GARCH Volatility Forecasting Report – PLTR

Period analyzed: 6mo | Model: GARCH(1,1) | Forecast horizon: 7 trading days

1. Objective

Forecast short-term stock return volatility using a GARCH(p,q) model and provide clear visuals for upcoming risk. Where possible, evaluate forecast quality against a simple EWMA(0.94) benchmark using QLIKE loss (lower is better).

2. Data

Data source: Yahoo Finance (adjusted close). Returns are daily log returns expressed in percent. Volatility figures shown are daily standard deviations in percent.
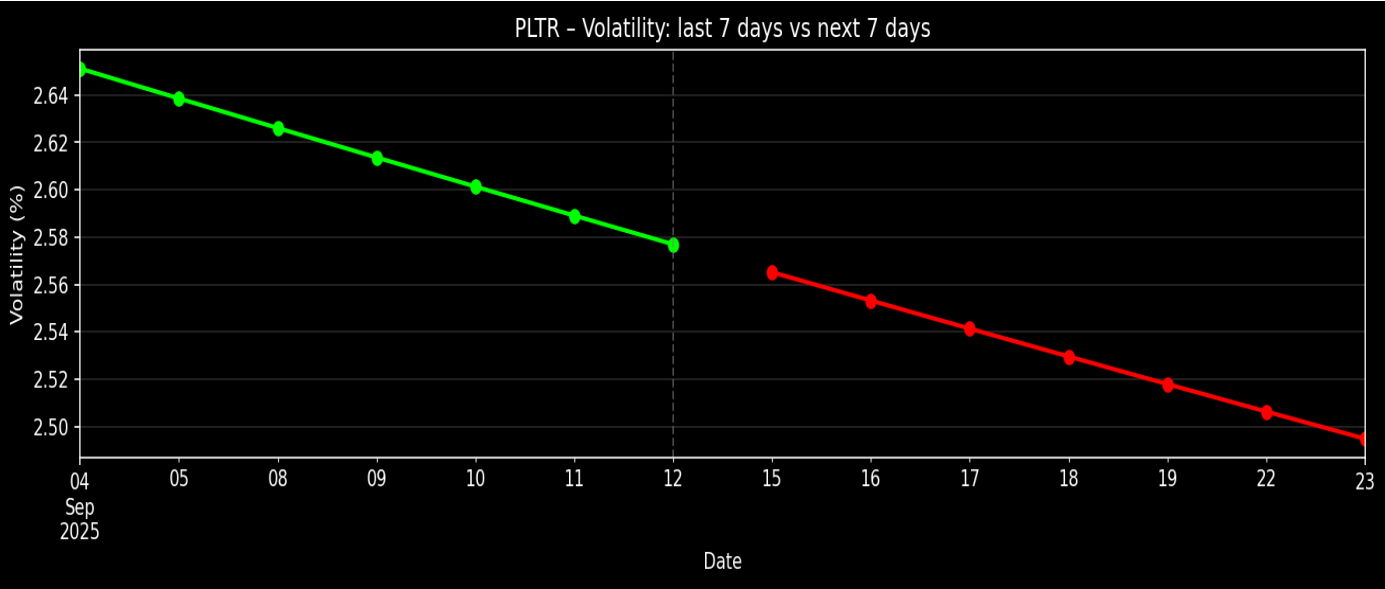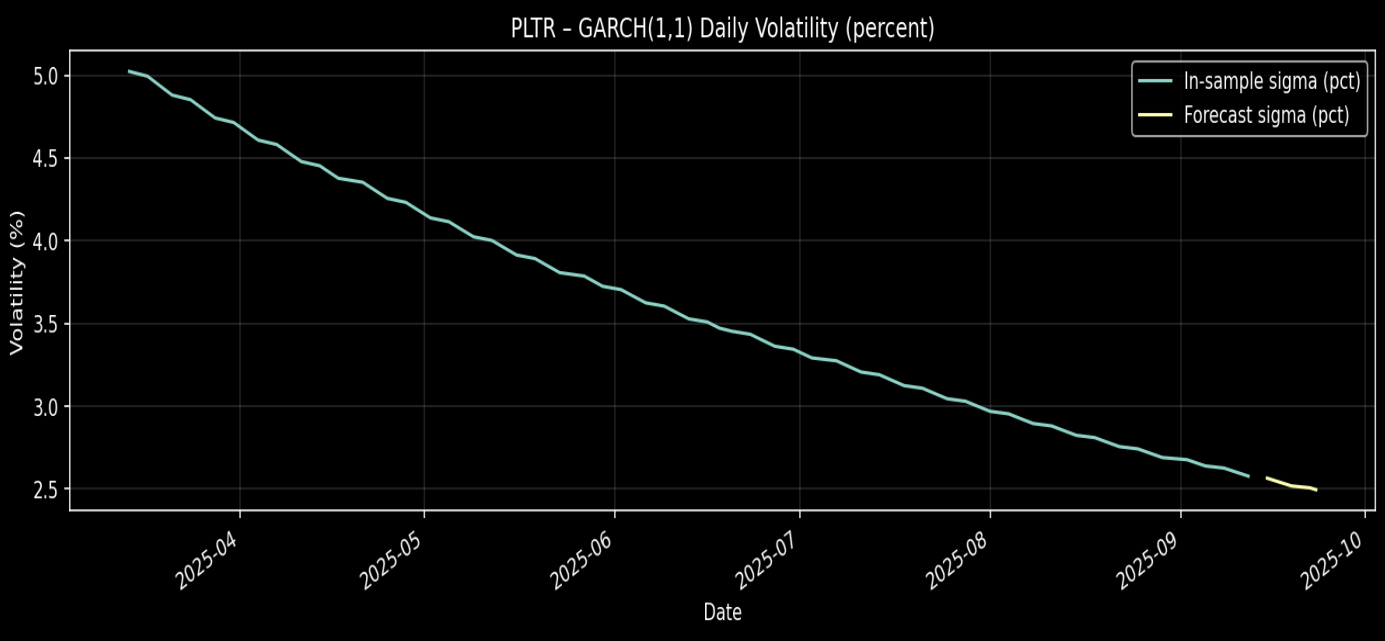
3. Model Selection

