
Should You Bet on Mean Reversion in Fixed Income Premiums?

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KEY TAKEAWAYS

- ▶ Betting on mean reversion in the term and credit premiums is unlikely to benefit investors.
- ▶ Using real-time market information embedded in the current yield curves offers a more reliable way for investors to pursue higher expected returns.

Bonds with longer maturities and those with lower credit quality tend to earn higher returns on average.¹ Some investors hold the belief that these term and credit premiums, which vary through time, may exhibit mean reversion—strong realized returns will be followed by weak performance and vice versa. Even if past returns have some predictive power for future returns, translating this pattern into a profitable investment strategy presents several key empirical challenges. Investors must determine the time horizon over which mean reversion occurs, identify the level to which the premium reverts, and assess the strength of its predictability. Given these complexities, is that a good bet?

1. For a recent discussion, see Aabbhas Garg and Samuel Y. Wang, “The Case for Systematic Investing in Fixed Income” (white paper, Dimensional Fund Advisors, May 2024).

In this study, we examine whether betting on mean reversion in fixed income premiums can improve investment outcomes. Our analysis, based on a series of simulated strategies over long sample periods ending in December 2023, shows that investors are unlikely to benefit from this approach.

The starting year for our simulated strategies ranges from 1973 to 1999, depending on the data availability for different market segments. Starting with the term premium, we construct mean reversion strategies that dynamically allocate between longer- and shorter-term bonds within the eligible universe each month: When the trailing term premium exceeds its full-sample median, the strategy predicts a weaker future term premium and therefore allocates 75% to shorter-term bonds and 25% to longer-term bonds; when the trailing term premium falls below its median, the strategy flips to 25% in shorter-term and 75% in longer-term bonds, anticipating a rebound in the term premium.² By construction, these strategies have equal exposures to shorter- and longer-term bonds on average, so to evaluate whether they add value, we compare their performance against static 50/50 allocations between shorter- and longer-term bonds.

Exhibit 1, Panel A shows the annualized excess returns of term premium mean reversion simulations relative to their 50/50 static counterparts across different regions (US and global ex-US), credit qualities (government and credit), maturity ranges (intermediate versus short, and long versus intermediate), and look-back periods for measuring trailing term premiums (one, three, and five years). Eighteen out of 24 strategies delivered negative excess returns, which ranged from –0.26% to –0.03% per year.

