

## ECON UPDATE

## RISK MONITOR

## Daily MNT Exchange-Rate Risk Monitor

USD, EUR, CNY and RUB appreciation and depreciation risk

2026-09-25

## What VaR means

**Value at Risk (VaR)** is a threshold for an unusually large one-day exchange-rate movement. A 95% upper-tail VaR is a level that daily appreciation is estimated to exceed on about 5% of days. The lower-tail VaR applies the same idea to depreciation. VaR is not a maximum possible movement and is not a point forecast.

Rates are quoted as MNT per unit of foreign currency. Positive growth means foreign-currency appreciation and MNT depreciation; negative growth means foreign-currency depreciation and MNT appreciation.

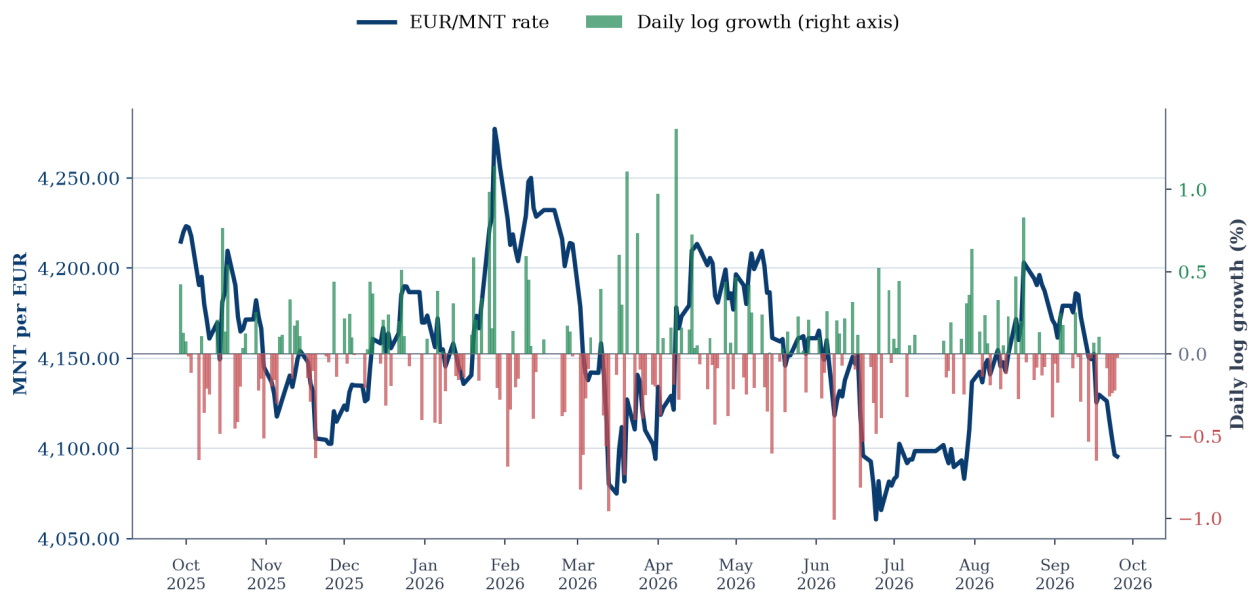
## Latest observations and growth

The table compares the latest three published weekday observations with the latest available observations on or before one month and one year earlier. Growth rates are log changes ending on the latest report date.

| Currency | Latest  | Previous | 1 month ago | 1 year ago | Daily growth | Monthly growth | Yearly growth |
|----------|---------|----------|-------------|------------|--------------|----------------|---------------|
| EUR      | 4095.52 | 4096.48  | 4190.61     | 4217.43    | -0.0234%     | -2.2953%       | -2.9332%      |