Model orders (p,q) guided by ACF/PACF diagnostics of (squared) returns and BIC search. Chosen specification: GARCH(1,1).

4. Forecasts

Date	In-sample daily vol (%)
2025-09-08	2.626%
2025-09-09	2.614%
2025-09-10	2.601%
2025-09-11	2.589%
2025-09-12	2.577%

Date	Forecast daily vol (%)
2025-09-15	2.565%
2025-09-16	2.553%
2025-09-17	2.541%
2025-09-18	2.530%
2025-09-19	2.518%
2025-09-22	2.506%
2025-09-23	2.495%

PLTR – GARCH(1,1) Daily Volatility (percent)

PLTR – Volatility: last 7 days vs next 7 days

5. Backtest (1-day ahead, QLIKE)

Rolling re-fit with 1-day-ahead variance forecasts. Benchmark: EWMA(0.94). Evaluation metric: QLIKE

Metric	GARCH	EWMA(0.94)
Average QLIKE	-5.984758	-5.941006

Figure: PLTR – Rolling 1D Volatility: Realized vs Forecasts (QLIKE evaluation)
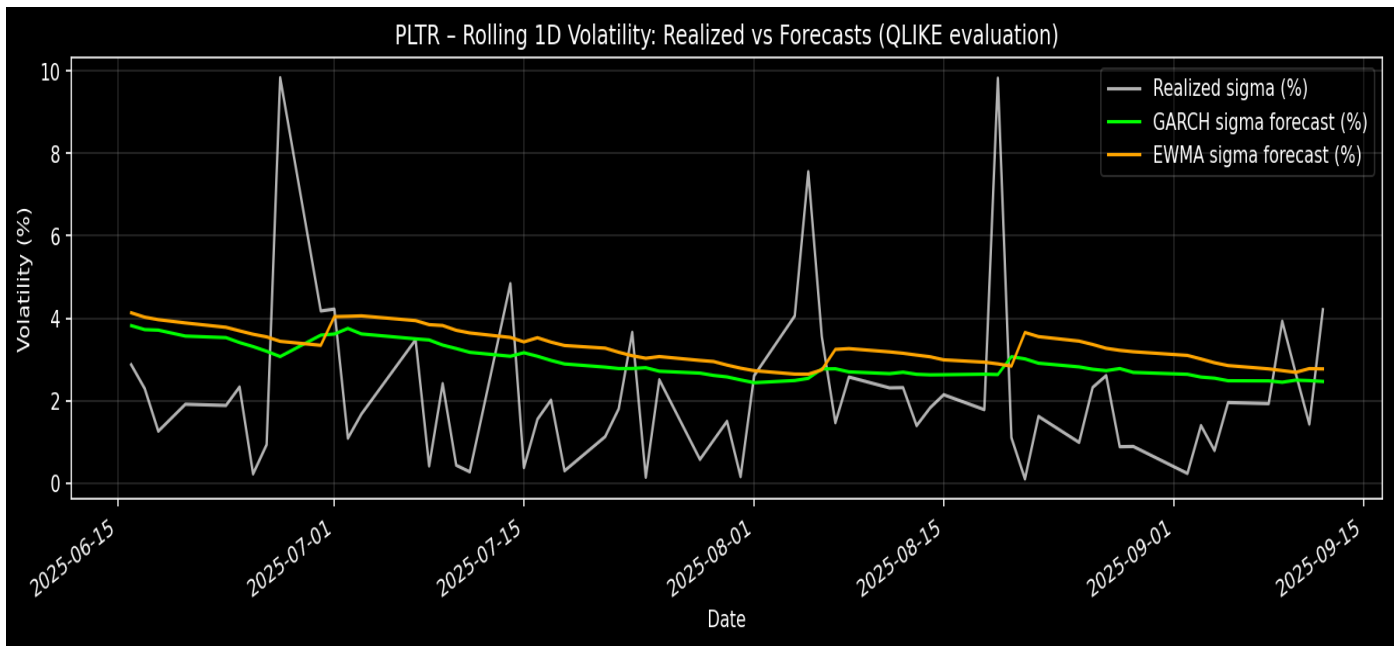
6. Takeaways

Predicted volatility (next days): 2025-09-15: 2.565%; 2025-09-16: 2.553%; 2025-09-17: 2.541%.
GARCH outperformed EWMA on QLIKE (-5.984758 vs -5.941006).
GARCH provides time-varying daily volatility estimates useful for risk sizing, derivatives, and portfolio optimisation. Forecasts are in daily %; results depend on asset and lookback window.