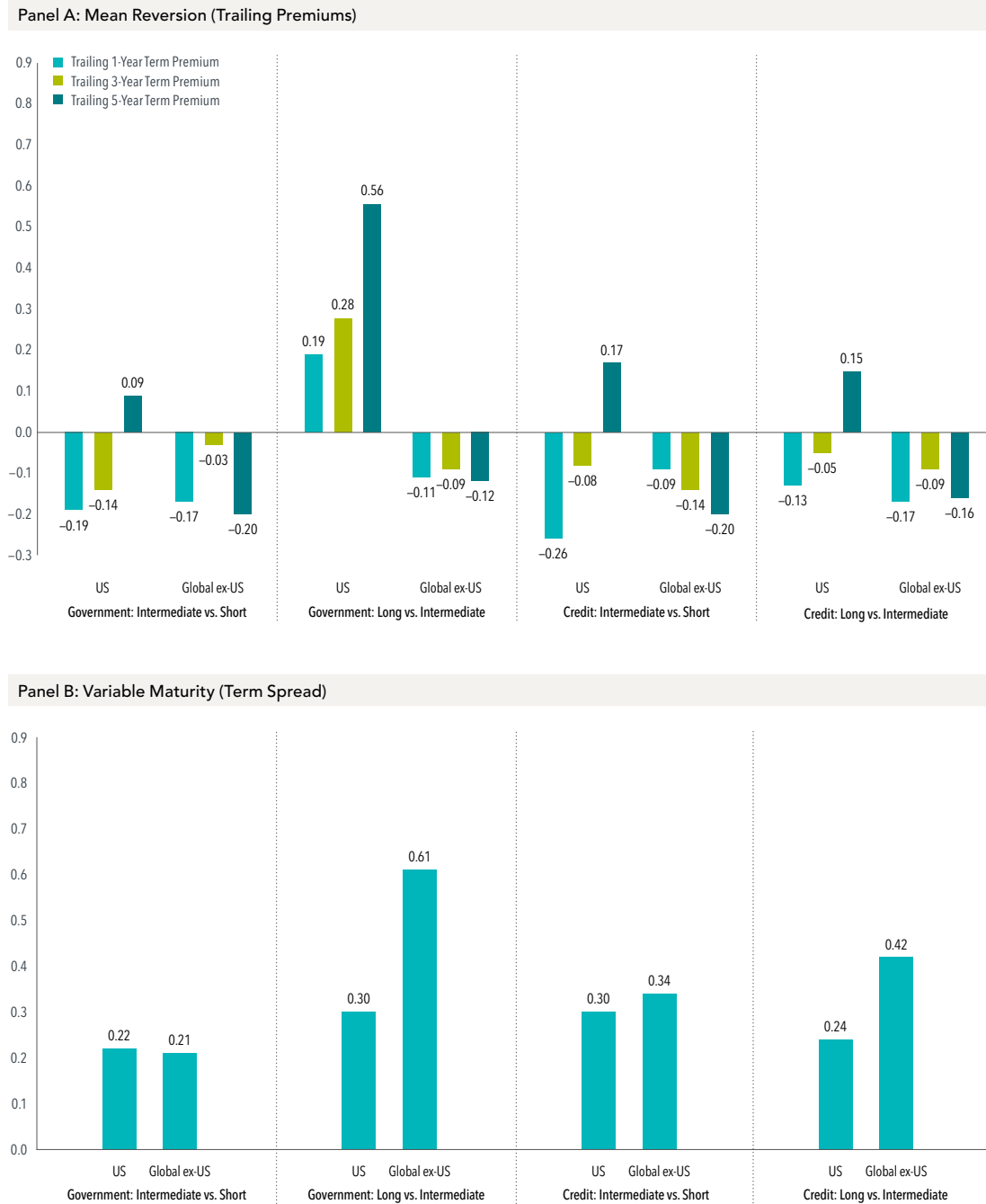
Outperformance, on the other hand, was primarily concentrated in the longer end of the US government curve. For example, the strategy allocating between long versus intermediate US government bonds based on the trailing five-year term premium achieves the highest annualized excess return: 0.56%. However, its performance deteriorates by more than half when changing to a different look-back period and becomes negative when applied to the same market segment outside the US.

For additional perspective, we also construct “variable maturity” strategies using information in current term spreads about expected term premiums, an approach with strong theoretical and empirical support.³ Specifically, the variable maturity simulations allocate 75% (25%) to shorter-term bonds and 25% (75%) to longer-term bonds when the current term spread between longer- and shorter-term bonds is below (above) its full-sample median. Whereas the mean reversion strategy looks backward at the realized term premium and bets on its future reversal, the variable maturity strategy uses the expected premium information embedded in the current term spread without predicting future spread changes. As shown in **Exhibit 1, Panel B**, all variable maturity simulations outperformed their 50/50 benchmarks, with excess returns ranging from 0.21% to 0.61% per year. This consistency across market segments is in stark contrast to the inconsistency of the mean reversion simulations.

2. Although there is a look-ahead bias in strategy construction by using the full-sample median, it allows us to control for average exposures to shorter-term versus long-term bonds and facilitates a cleaner comparison with the static allocation.

3. For a recent summary, see Audrey Dong and David Min, “The Drivers of Global Government Bond Returns” (research paper, October 2024). Available at [SSRN](https://ssrn.com/abstract=4848484).

EXHIBIT 1: Annualized Excess Returns (%) of Term Premium Simulations Relative to 50/50 Static Allocations



Past performance, including hypothetical performance, is no guarantee of future results.

