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## Systematic fixed income strategies: An innovative framework for bond investing

The evolution of global markets and technological advances have enabled systematic fixed income approaches to be an attractive complement to traditional fixed income investment approaches, potentially enhancing diversification and unlocking opportunities to drive alpha and deliver custom client solutions.

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### Key takeaways

- The rise of data analytics and highly sophisticated quantitative techniques has allowed for advances in systematic fixed income strategies that may complement traditional active and passive bond allocations.
- Systematic fixed income investing combines the rigor of academic research and technology to apply investment factors in portfolio construction, using large data sets to uncover differentiated sources of alpha for bond investors.
- Growing trends—such as the proliferation of high-quality market data, the rise of electronic trading, and the availability of alternative datasets,
- combined with advances in machine learning and cloud-based analytics—
- are accelerating systematic fixed income investing opportunities.
- In some cases, systematic fixed income strategies have offered lower correlation of excess returns relative to fundamental approaches, as well as lower volatility of excess returns during periods of market or geopolitical stress.
- Fidelity's systematic fixed income team can customize solutions across the global bond market universe—such as core, core-plus, high yield, non-traditional bond, municipal bonds, income or liability-driven objectives, among others.

### Introduction

Systematic investors have been employing factors for decades when seeking higher returns or greater control over exposures in their portfolios. Reinforced by extensive academic research and longstanding use by Fidelity and other practitioners, style factors such as value, quality, momentum, low volatility, and carry are distinguishing characteristics of individual securities or issuers that drive risks and returns. These factors can be applied to equity and fixed income markets alike.

Some of these factors have outperformed over the long term, and some have served to mitigate portfolio risk. Other factors are broad economic variables that are persistent and pervasive drivers of returns. Systematic fixed income investing is an active, model-driven approach that uses these factors to construct investment portfolios with the goal of enhancing returns, managing risks, and providing the opportunity for greater diversification.

However, systematically optimizing bond selection requires a considered approach to portfolio management and trading, with tight integration between the two determining success. While a model may recommend ideal exposures based on factors, the actual securities used to express those views can vary significantly in terms of liquidity, pricing inefficiencies, and market depth. This article will illustrate the benefits of systematic fixed income investing and how it complements traditional bond strategies, and Fidelity’s approach to customized solutions.

### Systematic fixed income investing: Where it fits on the spectrum of approaches

A systematic fixed income process begins with factor research, identifying characteristics that predict returns in fixed income markets. For example, bonds trading at attractive spreads (value), issuers with improving security level prices (momentum), or those with strong balance sheets (quality) may outperform over time. Next, data analysis comes into play. Advanced models evaluate

thousands of securities across multiple dimensions, incorporating credit spreads, default probabilities, and liquidity metrics. These factor scores are combined into a composite ranking, which guides portfolio construction. The result is a diversified portfolio that balances alpha potential with transaction costs and liquidity considerations. Importantly, these models are dynamic, adjusting as market conditions evolve. Exhibit 1 illustrates an overview of passive and active fixed income strategies and where systematic fixed income fits within the continuum of risk, return, and client need.

### Market dynamics are accelerating systematic fixed income opportunities

The global bond market is highly fragmented and complex, creating both challenges and opportunities for investors. Unlike equities, fixed income markets lack a centralized exchange, resulting in a decentralized market structure with thousands of issuers, multiple currencies, and diverse instruments across sovereign, corporate, and securitized sectors. This fragmentation makes price discovery and liquidity management more difficult, particularly as issuance grows and regulatory changes alter dealer balance-sheet capacity.

At the same time, the sheer size of the market—now exceeding \$145 trillion globally<sup>1</sup>—means that traditional, research-intensive approaches may not cover the full opportunity set. Identifying relative value comprehensively across regions, sectors, and maturities requires processing vast amounts of data.

