

Implementing Your De-Risking Strategy: Plan-by-Plan Considerations

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Strong equity performance and still-elevated Treasury rates have boosted the funded status of US corporate defined benefit (DB) plans, prompting many of them to explore de-risking by shifting to higher fixed income allocations. However, just *how* to de-risk is a highly important call for plan sponsors to make, as implementation can impact the plan's effectiveness and operational efficiencies.

For plans seeking to de-risk, the optimal mix of fixed income investment styles is not one-size-fits-all. Each plan's funded status and unique circumstances are key in deciding how to combine indexing, active and/or systematic approaches. We can summarize our views as follows:

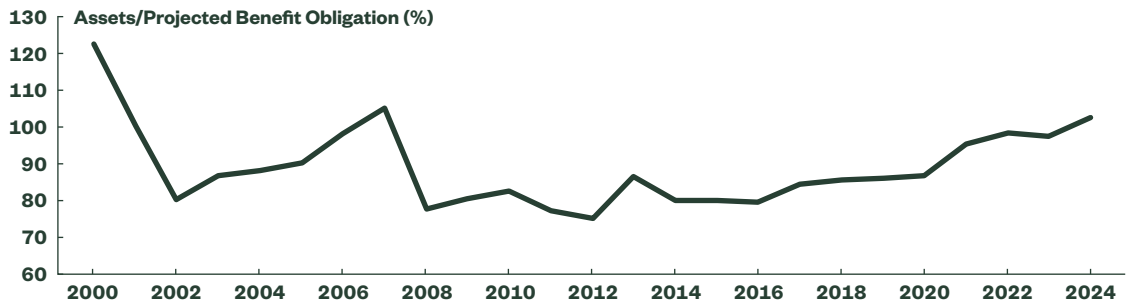
- Well-funded plans may want to lock in their current liability streams using an index building-block approach, in which various fixed income sectors are combined to create a bespoke fixed income exposure.
- Less well-funded plans may want to consider taking an active approach and accepting greater tracking error volatility to their liabilities in exchange for opportunities for alpha and higher expected returns. This could improve funded status over time.
- A systematic active approach can offer a differentiated and complementary source of alpha alongside fundamental active managers, and can play a versatile role in a liability-driven investing (LDI) portfolio.

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**Background:
With Equities' Solid
Performance and
Yields Still High,
De-Risking Is in Focus**

On the back of a rapid progression of Federal Reserve (Fed) rate hikes that started in early 2022, interest rates are significantly higher today than at any time between 2008 and the recent tightening cycle. At the same time, earnings growth and credit fundamentals have held firm, and equities have soared to record highs in 2024. As a result, corporate DB pension plans' funded status has improved substantively over the past several years (Figure 1). The funded ratio of the Milliman 100 Pension Funding Index (PFI) is at about 104%.¹ Many plans will be looking to lock down their liability streams in this environment by de-risking and shifting from return-seeking assets to liability-hedging assets — i.e., increasing their fixed income allocations.

Figure 1
**Funded Ratios
Have Jumped to a
Post-2007 Peak**



Source: The 2024 edition of the Milliman Corporate Pension Funding Study. Values as of year end each year. 2024 value is as of the end of July 2024.