Returns in USD. This figure shows the annualized excess return of mean reversion and variable maturity strategies relative to 50/50 benchmarks, which maintain equal allocations between shorter-term bonds and longer-term bonds over time. Mean reversion strategies use trailing term premiums (over the past one, three, or five years) as trading signals, and variable maturity strategies use current term spreads as trading signals. The mean reversion approach allocates 75% to shorter-term bonds and 25% to longer-term bonds when the trading signal exceeds its full-sample median, reversing to 25%/75% shorter-term/longer-term bonds when the trading signal is below its full-sample median. The variable maturity approach allocates 75% to shorter-term bonds and 25% to longer-term bonds when the term spread is below its full-sample median, reversing to 25%/75% shorter-term/longer-term bond when the term spread is above its full-sample median. All strategies are rebalanced monthly and based on the longest common sample for each pair of indices. Short-term bond indices include bonds with 1–3 year maturities, intermediate-term indices include bonds with 3–10 year maturities, and long-term indices include bonds with maturities longer than 10 years. The US government and credit indices data start from 1976, the global ex-US government indices data start from 1985, and the global ex-US corporate indices data start from 1999. All data are monthly through December 2023 and provided by Bloomberg and FTSE.

Next, we examine mean reversion in credit premiums by constructing strategies that adjust allocations between government and credit bonds within the same region and maturity bucket based on trailing credit premiums. Each month, if the trailing credit premium is above its full-sample median, the allocation is set to 75% in government bonds and 25% in credit bonds in anticipation of a lower credit premium; otherwise, the strategy switches to 25% in government bonds and 75% in credit bonds.

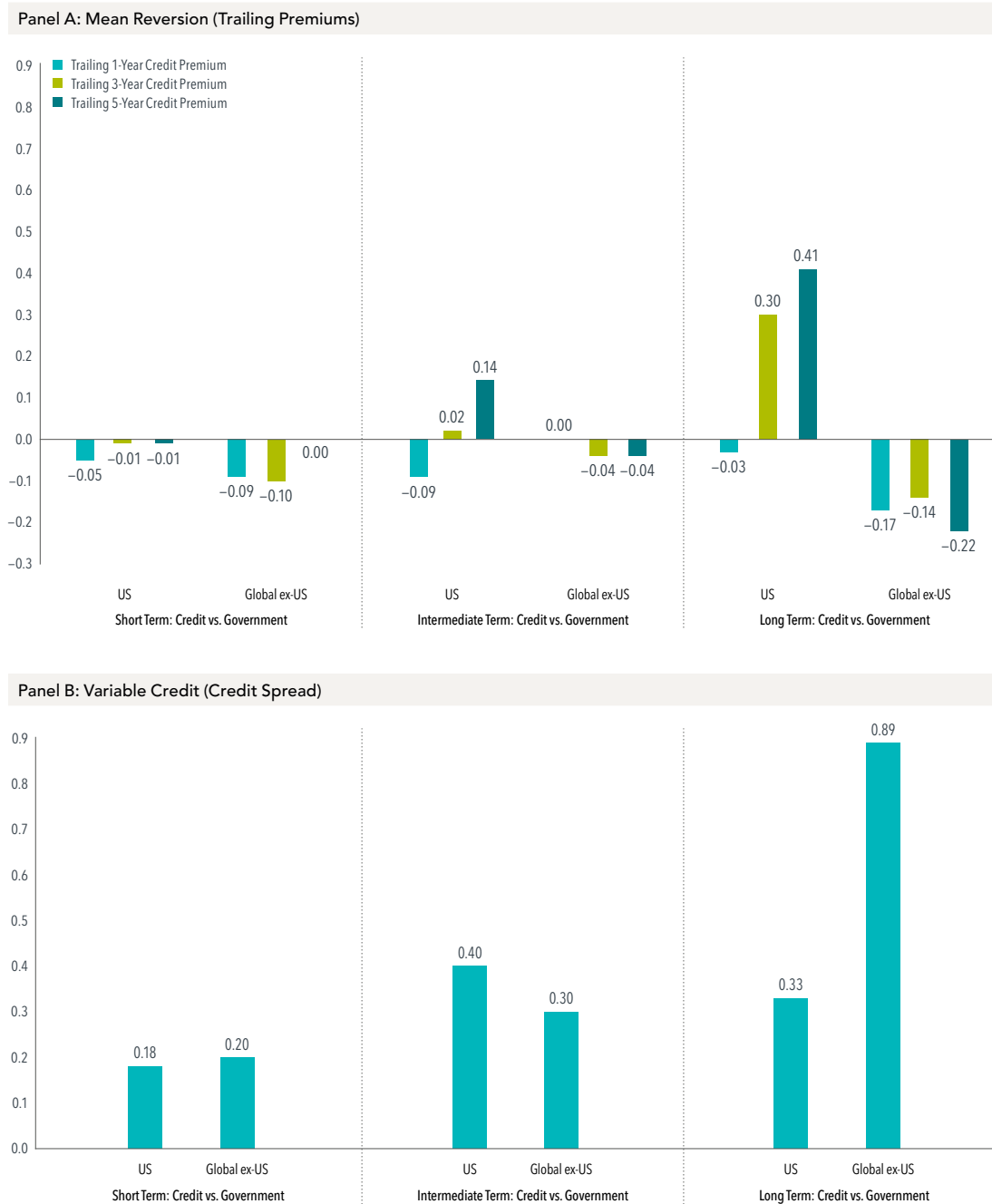
Exhibit 2, Panel A shows 13 out of 18 credit premium mean reversion strategies underperformed their respective 50/50 benchmarks, with an average excess return of -0.08% per year. The small subset of strategies that outperformed were isolated to the longer end of the maturity range.