**Exhibit 1: An overview of passive and active fixed income strategies and where systematic approaches fit in.**

Passive strategies		Active strategies	
	Factor investing strategies span passive and active approaches		
<b>Traditional beta</b>	<b>“Smart” beta</b>	<b>Systematic alpha</b>	<b>Traditional alpha</b>
Seeks to replicate traditional market cap-based indices	Factor-based indices designed to outperform traditional benchmarks	Seeks active returns from a diversified source of standard and proprietary factors, as well as implementation opportunities	Seeks to outperform peers through fundamental research
	<b>Goals:</b> Seeks to enhance returns, improve diversification, or reduce risk	<b>Goals:</b> Seeks to enhance returns, improve diversification, and mitigate risks while offering customized solutions, or targeted exposures	
Lower risks/seeks to replicate or outperform indices ←		→ Higher risk-adjusted return potential	

Source: Fidelity Investments. For illustrative purposes only.

## Fidelity's ability to customize: Bespoke solutions for client needs

Fidelity's systematic fixed income team has developed sophisticated solutions to meet client challenges, spanning the broader global bond market universe. Below are three examples.

### Absolute income

- Need for a competitive strategy that seeks top-quartile income distributions and competitive total returns.

#### *Fidelity solution:*

- Income optimized as a targeted outcome in sector allocation and security selection.
- Timing overlay to capitalize on income/volatility dislocations across asset classes.
- Unified model enables cohesive portfolio construction and holistic oversight across asset classes.
- In parallel, strategy seeks to generate competitive total returns and risk characteristics.

### Enhanced core bond

- Passive index strategies often underperform benchmarks; investment parameters are constrained and do not allow for flexibility.

- Highly fee-sensitive.

#### *Fidelity solution:*

- Use a systematic model for sector allocation and security selection to generate modest alpha.
- Disciplined portfolio construction to remain duration neutral, with index-like risk characteristics.
- Actively managed to mitigate transaction costs.

### Liability-driven investing

- As return-seeking allocations decline (from higher plan funded statuses), greater need for liability-sensitive assets to provide more than just interest rate hedge.

- Broadening the LDI opportunity set beyond Treasuries and investment-grade bonds requires derivatives to manage overall risk and return generation.

#### *Fidelity solution:*

- Extend long-duration security selection model to include high-yield bonds to enhance return potential. Systematic macro overlay to optimize high-yield allocation.
- Unified model enables cohesive portfolio construction and holistic oversight across asset classes.
- Broad use of derivatives helps manage credit and interest rate risk versus liabilities.

This is where advances in computing power and data availability have transformed the landscape. The proliferation of high-quality market data, issuer fundamentals, and alternative datasets—combined with machine learning and cloud-based analytics—enable systematic strategies to evaluate thousands of securities in real time.

Another critical enabler is the increased trading efficiency and transparency in fixed income markets over the past decade. Historically dominated by voice trading, the bond market has seen a surge in electronic platforms beyond Treasuries into various spread sectors, improving transparency and execution efficiency. This evolution

not only reduces transaction costs but also provides the liquidity and speed necessary for systematic strategies to scale effectively. In addition, the rise of portfolio (basket) trades, which allows for dozens of bonds to trade in a single transaction, has further improved price discovery, liquidity, and execution efficiency.

Together, these dynamics—market fragmentation, data abundance, and technological innovation—are providing greater opportunity in systematic fixed income investing. By leveraging advanced analytics and automation, investors can navigate complexity with greater precision, consistency, and efficiency, unlocking opportunities that may be differentiated from traditional approaches.

## Four key benefits of systematic fixed income investing

Investors today have plentiful choice in building strategic bond allocations, and the current macroeconomic landscape may warrant deeper fixed income diversification. In new proprietary research by Fidelity’s Asset Allocation Research Team (AART), the authors found that unsustainable U.S. debt levels and shifting monetary-fiscal policy dynamics reinforce the importance of broad bond exposure. They found that bonds will likely prove to be a crucial portion of long-term allocations, and increased diversification will need to be a “whole of the portfolio” exercise. (For more, see “Unsustainable debt: Strategic asset allocation for a new era.”)

