Bloomberg SEC Rule 18f-4 Solutions for Funds with Derivatives

Approved in late 2020, SEC Rule 18f-4 is a major update to the regulatory framework for derivative use by registered investment companies. It recognizes the important role that derivatives play for many funds in both portfolio strategy and risk management, and limits the amount of leverage that a fund may obtain through derivatives, based on the calculation of Value-at-Risk (VaR) for the fund as well as for a Designated Reference Portfolio. The rule puts in place a specific risk governance structure, including VaR limits, model backtesting, risk reporting, and a prescriptive program to quickly cure any breaches. To comply, many funds will need to make meaningful changes to their policies, organizational structure, and technology systems.

Rule 18f-4 applies to Mutual funds (other than money market funds), Exchange-traded funds (ETF's), Closed-end funds, and Business development companies. All companies subject to the rule will need to comply within 18 months of the Effective Date of February 19, 2021.

Analytics, data, and governance challenges

Central to SEC Rule 18f-4 is a program requirement: Funds must implement a Derivative Risk Management Program, governed by explicit policies and procedures, and appoint a Derivatives Risk Manager, as a role separate from Portfolio Manager. As part of its derivatives risk management program, the fund must specifically identify and assess its derivatives risks, and conduct stress testing, on at least a weekly basis. Risk reporting and review procedures are also required.

In addition to these risk process requirements, Rule 18f-4 imposes a strict limit on a fund's leverage risk, as measured through a set of prescribed Value-at-Risk (VaR) calculations. The framework requires companies to calculate daily VaR for each fund based on specific settings and data requirement (99% confidence level, 20 day risk horizon, at least 3 years of historical data). Funds must take into account all relevant risks (equity risk, interest rate risk, credit spread risk, foreign currency risk, commodity risk), capture non-linearities in instrument-level valuation, and capture any embedded optionality and volatility risk factors explicitly.

Rule 18f-4 also requires funds, where applicable, to identify and calculate VaR for a Designated Reference Portfolio for the fund. This may be a standard index, a custom or blended index, or the Securities Portfolio of the fund (fund holdings excluding derivatives). Funds must compare the fund VaR with the reference portfolio VaR (relative VaR test). If there is no reference portfolio, funds must compare VaR with the fund net asset value (absolute VaR test).

The rule requires funds to backtest their VaR models daily, based on a 1-day risk horizon. This means that funds need to calculate VaR at two separate horizons: 20 days for the leverage tests, and 1 day for the backtesting.

Rule 18f-4 also imposes a specific process to report and cure any breaches of the leverage limits, with heavier reporting requirements in case of breaches that take longer than 5 days to cure.

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A comprehensive Rule 18f-4 solution

Bloomberg enables investment firms to prepare for and comply with the new requirements through a proven risk system that supports both the general process requirements of Rule 18f-4 and the particular risk and leverage measures specified by the rule.

- **Derivatives Risk Management Program –** Bloomberg offers a full market risk workflow including automatically identifying the risks embedded in the market variables affecting the valuation of any instrument. The system comprehensive in coverage of all asset types and risk types, modeling risk for all instruments representable on the Bloomberg terminal. It also provides firmwide control and audit capability.

- **Market Data –** Bloomberg Risk uses historical time series dating back to before start of the global financial crisis (2007).

- **Stress testing –** Bloomberg offers a comprehensive set of stress test types, including historical stress tests (making use of our extensive time series history), asset class level stress tests, custom stress tests, and predictive stress tests based on correlation. Clients may stress portfolio values or risk characteristics (Greeks).

- **Backtesting –** Bloomberg offers out of the box VaR model backtesting with configurable time horizon. Breaches are identified and the data is stored to enable statistical comparisons.

- **Leverage risk –** Bloomberg calculates VaR for the Relative and Absolute VaR tests fully in accordance with SEC 18f-4 guidance (see table below).

- **Index constituents –** For indices used as Designated Reference Portfolios that need to be modelled at constituent level, Bloomberg provides access to constituent data and integrates it automatically into the VaR workflow.

SEC Rule 18f-4 VaR Model Requirements	Bloomberg VaR Methodology
Include equity risk, interest rate risk, credit spread risk, foreign currency risk and commodity risk	Bloomberg takes all risk types into account by directly bumping all inputs to the pricing model for every instrument. These can be modeled together (total VaR) as well as individually (equity VaR, interest rate VaR, etc.) for granularity and transparency.
Represent nonlinearity, including options and positions with embedded optionality	Bloomberg's full revaluation risk model automatically captures all optionality embedded in any instrument.
The sensitivity of the market value of the fund's investments to changes in volatility	Bloomberg models volatility dependence by taking a full volatility surface or cube as an input (risk factor) for any instrument with optionality. It also allows segmentation of VaR due to volatility and non-volatility for additional granularity and insight.
Use a 99% confidence level and a time horizon of 20 trading days	Bloomberg has configurable risk parameters and an out-of-the-box SEC 18f-4 set-up
Use at least three years of historical market data	Bloomberg market data history goes back to 2007 (pre-credit crisis)

Bloomberg's VaR methodology encompasses all modeling requirements of Rule 18f-4.

Take the next step.

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