

THE BITCOIN BOND COMPANY, PIERRE ROCHARD

Proposal and Comment Information

Title: Enhanced Transparency and Public Accountability of the Supervisory Stress Test Models and Scenarios; Modifications to the Capital Planning and Stress Capital Buffer Requirement Rule, Enhanced Prudential Standards Rule, and Regulation LL, R-1873

Comment ID: FR-2025-0063-01-C06

Submitter Information

Organization Name: The Bitcoin Bond Company

Organization Type: Company

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Submitted Date: 01/20/2026

Re: Docket No. R-1873; RIN 7100-AH05

Please see the attached comment letter and technical annex regarding supervisory scenario design and the treatment of bitcoin as an explicit scenario variable.

Executive summary: (1) Add an explicit bitcoin price series to the published scenario dataset; (2) Calibrate it using bitcoin's historical tail behavior and time-varying correlations; (3) Include/enable a bitcoin shock within the market shock risk factor framework for comparability and transparency.

Re: Docket No. R-1873; RIN 7100-AH05

January 20, 2026

Ann E. Misback
Secretary
Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue NW
Washington, DC 20551

RE: Proposed scenarios for the 2026 supervisory stress tests and the models used to generate the scenarios (comment period ends February 21, 2026)

Comment Letter on Proposed 2026 Supervisory Stress Test Scenarios and Scenario-Generation Models

I write to provide comments on the Federal Reserve Board's proposed scenarios for the 2026 supervisory stress tests and the models used to generate those scenarios, which the Board indicates were designed based on proposed revisions to its Scenario Design Policy Statement. These comments focus on how bitcoin should be reflected in the scenario datasets provided for supervisory stress tests.

Although the broad "crypto" label groups together heterogeneous instruments with very different risk drivers, bitcoin is sufficiently distinct by market structure, liquidity, and value drivers that it should be analyzed and stress-tested on its own merits as a standalone global macro asset.

Bitcoin's risk profile is unusually idiosyncratic and materially non-linear: it has experienced repeated, deep peak-to-trough drawdowns and sustained periods of very high realized volatility. Its co-movement with other macro-financial variables is also time-varying, including changing correlations with U.S. equities and market-implied volatility.

Accordingly, I recommend that the Board include bitcoin price as an explicit scenario variable quantitatively calibrated to its historical behavior. This would enable firms with direct or indirect exposures to map scenario paths into valuation, P&L, margin, liquidity, and counterparty models without relying on inconsistent ad hoc assumptions.

Summary of Recommendations

	Why it matters	Practical implementation detail
Add bitcoin price (USD) as an explicit scenario variable	Captures a major, standalone market risk driver with high tail risk; reduces model divergence across firms with exposures.	Provide quarterly paths for baseline/adverse/severely adverse scenarios and (optionally) daily paths for global market shock datasets.
Calibrate bitcoin stress paths using robust historical features	Bitcoin exhibits fat tails, high volatility, and large drawdowns that are not implied by standard equity/FX shocks.	Calibrate to drawdown and volatility distributions (e.g., peak-to-trough and realized vol percentiles) with scenario-consistent conditioning on risk aversion.

Tail risk, volatility, and non-linear drawdowns

Using publicly available daily bitcoin price data (2015–2026) and standard return-based risk measures, bitcoin’s historical behavior differs sharply from conventional broad-market benchmarks:

- ❖ Annualized realized volatility is approximately 73.3% over the sample, versus 18.1% for the S&P 500 over the overlapping period.
- ❖ Peak-to-trough drawdowns have been extreme: the maximum drawdown since 2015 was -83.8% (Exhibit 2).
- ❖ Daily return tails are wide: the 1st and 99th percentiles are about -10.0% and 10.7% (Exhibit 1 and Annex A).

For supervisory stress testing, these properties matter because they affect valuations, initial and variation margin, counterparty exposures, client activity, and liquidity demands in ways that cannot be reliably inferred from other scenario variables.

Time-varying dependence and changing correlations

Bitcoin’s dependence structure with other macro-financial variables is unstable. Over rolling 90-observation windows, the correlation between bitcoin returns and S&P 500 returns has ranged from negative to strongly positive (Exhibit 3), while its correlation with changes in the VIX has also shifted materially over time.

This time variation is important for scenario design: a fixed “beta” mapping from equities (or risk sentiment) to bitcoin will understate risk in some regimes and overstate it in others. Including bitcoin as an explicit scenario variable reduces this modeling ambiguity and improves comparability across firms’ stress estimates.