Systematic investing offers four unique potential benefits for those seeking to maintain meaningful exposure to fixed income—enhanced diversification, repeatability, cost-effectiveness, and customization—for modern portfolios.

### Enhanced diversification

Systematic strategies often target different sources of return than traditional active managers. While traditional fundamental managers typically rely on macroeconomic views and issuer-specific research, systematic approaches focus on predictive style and macro factors. Also, systematic approaches typically evaluate and score an extensive universe of securities.

For example, an active quantitative “core-plus” fixed income mandate would likely evaluate 8,000+ bond CUSIPs, 700+ equity securities, and 1,100+ issuers daily in the pursuit of alpha generation.

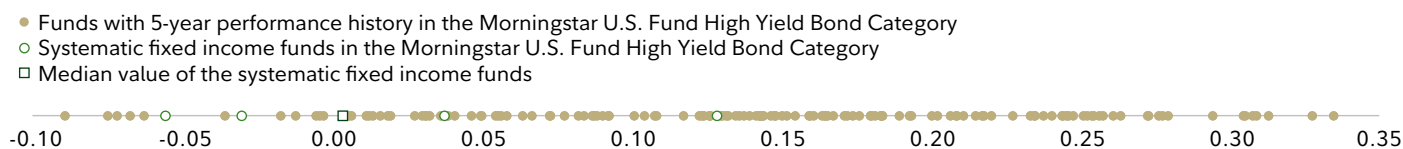
As a result of these factors, the excess returns of systematic bond strategies can demonstrate low correlations relative to fundamental approaches. For example, Exhibit 2 compares the correlation of excess returns of systematic and fundamental mutual funds and exchange-traded funds (ETFs) within Morningstar’s U.S. high-yield bond fund category. We evaluated all of the funds with five-year records, a total of 146 funds and ETFs, including the Fidelity Enhanced High Yield ETF (FDHY) and several other systematic funds. (Note: Morningstar does not have a standalone systematic fixed income category.)

The beige dots represent each of the fundamental funds and ETFs, and the green-outlined circles represent FDHY and the other systematic funds, relative to the average manager in the category—showing that systematic funds on the left are low- or negatively correlated to the fundamental funds (FDHY is at 0.038). The dark-green-outlined square represents the median value of the systematic funds, at a correlation of just over zero).

As a result, we believe systematic fixed income strategies may offer a diversification benefit, helping investors reduce concentration risk and improve overall portfolio resilience.

## Exhibit 2: Systematic fixed income funds have a low correlation of excess returns vs. their peers in Morningstar’s U.S. high-yield bond fund category.

Correlation of 5-year monthly excess returns to the average manager



Source: Morningstar, Fidelity Investments, data from Jan. 1, 2020, through Dec. 31, 2024. Morningstar U.S. High Yield Bond Category, including the oldest share class of all active funds and ETFs with a 5-year performance record (146 funds, including Fidelity Enhanced High Yield ETF and three other systematic funds). The average credit quality of the category is CCC (full universe), compared with FDHY’s focus on BB/B. Correlation is the degree to which two or more investment vehicles move together over time. A correlation of –1 means that two assets move in equal but opposite directions (when one goes up, the other goes down). A correlation of +1 means the two securities move lockstep in the same direction. Zero correlation means the two securities move randomly with respect to each other. See the endnotes for more information about the Morningstar category and FDHY.

## Repeatability

One of the hallmarks of systematic investing is its rules-based, data-driven process. By relying heavily on quantitative models and analytics for security selection, these strategies aim to deliver consistent and repeatable performance over time. Predictive factors with demonstrable links to outperformance are rigorously tested and then applied systematically across portfolios.