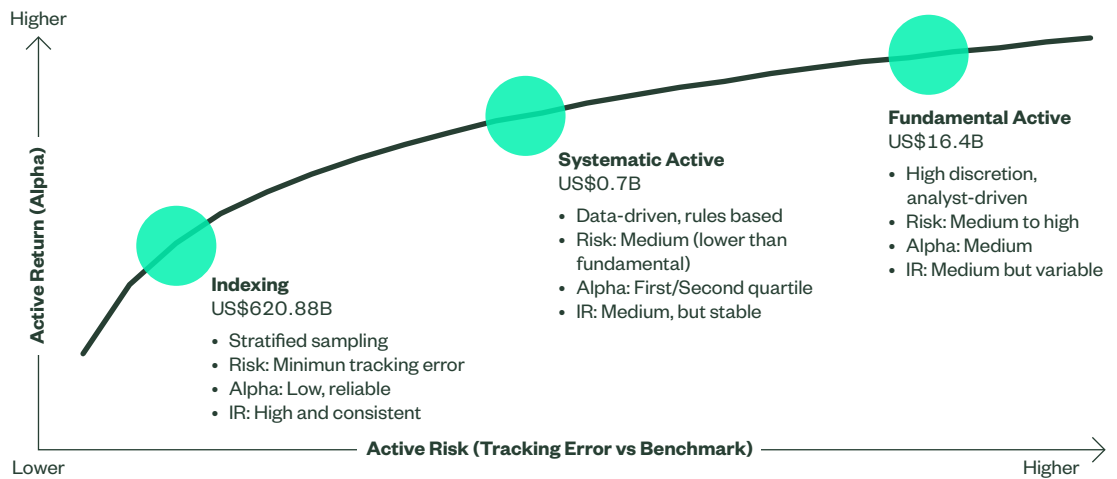
**De-Risking
Implementation:
Evaluating Options
for Indexing, Active,
and/or Systematic
Fixed Income**

Plan sponsors have a wide range of options for de-risking their portfolios, such as pension risk transfers, participant buyouts, and asset allocation-based solutions. There is no one-size-fits-all approach. What makes the most sense for a given plan will be based on their objectives and their unique liability streams, plan longevity, risk aversion, and other circumstances.

When it comes to fixed income investment approaches in de-risking, plans can choose from indexing, fundamental active, systematic fixed income, or some combination of the three. Each can play an important role and provide a distinct advantage to liability-aware portfolios. Figure 2 shows the continuum of fixed income approaches, which has expanded in recent years due largely to advancements in fixed income trading technology (see [The Modernization of Bond Market Trading and its Implications](#)).²

Figure 2
**The Fixed Income
Investing Continuum**

■ Investing Continuum
■ State Street Global Advisors
Assets Under Management



Sources: State Street Global Advisors, MSCI, FactSet. Data as of June 30, 2024. BIG (Fund View). All calculations are unaudited. Figures provided in USD billions. The \$16.4 billion active net AUM is internally managed assets only and excludes subadvised funds.

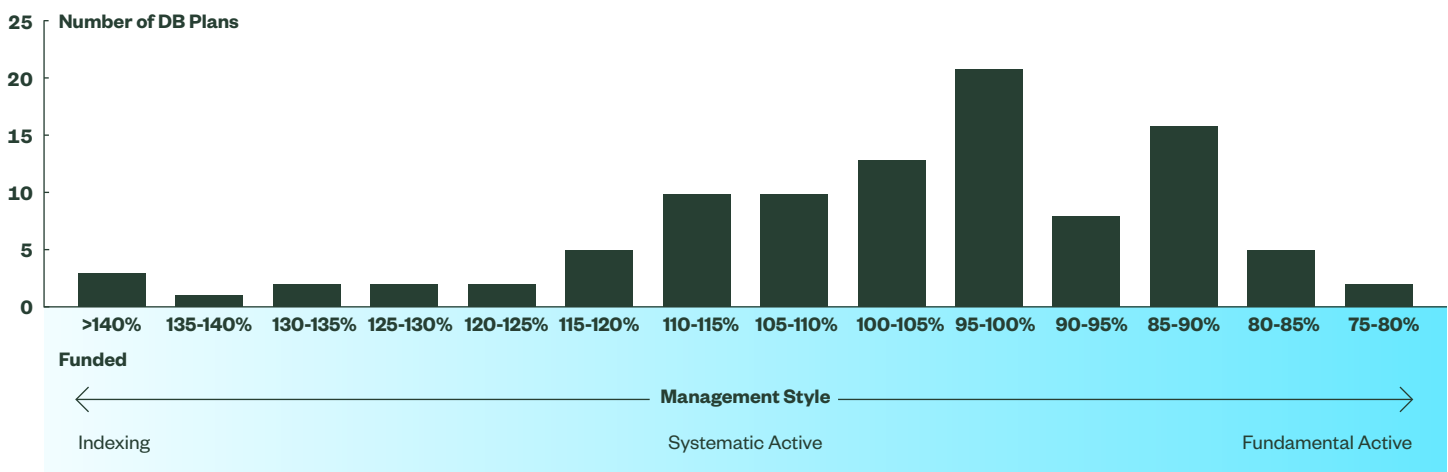
Incorporating Funded Status

One practical approach that some clients have found helpful is to frame their investment approach decision in the context of overall funded status. The distribution of funded ratios from the largest US corporate DB plans (Figure 3) shows that while the average plan is about 100% funded, there are a wide range of funded statuses in the DB landscape — from greater than 140% funded, to between 75% and 80% funded. What does the client’s funded status suggest is the most preferred location for them along the fixed income continuum?