Why an explicit bitcoin variable improves the scenario datasets

The Board's scenario datasets are widely used as common inputs to valuation and risk models. Where a market variable is omitted, firms must select their own proxy mappings, which can introduce non-comparability and undermine the goal of consistent stress testing.

Bitcoin is now sufficiently integrated into mainstream market infrastructure (including regulated exchange-traded products) that its price path can be a material driver of market risk and counterparty risk for some firms. Making bitcoin explicit in the datasets promotes transparency, reproducibility, and consistent scenario translation where exposures exist without imposing any burden on firms with no exposure (they can set exposure to zero).

Suggested calibration approach

A practical approach is to define a bitcoin price variable in USD and generate paths that are scenario-consistent and empirically grounded. The Board could adopt any of the following calibration methods (not mutually exclusive):

1. Historical feature matching: calibrate severe stress paths to historical peak-to-trough drawdowns and realized-volatility percentiles, optionally conditioned on elevated risk aversion (e.g., VIX regimes).
2. Regime-switching time-series model: estimate bull/bear regimes with different volatilities and drift and simulate scenario-consistent paths with regime probabilities tied to macro-financial conditions.
3. Jump-diffusion with stochastic volatility: explicitly represent jump risk and time-varying volatility; calibrate jump sizes/frequencies to historical data and stress conditioning.

Importantly, the calibration goal is not to forecast bitcoin, but to supply a consistent and severe, but plausible, path that stress tests can translate into market and counterparty outcomes. Exhibits 1–4 provide empirical reference points that can anchor such calibration.

Addressing potential counterarguments

Potential concerns can be addressed without sacrificing transparency:

- Materiality varies across firms: true but the scenario dataset should be general. Firms without exposure can ignore the variable; firms with exposure can map it consistently.
- Data quality and venue dispersion: use well-documented public sources and publish the data provenance and transformation rules (e.g., end-of-day conventions, missing values).

- Over-complexity: adding a single price variable is a small change relative to the benefit of reducing ad hoc proxy assumptions across firms.

Conclusion

In summary, bitcoin's historical volatility, tail behavior, and time-varying correlations support including bitcoin price as an explicit scenario variable in the supervisory stress test scenario datasets. Doing so would improve transparency, comparability, and risk capture while remaining implementable and data driven.