In Exhibit 3, we demonstrate this potential benefit using the same Morningstar U.S. High-Yield Bond Category of funds and ETFs (blue line), and their rolling volatility of monthly excess returns relative to the ICE BofA BB-B U.S. High Yield Constrained Index, which is FDHY's benchmark. In this case, we excluded funds with greater than 5% exposure to CCC-rated issuance that may be more volatile in nature, resulting in a universe of 37 active funds and ETFs.

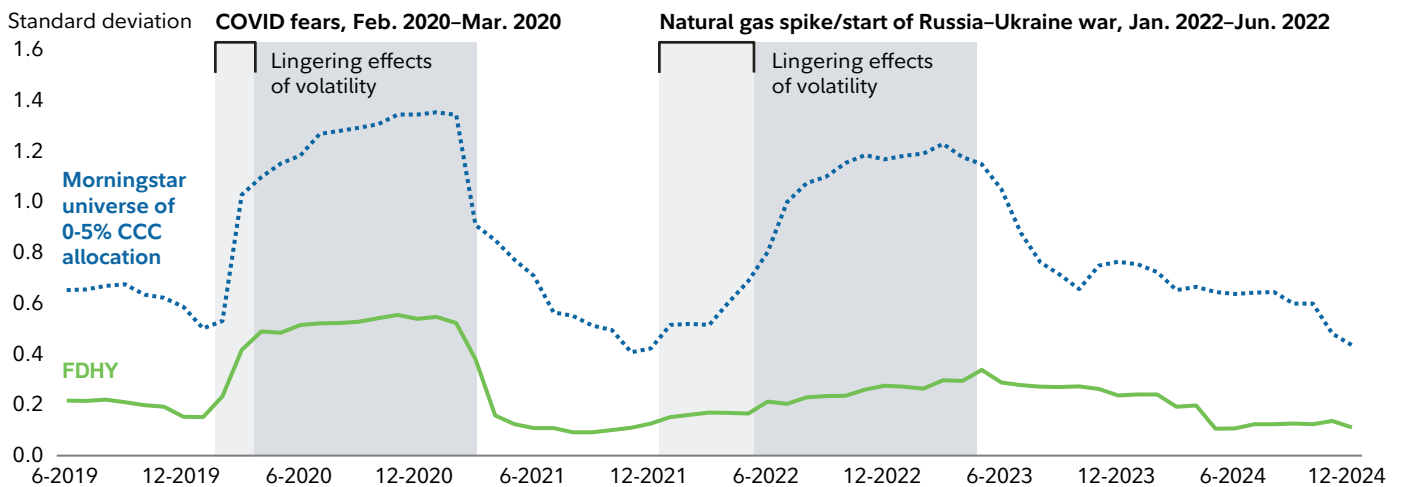
We show FDHY (green line) exhibited less volatility of excess returns relative to the index than the broader universe, throughout the period shown. In particular, we can see that FDHY exhibited less volatility of excess returns during two notable periods of market stress—COVID-19 and the Russia-Ukraine War.

## Cost-effectiveness

Technological advances have made it possible to implement systematic fixed income strategies efficiently and at scale. Automation in portfolio construction, risk management, and trade execution reduces operational complexity and transaction costs. The rise of electronic trading platforms and portfolio basket trades has further improved liquidity and price transparency, enabling systematic managers to execute strategies with lower fees and tighter spreads relative to past regimes.

### Exhibit 3: The Fidelity Enhanced High Yield ETF (FDHY) has offered lower volatility of excess returns vs. other U.S. high-yield bond funds over time, and during periods of unrest.