- Well-funded plans whose overarching objective is to minimize funded status volatility may prefer the precision of an index building-block approach, in which plans can effectively minimize tracking error to their liabilities with a low-cost approach. With building blocks, various fixed income sectors (such as investment grade corporate bonds and/or Treasury bonds) are combined to create a bespoke fixed income exposure (see [De-Risking Effectively Using Fixed-Income Building Blocks](#)).
- Less well-funded plans may be willing to accept a greater level of tracking error on their liabilities in exchange for additional yield, spread, and expected return, with an eye toward improving funded status over the longer term. These plans may prefer an active approach. Historically, first or second quartile fundamental active long credit managers have generated excess returns of +60–90 bps, gross of management fees, with information ratios of 0.6 to 0.9 over the five- and 10-year period through June 2023 (source: eVestment). One important consideration on the downside is that active managers will tend to underperform during equity market drawdowns.
- With advances in bond trading and market structure, we believe a systematic active approach also has an important role to play in the de-risking landscape. Skilled systematic managers can potentially generate competitive alpha in a differentiated way from fundamental managers.

Figure 3 shows these key points graphically. As we move from higher to lower funded status, we suggest plans move from left to right (less active to more active) on the fixed income continuum.

Figure 3 Lower Funded Status Levels May Imply More Active Management Along the Continuum



Source: The 2024 edition of the Milliman Corporate Pension Funding Study. The data shows the 2023 year-end funded ratio for all the plans in the study, the Milliman 100 pension plans. The Milliman 100 companies are the 100 U.S. public companies with the largest DB pension plan assets for which a 2023 annual report was released by March 10, 2024.

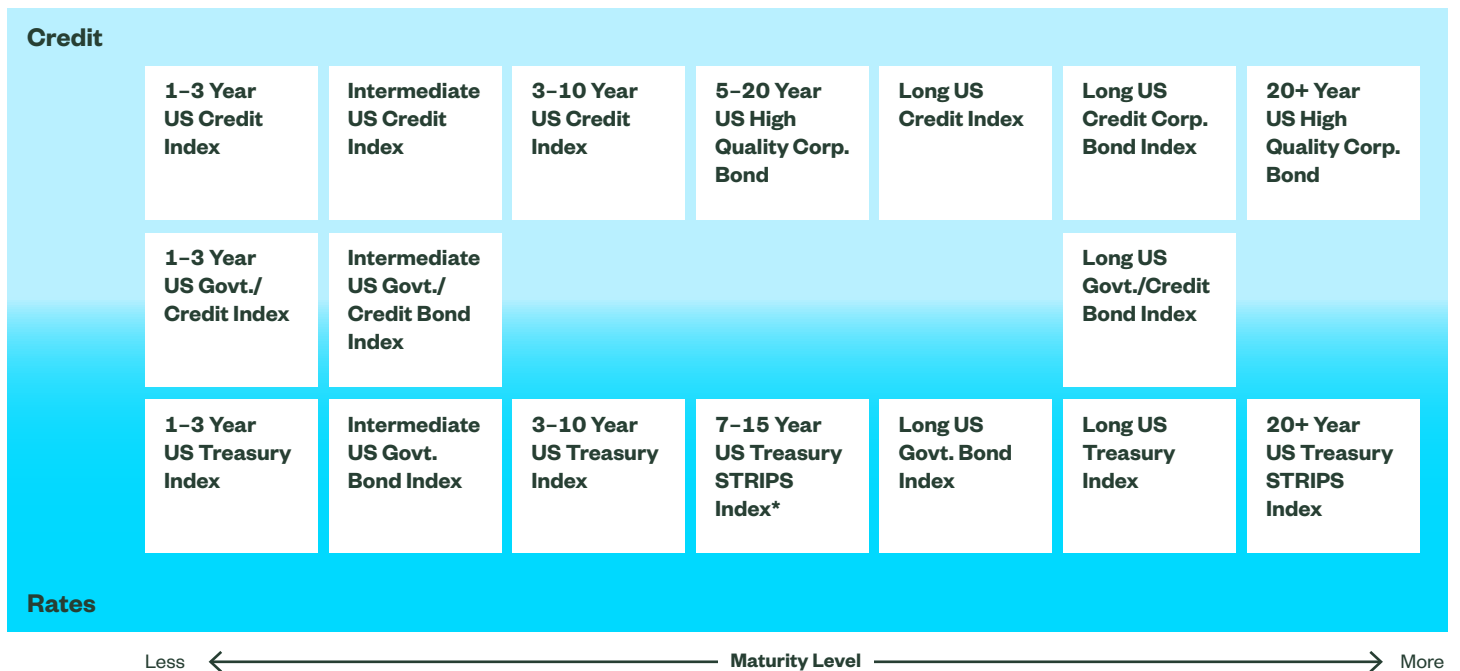
Putting De-Risking into Practice for Well-Funded Plans

