining difference between share classes is how long their track record is. The oldest share class is the one most likely to have a complete record over the full three- and five-year periods, and it matches the share-class approach used in Exhibits 3–6. The gross charts therefore compare investment results before fees.

The net charts use each Fund’s lowest-cost share class, selected using an established share-class waterfall. Share classes are screened in order of preference: U.S. dollar-denominated, institutional share classes preferred, lowest annual report net expense ratio, and then oldest performance start date. Any remaining ties are resolved by highest minimum investment, lowest maximum management fee, accumulation share classes preferred, hedged share classes preferred and largest share class size. Net returns are reduced by fund expenses, which vary across share classes. Choosing the lowest-cost share class keeps differences in fee structure from distorting the comparison and better reflects the experience of institutional investors, who typically use lower-fee share classes.

As a result, the same Fund may be represented by different share classes in the gross and net charts. Where a Fund’s oldest share class is not also its lowest-cost share class, the gross chart uses the oldest share class and the net chart uses the lowest-cost one. This still provides a fair comparison because each chart is read on its own and applies one rule consistently to all Funds, including PGIM’s. Because share classes of the same Fund hold the same portfolio, using the oldest share class for gross returns does not materially change the investment results being compared. Using the lowest-cost share class for net returns means each Fund is shown on its most favorable fee basis.

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