Respectfully submitted,

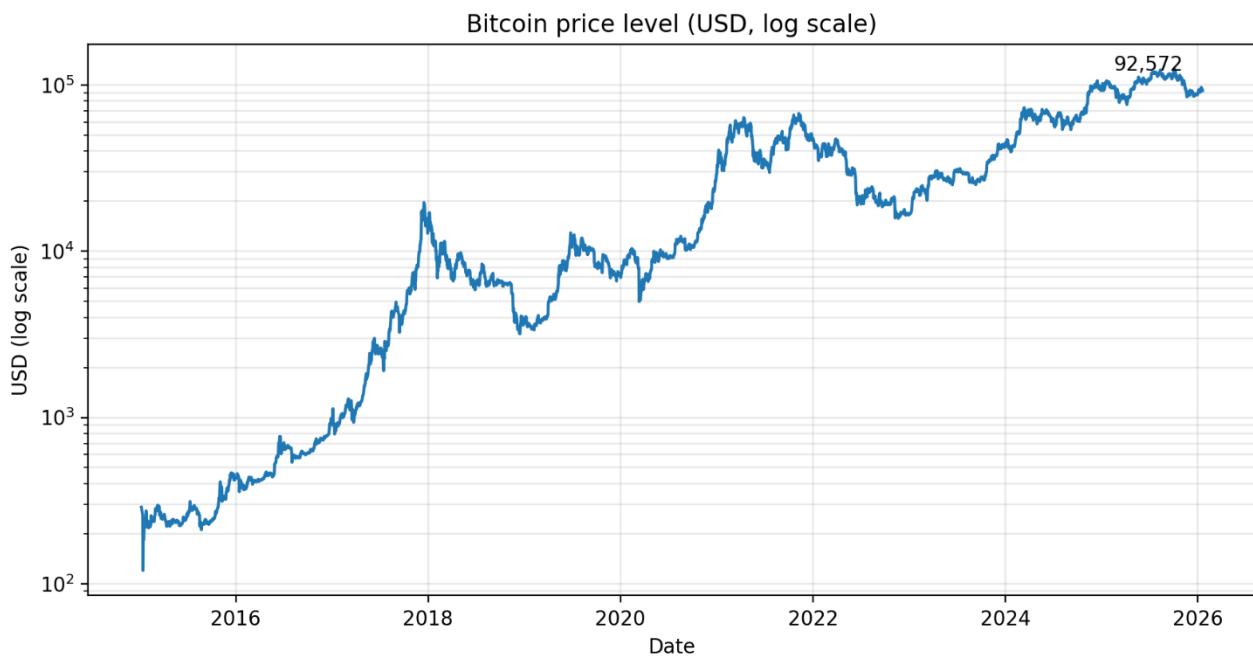
Pierre Rochard

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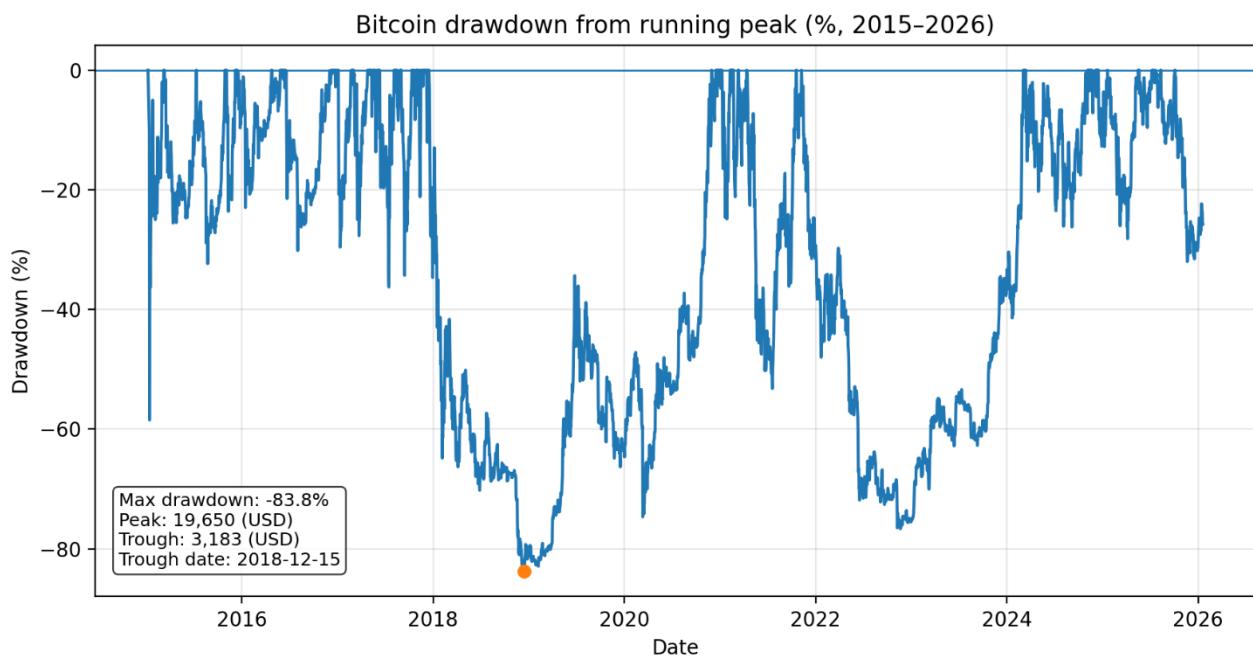
Exhibits

Exhibit 1. Bitcoin price level (USD, log scale)