For well-funded plans looking to de-risk and lock down their (improved) funded status, an index building-block approach can simplify operations and reduce fees. If the plan sponsor’s primary goal is to minimize funded status volatility, building blocks, which combine various fixed income sectors, can allow the creation of a bespoke investment portfolio that is customized for the sponsor’s liability-relative risk/return profile and tracking error objectives.

At State Street Global Advisors, we offer a full array of index building-block commingled funds across rates and/or credit, at maturities across the curve (Figure 4).

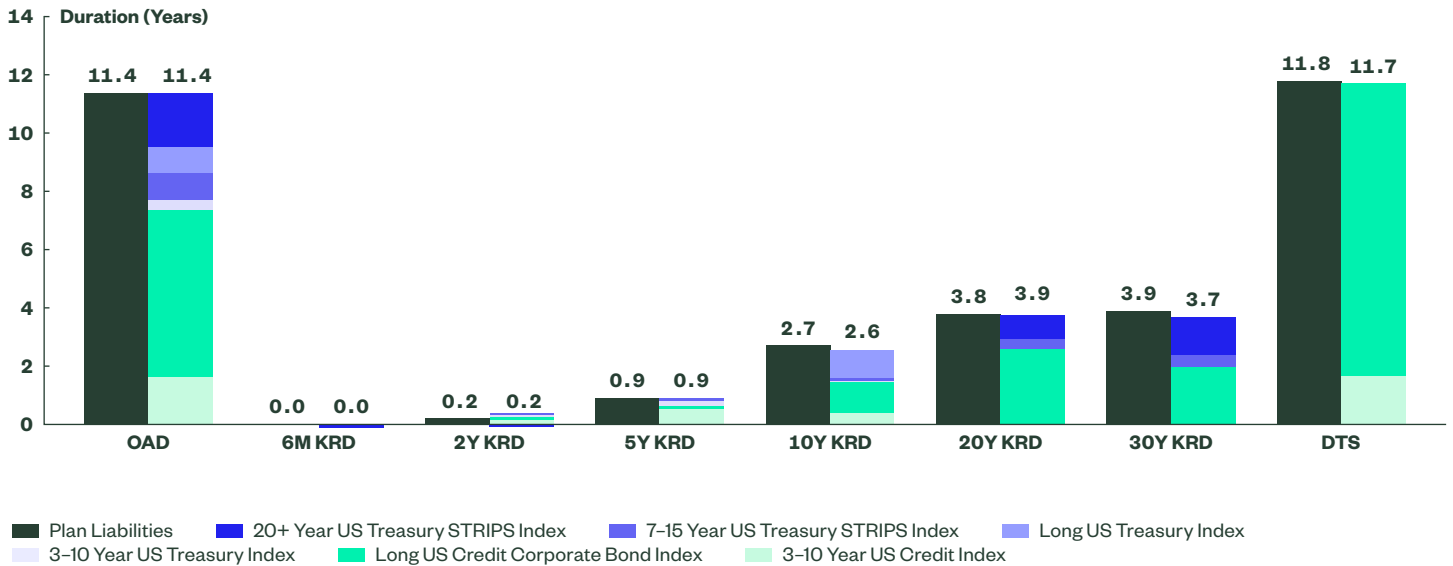
Plan sponsors can use these building-block funds to hedge against interest rate, curve, and credit risks represented in their liabilities, and they can do so with precision and at low cost. Through optimization and quantitative analysis, our client, strategy, and investment teams can help you determine the best combination of building block exposures to replicate your liability structure. A hypothetical illustration of the use of building blocks to hedge duration, curve, and credit risk (DTS, or duration times spread) exposures between plan assets and liabilities is shown in Figure 5.