Rolling volatility of monthly excess returns



**Past performance is no guarantee of future results.** Source: Fidelity Investments, Morningstar. Data shown is from June 30, 2019, the inception of the Fidelity Enhanced High Yield ETF (FDHY), through Dec. 31, 2024. Morningstar U.S. High Yield Bond Category (blue line) includes 37 active funds and ETFs with at least a 5-year track record and exposure to CCC-rated issuance of less than 5%. In order to derive the universe of 37 active funds and ETFs, a total of 104 funds were excluded in line with the CCC allocation constraint. The universe of 37 funds includes three systematic high-yield funds. The green line represents FDHY (and note it was excluded from the blue line for comparison purposes). Volatility expressed as standard deviation over 12 months of monthly excess returns for the category and FDHY relative to the ICE BofA BB-B U.S. High Yield Constrained Index. Standard deviation measures how much a fund's return varies over an extended period of time. A higher standard deviation indicates a wider variation of past returns and thus greater historical volatility. See endnotes for index definition. Exchange-traded funds like that of FDHY are inherently different from mutual funds. Unlike a traditional open-ended mutual fund, the price of an ETF is set throughout the day. Higher demand from investors can result in the shares trading at a premium (compared to the value of the stocks that the ETF holds), and falling demand could cause the ETF to trade at a discount (compared to the value of the ETF's holdings). This continuous pricing and the ability to place limit orders means the ETF's performance for any given time period is based largely on the market price return during the holding period, rather than on the ETF's net asset value (NAV)—the value of the stocks held by the ETF. See endnotes for more important differences between the two vehicles, including more about the risks of investing in both, as well as more about the Morningstar universe and FDHY.

## Customization

Finally, systematic strategies are inherently flexible, making them well-suited for customized solutions. Whether an investor seeks to align with specific risk budgets, duration targets, sustainability objectives, or optimize a portfolio against specific performance outcomes, systematic models can be tailored to meet these requirements, often at lower asset levels than traditional managers given the efficiency of the systematic investment process. This adaptability allows institutional investors to integrate systematic approaches seamlessly into broader portfolio frameworks, addressing unique mandates without compromising efficiency or transparency.

## Fidelity's approach to systematic investing

Fidelity has a unique combination of resources, expertise, and technology that enable it to be at the forefront of systematic investing. Fidelity's Quantitative Research and Investments (QRI) division is composed of more than 200 investment and research professionals focused on generating actionable insights based on quantitative research and developing robust investment strategies utilizing systematic techniques. See sidebar for more on its platform capabilities.

## Conclusion

Systematic fixed income investing reflects the dramatic evolution of global markets. Advances in computing power, data availability, and the rise of electronic trading are among the critical enablers of these investment approaches to unlock differentiated return sources and enhance the diversification of bond portfolios. As the macroeconomic landscape continues to present new challenges, investors can access customized solutions to navigate such complexity with greater precision, consistency, and efficiency.

**For more on Fidelity's systematic fixed income solutions, contact your Fidelity representative.**

## Fidelity's systematic fixed income team

### Data availability and reliability

Access to clean, reliable fixed income data is one of the greatest challenges in the industry. Fidelity's QRI team has the scale and infrastructure to collect, clean, and maintain vast datasets efficiently. By combining proprietary data with best-in-class third-party sources, we seek to ensure a robust foundation for model development and portfolio construction.

### Sophisticated modeling

Our proprietary models and signal designs leverage advanced quantitative techniques to transform raw data into actionable insights. With cross-asset class coverage of over 100,000 securities, these models are tailored to the unique characteristics of each fixed income sector, helping enable us to identify opportunities across a broad and fragmented market.

### Efficient implementation

A model is only as valuable as its ability to be executed. Fidelity integrates systematic strategies directly with trading, focusing on minimizing transaction costs and capitalizing on alpha signals. This approach allows for opportunistic trading while maintaining portfolio efficiency.

### Domain expertise

While models drive consistency, human insight remains critical. Our teams have access to deep macroeconomic research and sector specialists who can address nuances that quantitative models may not fully capture—such as policy shifts or geopolitical risks. Portfolio managers have years of implementation experience across market cycles.

### Continuous improvement

Finally, Fidelity rigorously evaluates model effectiveness through performance attribution and CIO risk oversight. This helps ensure alignment with client objectives and consistent application of risk guidelines. By combining data, technology, and expertise, Fidelity seeks to deliver systematic fixed income solutions that are scalable, cost-effective, and designed to meet the evolving needs of institutional investors.