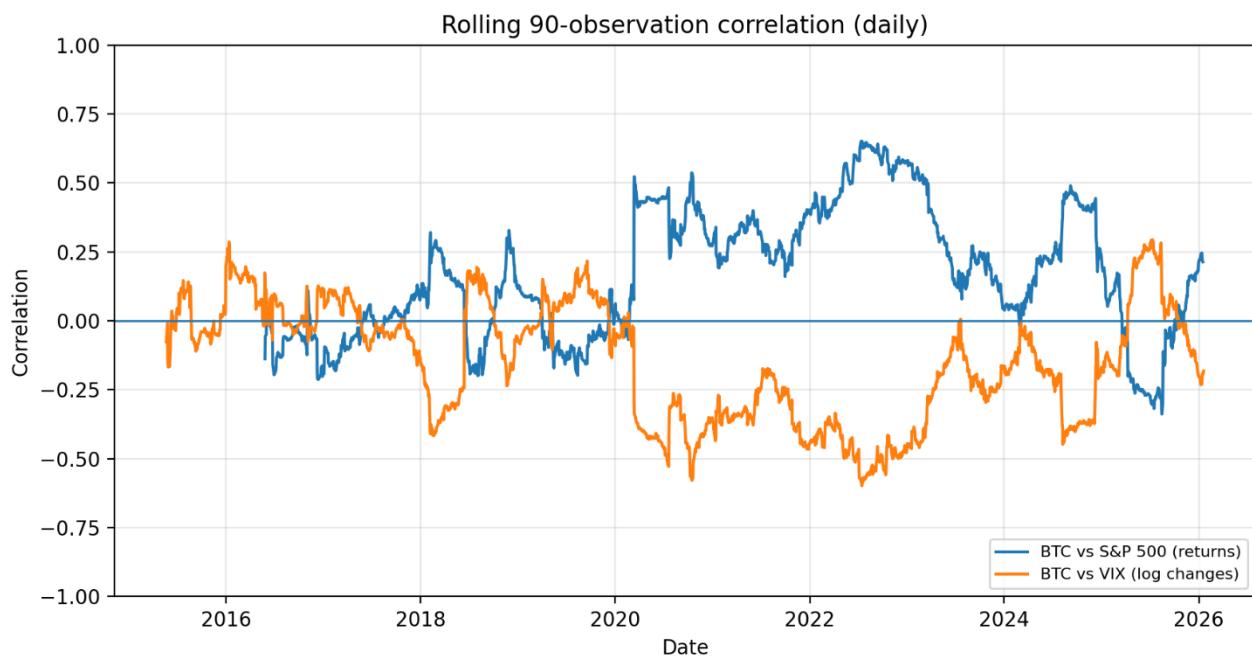
Source: Author calculations using FRED table data for Coinbase Bitcoin (CBBTCUSD), S&P 500 (SP500), and CBOE VIX (VIXCLS). See Annex A for citations and methodology.

Exhibit 2. Bitcoin drawdown from running peak



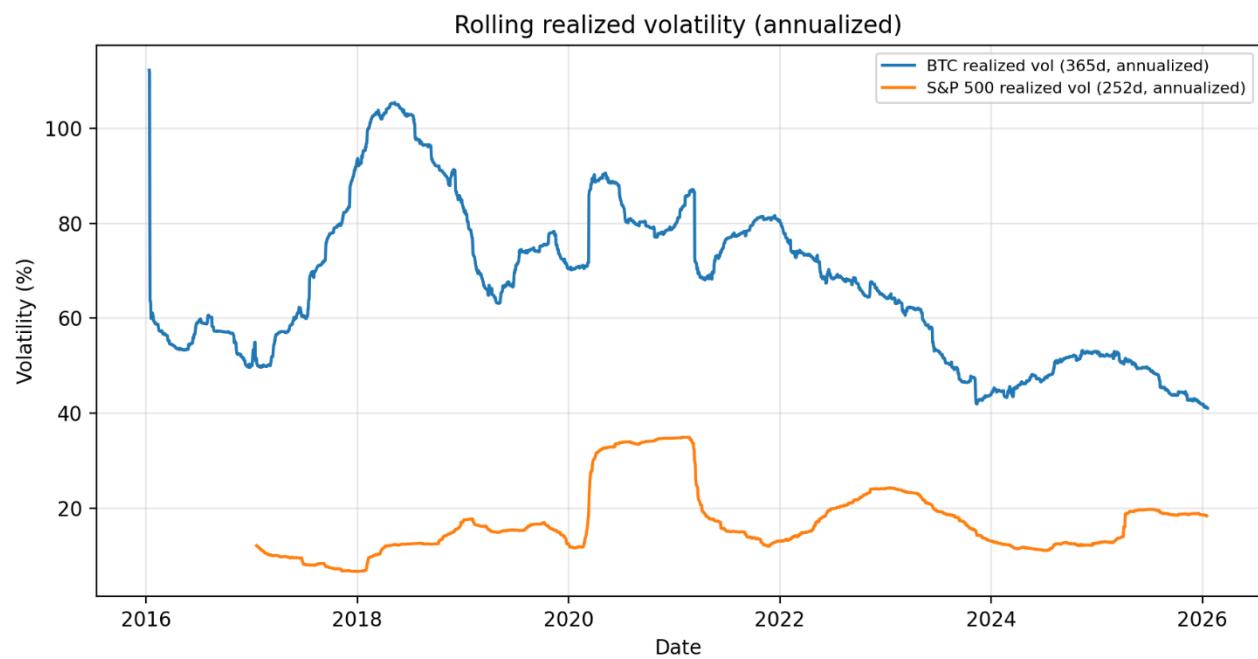
Source: Author calculations using FRED table data for Coinbase Bitcoin (CBBTCUSD), S&P 500 (SP500), and CBOE VIX (VIXCLS). See Annex A for citations and methodology.