Figure 4 **Index Building Blocks Offer Breadth and Depth of Exposures Across Rates and Credit**



Source: State Street Global Advisors. As of June 30, 2024. Diversification does not ensure a profit or guarantee against loss.

Figure 5 **The Range of Building Block Exposures Can Effectively Hedge Against Duration, Curve, and Credit Risks Embedded in Plan Liabilities**



Source: State Street Global Advisors Fixed Income. For illustrative purposes only based on hypothetical plan data. This not investment advice and should not be regarded as sch. See footnote 4 for explanation of Key Rate Duration (KRD).

Systematic: A Differentiated and Complementary Source of Alpha for LDI Portfolios

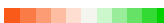
Traditionally, fixed income investing has been dominated by fundamental active managers who take advantage of structural inefficiencies and institutional constraints and use a variety of levers — duration, curve, sector allocation, and security selection, among others — to generate alpha. Active managers still hold a bigger slice of the fixed income market (versus passive managers) measuring by assets,³ and many active managers have delivered on their investment objectives for clients. For example, the median active credit manager in the eVestment universe (benchmarked to the Bloomberg US Investment Grade Corporate Index or the Bloomberg US Credit Index) delivered +56 bps of annualized alpha, gross of management fees, in the 10-year period to March 31, 2024, while the first quartile manager delivered +84 bps.

However, trading in fixed income markets continues to shift to become more equity-like, paving the way for systematic, rules-based strategies to play a much larger role in client bond portfolios. With a systematic approach, investors can benefit from competitive risk-adjusted returns, with a differentiated return profile from that of fundamental active managers.

- **Breadth** For systematic strategies, security selection is driven quantitatively by alpha signals with demonstrated efficacy over multiple market cycles. These signals scan the entire investment universe daily, so systematic strategies can have far greater market breadth and frequency of information updates than fundamental strategies.
- **Low Correlation** The low excess return correlation between systematic active and fundamental managers is a key feature of the design of our Systematic Active Fixed Income (SAFI) strategies. Figure 6 shows that our backtested Systematic US Investment Grade Corporate Bond Strategy has a lower correlation to the US corporate index (0.5) versus large fundamental (0.7), on average. Furthermore, Figure 6 shows that SAFI managed funds have low mean excess return correlations with large fundamental managed funds.

Figure 6 **Our SAFI Strategy Backtest Exhibits Low Return Correlation to Fundamental Active**

	Bloomberg US IG Corp Index	SSGA SAFI US IG Corp Backtest	Western US IG Credit Plus	Loomis IG Corp Credit	Invesco US Corp Credit	Western US IG Credit Plus	GSAM US IG Credit	AB US IG Corp	Pimco IG Corp
Bloomberg US IG Corp Index	1.00								
SSGA SAFI US IG Corp Backtest	0.51	1.00							
Western US IG Credit Plus	0.85	0.55	1.00						
Loomis IG Corp Credit	0.86	0.48	0.84	1.00					
Invesco US Corp Credit	0.70	0.60	0.73	0.69	1.00				
Western US IG Credit Plus	0.83	0.47	0.83	0.82	0.54	1.00			
GSAM US IG Credit	0.77	0.41	0.66	0.79	0.56	0.78	1.00		
AB US IG Corp	0.66	0.31	0.48	0.63	0.54	0.66	0.77	1.00	
Pimco IG Corp	0.44	0.48	0.61	0.48	0.64	0.45	0.44	0.34	1.00
Mean	0.70	0.47	0.67	0.68	0.61	0.65	0.63	0.53	0.49

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Sources: State Street Global Advisors, eVestment, Bloomberg Finance, L.P. As of December 31, 2023. See disclaimers at end of document.