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## Endnote

<sup>1</sup> Securities Industry and Financial Markets Association (SIFMA), SIFMA 2025 Capital Markets Fact Book.

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## Index definition

**ICE BofA BB-B US High Yield Constrained Index** is a modified market capitalization-weighted index of U.S.-dollar-denominated below-investment-grade corporate debt publicly issued in the U.S. domestic market.

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*Fidelity Thought Leadership Vice President Martine Costello Duffy provided editorial direction for this article.*

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### Calendar year returns (%)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
FDHY NAV	-	-	-	-	17.54	10.64	4.69	-11.58	11.64	7.49
FDHY market price	-	-	-	-	16.87	10.70	4.34	-11.30	11.13	7.52
Benchmark	-	-	-	-	15.10	6.28	4.60	-10.58	12.58	6.84
Morningstar category	-	-	-	-	12.62	4.91	4.77	-10.09	12.08	7.63

### Total returns and expense ratio (%) as of 9/30/25

	Cumulative		Average annual return				Expense ratio	
	3-month	YTD	1-year	3-year	5-year	LOF <sup>1</sup>	Gross	Net
FDHY NAV	2.54	7.18	7.11	10.50	4.70	5.86	0.36	0.35
FDHY market price	2.57	7.38	6.88	10.66	4.74	5.83		
Benchmark	2.28	7.05	6.87	10.34	4.94	-	-	-
Morningstar category	2.35	6.66	6.93	10.21	5.18	-	-	-

<sup>1</sup> Since fund inception, 6/12/18. Benchmark is ICE BofA BB-B US High Yield Constrained Index; Morningstar U.S. High-Yield Bond Category.

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Total returns are historical and include changes in share price and reinvestment of dividends and capital gains, if any.

**Net asset value (NAV) return** represents the closing price of underlying securities at which the fund can create and redeem shares directly with the security. **Market return** represents the price at which an investor can buy and sell a security in the secondary market. Since ETFs are bought and sold at prices set by the market—which can result in a premium or discount to NAV—the returns calculated using market price (market return) can differ from those calculated using NAV (NAV return).

Life of fund (LOF) returns are from fund inception to indicated month-end. Note that life of fund market returns are calculated using the first day the fund traded on an exchange, which may occur a few days after the NAV inception date. Market returns are based on the closing price on the listed exchange at 4 p.m. ET and do not represent the returns an investor would receive if shares were traded at other times.

In general the bond market, especially foreign markets, are volatile, and can decline significantly in response to adverse issuer, political, regulatory, market, or economic developments. Fixed income securities carry interest rate risk. (As interest rates rise, bond prices usually fall, and vice versa. This effect is usually more pronounced for longer-term securities.) Fixed income securities also carry inflation risk, liquidity risk, call risk and credit and default risks for both issuers and counterparties. Unlike individual bonds, most bond funds do not have a maturity date, so avoiding losses caused by price volatility by holding them until maturity is not possible. Lower-quality bonds can be more volatile and have greater risk of default than higher-quality bonds. Foreign securities are subject to interest rate, currency exchange rate, economic, and political risks, all of which may be magnified in emerging markets. Leverage can increase market exposure and magnify investment risk. Securities selected using quantitative analysis can perform differently from the market as a whole as a result of the factors used in the analysis, the weight placed on each factor, and changes in the factors' historical trends. The fund generally expects to effect its creations and redemptions for cash rather than in-kind securities, and may recognize more capital gains and be less tax-efficient than if it were to redeem in-kind. The return of an index ETF is usually different from that of the index it tracks because of fees, expenses, and tracking error. An ETF may trade at a premium or discount to its Net Asset Value (NAV). There can be no assurance that an active trade market will be maintained, and trading may be halted due to market conditions.

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