Exhibit 3. Rolling correlations (bitcoin vs equities and implied volatility)



Source: Author calculations using FRED table data for Coinbase Bitcoin (CBBTCUSD), S&P 500 (SP500), and CBOE VIX (VIXCLS). See Annex A for citations and methodology.

Exhibit 4. Rolling realized volatility (bitcoin vs equities)



Source: Author calculations using FRED table data for Coinbase Bitcoin (CBBTCUSD), S&P 500 (SP500), and CBOE VIX (VIXCLS). See Annex A for citations and methodology.

Annex A. Data, methodology, and key statistics

Data sources and transformations used for Exhibits 1–4:

- a. Bitcoin price: FRED series CBBTCUSD (Coinbase Bitcoin), daily, end-of-day convention as described in series notes.
- b. Equities benchmark: FRED series SP500 (S&P 500), daily close (10-year history).
- c. Implied volatility: FRED series VIXCLS (CBOE Volatility Index: VIX), daily close.

Methodology: Returns are computed as log differences of consecutive available observations. Rolling correlations use 90 observations. Realized volatility is computed as the rolling standard deviation of daily log returns, annualized by $\sqrt{365}$ for bitcoin and $\sqrt{252}$ for the S&P 500. Drawdowns are computed relative to the running peak in the bitcoin price series.

Key statistics (computed from sample data)

Metric	Value
Sample period (BTC)	2015-01-08 to 2026-01-19
Annualized volatility (BTC, std of log returns $\times \sqrt{365}$)	73.3%
Max drawdown (BTC, peak-to-trough)	-83.8%
Daily return: 1st percentile (BTC)	-10.0%
Daily return: 99th percentile (BTC)	10.7%
Rolling correlation (BTC vs S&P 500 returns): 5th / 50th / 95th pct (90 obs)	-0.18 / 0.15 / 0.57
Rolling correlation (BTC vs VIX log changes): 5th / 50th / 95th pct (90 obs)	-0.48 / -0.13 / 0.17
Annualized volatility (S&P 500, std of log returns $\times \sqrt{252}$)	18.1%
Daily return: 1st percentile (S&P 500)	-3.34%
Daily return: 99th percentile (S&P 500)	2.64%

Annex B. Selected sources

- Federal Reserve Board – Proposed scenarios for 2026 supervisory stress tests and the models used to generate the scenarios (proposal page and submission instructions).
 - <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20251218a.htm>
- Federal Reserve Board – Extension of comment period and background materials related to enhanced transparency and public accountability for supervisory stress tests (PDF).
 - <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20251218a1.pdf>
- Federal Reserve Board – Stress tests transparency and public accountability memo (background).
 - <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20251218a2.pdf>
- FRED – Coinbase Bitcoin (CBBTCUSD) series page and suggested citation.
 - <https://fred.stlouisfed.org/series/CBBTCUSD>
- FRED – S&P 500 (SP500) series page and licensing notice.
 - <https://fred.stlouisfed.org/series/SP500>
- FRED – CBOE Volatility Index: VIX (VIXCLS) series page and suggested citation.
 - <https://fred.stlouisfed.org/series/VIXCLS>
- IMF blog – Discussion of changing correlations involving bitcoin and broader markets.
 - <https://www.imf.org/en/Blogs/Articles/2022/01/11/crypto-prices-move-more-in-sync-with-stocks-posing-new-risks>
- Empirical research – Bitcoin and geopolitical risk (peer-reviewed study).
 - <https://www.sciencedirect.com/science/article/pii/S1544612323001414>
- SEC – Statement related to approval of spot bitcoin exchange-traded products (market structure and integration context).
 - <https://www.sec.gov/newsroom/speeches-statements/gensler-statement-spot-bitcoin-011024>