Looking at the fixed income investing continuum (Figure 2), we see that there is an inherent versatility in the role that systematic can play in liability hedging portfolios. First, it can pair well with a fundamental active management allocation by providing diversification characteristics and some downside protection. Second, systematic’s close alignment to the benchmark implies that systematic can also act as a yield and expected return enhancer in a risk-controlled manner, when combined with index building blocks.

State Street Global Advisors offers Systematic Active Fixed Income strategies with low manager discretion and close structural alignment to the benchmark, and we restrict significant deviations from the benchmark with respect to duration, curve, sector, and quality — the risk factors that typically drive performance. Therefore, we expect tracking error to be lower in systematic strategies versus fundamental active strategies.

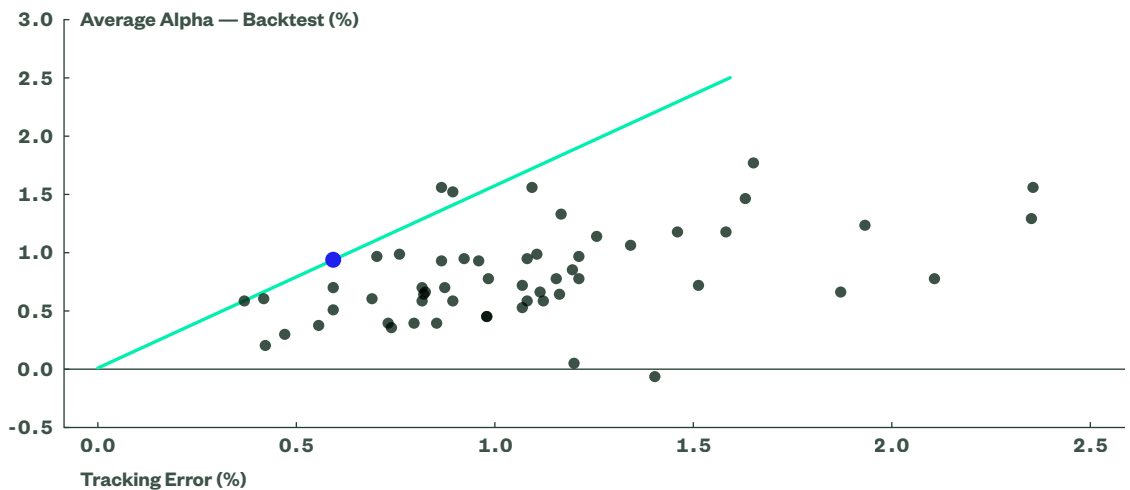
Systematic Active Fixed Income Key Strategy Features:

- 94 bps average annual alpha
- 60 bps tracking error volatility
- Low correlation 0.3 to 0.5 with peer group alpha
- Security selection key return driver
- Top quintile maximum alpha drawdown

Figure 7 shows a comparison of backtested results from our Systematic US Investment Grade Corporate Bond Strategy versus the active US Credit manager universe in eVestment.

Figure 7
Systematic Active Fixed Income Can Be a Competitive and Attractive Diversifier

■ Active Managers
■ Systematic IR
■ Backtested State Street Global Advisors Systematic Portfolio



Sources: State Street Global Advisors, Barclays QPS Research, eVestment. See disclaimers and appendix at end of document.

The Bottom Line

As corporate DB plans are thinking through how to de-risk their portfolios, it is crucial for them to ask: What fixed income approaches make sense based on our plan's funded status and unique circumstances? This piece is not meant to be prescriptive; rather, it aims to offer DB clients valuable insights into why funded status may be an important consideration, and how funded status may make active — or less active — management styles preferable.

At State Street Global Advisors, we provide indexing, active and systematic capabilities, and we have more than three decades of experience managing index fixed income portfolios within an LDI context. We are committed to helping plan sponsors continue to fulfill their obligations to beneficiaries, and equipping our clients to implement the most effective de-risking strategies based on their goals and requirements.