Similar to the variable maturity approach, we also examine a “variable credit” approach that uses the information in current credit spreads about expected credit premiums. When the current credit spread is below (above) its full-sample median, the variable credit strategies allocate 75% (25%) to government bonds and 25% (75%) to credit bonds. As shown in **Exhibit 2, Panel B**, the variable credit approach is much more consistent than the mean reversion strategies—all simulations outperformed their respective 50/50 benchmarks, with annualized excess returns ranging from 0.18% to 0.89% . This again suggests that using current market information—the prevailing credit spread, in this case—is a more reliable way to improve performance than relying on past premiums.

Consistent with these simulation results, our regression analysis further confirmed that the statistical relation between past premiums and future premiums is much weaker than the relation between current yield spreads and future premiums. These results are omitted for brevity.

Overall, the evidence does not support betting on mean reversion in fixed income premiums. In contrast, using real-time market information about term and credit premiums embedded in current yield curves has historically offered a more reliable way for investors to pursue higher expected returns.

EXHIBIT 2: Annualized Excess Returns (%) of Credit Premium Simulations Relative to 50/50 Benchmark



Past performance, including hypothetical performance, is no guarantee of future results.

Returns in USD. This figure shows the annualized excess returns of mean reversion and variable credit strategies relative to 50/50 benchmarks, which maintain equal allocations between government bonds and credit bonds over time. Mean reversion strategies use trailing credit premiums (over the past one, three, or five years) as trading signals, while variable credit strategies use current credit spreads as trading signals. For the mean reversion approach, the strategy allocates 75% to government bonds and 25% to credit bonds when the trading signal exceeds the full-sample median, reverting to 25% government/75% credit when the trading signal is below the median. For the variable credit approach, the strategy allocates to 75% government bonds and 25% to credit bonds when the credit spread is below its full-sample median, reverting to 25% government/75% credit when the credit spread is above its full-sample median. All strategies are rebalanced monthly and based on the longest common sample for each pair of indices. Short-term indices include bonds with 1-3 year maturities, intermediate-term indices include bonds with 1-10 year maturities, and long-term indices include bonds with maturities longer than 10 years. For the US government and credit markets, short-term indices data start from 1976, while intermediate-term and long-term indices data start from 1973. For global ex-US government and corporate markets, all data start from 1999. All data are monthly through December 2023 and provided by Bloomberg.

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