## EUR/MNT

## EUR/MNT exchange rate and daily growth



## Current one-day tail thresholds

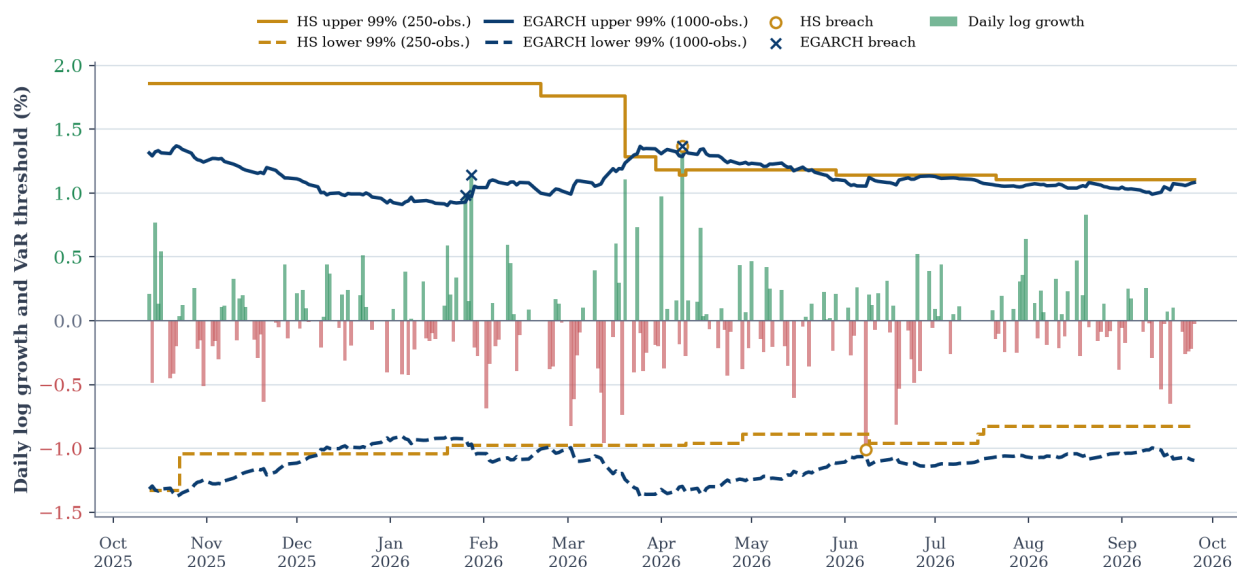
Current reference rate: **4095.52 MNT per EUR**. The implied-rate columns convert each return threshold into a next-day exchange-rate level using current rate  $\times \exp(\text{threshold})$ . They are rate levels, not portfolio losses.

| Method                | Level | Dep. return | Dep. MNT rate | App. return | App. MNT rate |
|-----------------------|-------|-------------|---------------|-------------|---------------|
| Historical Simulation | 95%   | 0.5342%     | 4073.7        | 0.5873%     | 4119.64       |
|                       | 99%   | 0.8272%     | 4061.78       | 1.1086%     | 4141.17       |
| EGARCH(1,1)-t         | 95%   | 0.5729%     | 4072.13       | 0.5592%     | 4118.49       |
|                       | 99%   | 1.0804%     | 4051.51       | 1.0667%     | 4139.44       |

## Combined 99% backtest

Green and red bars show realized daily growth. Amber step lines are Historical Simulation limits; navy lines are EGARCH limits. Solid lines are appreciation thresholds and dashed lines are depreciation thresholds. Amber circles and navy crosses identify model-specific breaches.

### EUR/MNT — 99% VaR backtest over 250 forecast days



## Backtesting summary

Each forecast uses only information available before the forecast date. The Historical Simulation limits use a rolling 250-observation window, while EGARCH is re-estimated with a rolling 1000-observation window. The table covers the latest 250 forecast days.

| Currency | Model                 | Tail         | Level | Breaches | Breach rate |
|----------|-----------------------|--------------|-------|----------|-------------|
| EUR      | Historical Simulation | Depreciation | 95%   | 10/250   | 4.0%        |
| EUR      | Historical Simulation | Appreciation | 95%   | 7/250    | 2.8%        |
| EUR      | Historical Simulation | Depreciation | 99%   | 1/250    | 0.4%        |
| EUR      | Historical Simulation | Appreciation | 99%   | 1/250    | 0.4%        |
| EUR      | EGARCH(1,1)-t         | Depreciation | 95%   | 8/250    | 3.2%        |
| EUR      | EGARCH(1,1)-t         | Appreciation | 95%   | 11/250   | 4.4%        |
| EUR      | EGARCH(1,1)-t         | Depreciation | 99%   | 0/250    | 0.0%        |
| EUR      | EGARCH(1,1)-t         | Appreciation | 99%   | 3/250    | 1.2%        |

## Methodology

**Historical Simulation.** For every forecast date, the method takes the previous 250 weekday returns and uses their empirical lower and upper quantiles as one-day tail thresholds. The backtest rolls this window forward one day at a time without using future observations.

**EGARCH.** For every forecast date, an EGARCH(1,1) model with standardized Student-t innovations is estimated from the previous 1000 weekday returns. EGARCH allows conditional volatility to change over time and allows positive and negative shocks to affect volatility differently.

**Source:** Bank of Mongolia.

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## ECON UPDATE

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