Appendix: Back-Test Methodology

Overview

Systematic strategy indices reflecting bond-level alpha scores for the Bloomberg US Corporate Bond Index (ticker: LUACTRUU Index). The composite score is computed by combining three sub-scores, Value + Momentum + Sentiment. Composite scores are then used in an optimization and portfolio construction process whereby the objective is to maximize the portfolios overall Composite score, subject to risk constraints.

Sub-score:

- **Value** Systematic relative value signal that exploits mean-reversion in credit spreads. The signal is defined as spread unexplained by issuer characteristics and fundamentals.
- **Momentum** Equity-bond momentum signal that exploits relative equity performance of individual issuers to select corporate bonds.
- **Sentiment** Systematic sentiment signal that helps avoid bonds issued by companies with significant equity short interest.

Additional Factor Information

Value identifies relative value opportunities in corporate bonds while controlling for issuer characteristics such as rating, sector, and maturity, and fundamentals. Value scores consider corporate fundamentals such as leverage and solvency.

Momentum differentiates credit issuers in a sector according to their past relative equity returns. Stock and bond returns of the same firm are positively correlated as they depend on the same underlying fundamentals - bonds cannot evolve independently of equities, and equities often lead bond performance. For each issuer, we average stock price momentum over various lookback periods. We then rank issuers according to their equity momentum and assign scores. High scores indicate attractiveness (strong relative equity momentum).

Sentiment is an asymmetric signal, identifying corporate bond issuers with future expected underperformance based on the short positions in the parent company's equity securities. Numerous studies document that the level of short interest in a company's equity is associated with low subsequent equity returns. QPS has documented that the predictive power of equity short interest extends to a firm's corporate bond returns. Short interest has a skewed distribution: Most issuers have low levels of short interest, while only a relatively small proportion of issuers have high levels of short interest.

Backtest Assumptions and Parameters

Model Methodology	Linear optimizer with linear constraints
Time Horizon	Monthly, from January 2011 to March 2024
Universe	US Investment Grade Corporate Bond Index (Bloomberg Ticker: LUACTRUU Index)
Objective Function	Maximizing QPS Composite Score with the following filtering & constraints
Filters and Eligible Universe	<p>The following filters are only applied to newly-entering bonds in the universe:</p> <ul style="list-style-type: none"> • Liquidity: Barclays TES score (Trading Efficiency Score, a ranked version of LCS which also includestrading volume) is used to determine its liquidity level within a given universe • Maturity • Amount Outstanding
Constraints	<ul style="list-style-type: none"> • Portfolio-level (all vs. benchmark): (1) DTS (as % of benchmark); (2) OAD and OASD; and (3) KR buckets (long, intermediate, short bucket) • Market Value % (all vs. benchmark): (1) Rating Bucket (letter grade); (2) Sector Class 3; (3) Issuer Level • Turnover Cap: Monthly

Disclaimers

Figure 6 Analysis is conducted on the largest fundamental active credit managers by AUM as of 12/31/2023 using monthly excess returns vs. manager preferred benchmarks from December 2010 to December 2023. Credit index excess returns are defined as excess returns over like-duration Treasuries for the Bloomberg US Investment Grade Corporate Bond Index. Manager returns are gross of fee. Performance is calculated based on monthly total returns for the back-tested model portfolio with assumed transaction costs based on Barclays Liquidity Cost Score (LCS) measure, which is a widely used liquidity model in the investment industry. LCS represents a bond-level transaction cost expressed as a percent of a bond's price, and measures the cost of an immediate, institutional-size, round-trip transaction. Total returns for the Bloomberg US Investment Grade Corporate Index do not take into account transaction costs. Back-tested performance is the result of applying a model to market data that predates the model, in order to yield results that predate the model's inception (i.e. all data is back tested) OR the results of a model, some of which predates model inception, and some of which was generated after model inception. Analysis is done on back-tested performance based on an Optimization process taking factor inputs from QPS Indices. The back-tested performance presented herein reflects the output of the Optimization process portion of the strategy only and does not reflect or incorporate any potential deviations from the model portfolio at the time of implementation. The data displayed is a hypothetical example of back-tested performance is for illustrative purposes only and is not indicative of the past or future performance of any SSGA product. Back-Tested Performance does not represent the results of actual trading but is achieved by means of the retroactive application of a model designed with the benefit of hindsight. The performance reflects transaction costs but does not reflect management fees and other fees and expenses a client would have to pay, which reduce returns. Please reference Back-tested Methodology Disclosure in the Appendix for a description of the model methodology as well as an important discussion of the inherent limitations of back-tested results. BLOOMBERG is a trademark and service mark of Bloomberg Finance L.P. Bloomberg Finance L.P. and its affiliates (collectively, "Bloomberg") are not affiliated with Barclays Bank PLC. Bloomberg's association with Barclays Bank PLC is to act as the administrator and calculation agent of the Bloomberg US Corporate Bond Index (the "Index"), which is the property of Barclays Bank PLC. Bloomberg does not guarantee the timeliness, accurateness, or completeness of the Index or any data or information relating thereto and shall have no liability in connection with the Index or any data or information relating thereto.

