Axioma Factor-based Fixed Income Risk Model

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Powered by proprietary methodologies for issuer classification and modeling issuer spread returns, the Axioma Factor-based Fixed Income Risk Model enables portfolio and risk managers to construct investment portfolios with better control for tracking error and rigorously manage exposure to investment style factors.

Our Approach

The Axioma Factor-based Fixed Income Risk Model combines:

- **Parsimonious factor model**: coverage for spread risk of corporate, foreign currency sovereign (EM, DM), sub-sovereign and supranational bonds in all major and minor currencies for IG and HY

- **Granular key rate factors**: coverage for interest rate risk

- **Granular exchange rate risk factors**

The factor model is derived from a cross-sectional regression on thousands of issuer-level spread returns with Duration Times Spread (DTS)-based factor exposures. The factor structure incorporates:

- Global and regional market factors
- Currency factors
- Quality factors by region
- Sector factors
Style Factors: momentum, value, beta, size and steepness

The factors have been rigorously tested for statistical significance in explaining returns and are comparable to Axioma’s industry-leading equity risk factor models in capturing factor risk.

Figure 1: Risk attribution through time for a US high yield benchmark to the model factors

Key Differentiators:

> **Meaningful risk factors**: Portfolio risk and performance attribution can be derived from statistically significant factors (sector, quality, style, etc.)

> **Style factors as risk model components**: Risk premia returns for style-tilted portfolios can now be captured by systematic factors in the risk model

> **Superior Specific Risk estimation**: Granular bond-level specific risk derived from issuer spread curves is combined with issuer specific risk derived from the parsimonious factor model

> **Risk differentiation across spread regimes**: Beyond DTS, risk is further differentiated across four spread quality categories

> **Model built on Issuer Spread Curves**: Factor return estimation based on 5,000 issuer spread returns; bond exposures generated from 11,000 full term structure issuer spread curves and an additional 6,000 rating-sector-currency-region aggregate curves produced daily
> **Proprietary Issuer Classification System:** New methodology to classify issuers that maximizes the number of relevant bonds used to construct issuer curves, assigns a country and sector of risk, and separates out bonds with different risk characteristics.

**Axioma Factor-based Fixed Income Risk Model can be used for:**

> **Risk Management:** Monitor and manage risk through ex-ante risk decomposition
> **Factor-based Investing:** Construct smart beta strategies and tilt portfolios
> **Index Replication:** Create tracking baskets to replicate broad fixed income indices
> **Factor-based Performance Attribution:** Attribute portfolio performance to the risk factors

**Axioma Factor-based Fixed Income Risk Model is intended for:**

> Fixed Income quant or smart-beta investors
> Quantamental Hedge Funds
> Sell-side quant strategy teams focused on Fixed Income factors
> Fixed Income fund managers pivoting to smart beta strategies
> Investors investigating style biases in Fixed Income strategies
> Asset managers constructing benchmark-tracking ETFs

**Additional Model Details:**

> **Instrument Coverage:** Corporate, foreign and local currency sovereign, sub-sovereign, supranational and covered bonds
> **Extensive history:** More than a 15-year history of monthly fixed income risk factor returns are available for backtesting

**Delivery Method**

This model is available as covariance and exposure matrix files for a user-specified custom universe. Files can be directly imported into the Axioma Portfolio Optimizer™.

**Getting Access**

Please contact your Qontigo sales representative for more details the Axioma Factor-based Fixed Income Model.