Figure 7 Analysis compares after-transaction-cost back-tested performance series against comparable active US investment grade credit managers. Analysis uses monthly total returns vs. benchmark from January 2011 to March 2024. The information contained above is for illustrative purposes only. Performance is calculated based on monthly total returns for the back-tested model portfolio with assumed transaction costs based on Barclays Liquidity Cost Score (LCS) measure, which is a widely used liquidity model in the investment industry. LCS represents a bond-level transaction cost expressed as a percent of a bond's price, and measures the cost of an immediate, institutional-size, round-trip transaction. Total returns for the Bloomberg US Investment Grade Corporate Index do not take into account transaction costs. Back-tested performance is the result of applying a model to market data that predates the model, in order to yield results that predate the model's inception (i.e. all data is back tested) OR the results of a model, some of which predates model inception, and some of which was generated after model inception. Analysis is done on back-tested performance based on an Optimization process taking factor inputs from QPS Indices. The back-tested performance presented herein reflects the output of the Optimization process portion of the strategy only and does not reflect or incorporate any potential deviations from the model portfolio at the time of implementation. The data displayed is a hypothetical example of back-tested performance is for illustrative purposes only and is not indicative of the past or future performance of any SSGA product. Back-Tested Performance does not represent the results of actual trading but is achieved by means of the retroactive application of a model designed with the benefit of hindsight. The performance reflects transaction costs but does not reflect management fees and other fees and expenses a client would have to pay, which reduce returns. Please reference Back-tested Methodology Disclosure in the Appendix for a description of the model methodology as well as an important discussion of the inherent limitations of back-tested results. BLOOMBERG is a trademark and service mark of Bloomberg Finance L.P. Bloomberg Finance L.P. and its affiliates (collectively, "Bloomberg") are not affiliated with Barclays Bank PLC. Bloomberg's association with Barclays Bank PLC is to act as the administrator and calculation agent of the Bloomberg US Corporate Bond Index (the "Index"), which is the property of Barclays Bank PLC. Bloomberg does not guarantee the timeliness, accurateness, or completeness of the Index or any data or information relating thereto and shall have no liability in connection with the Index or any data or information relating thereto.

Endnotes

- 1 The Milliman 100 Pension Funding Index, as of August 5, 2024. The "Milliman 100" companies are the 100 U.S. public companies with the largest DB pension plan assets for which a 2023 annual report was released by March 10, 2024.
- 2 Note: this article will focus on decision making around the investment approach(es) used by DB plans within their fixed income liability hedging portfolios. For further details about allocations across asset classes, see [Weighing Your De-Risking Options](#).
- 3 Index funds make up 29.56% of the fixed income market by assets. Based on open-ended funds (ex-Money Market, Fund of Funds and feeders) and ETF AUM sourced from Morningstar Direct as of November 30, 2023.
- 4 Key rate duration measures the duration of a security or portfolio at a specific maturity point along the entirety of the yield curve, holding other maturities constant; it measures the sensitivity of the portfolio's price to a 1% change in yield for a specific maturity.

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* Pensions & Investments Research Center, as of December 31, 2023.

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