

November 2025

FX Market Structure Monthly

CHANGES IN SPREAD AND VOLATILITY FOR MAJOR MARKET PAIRS

Although November came with some notable macro noise, including the Fed's recent rate cut, FX market trading conditions remained relatively stable and uneventful. Spread and volatility levels were in line with historical ranges, however, we observed that the average spread levels during the pre-WMR trading period (12:00-16:00 GMT) this month decreased relative to October for all currency pairs. This is the first time we observed a widespread drop in spreads during the market's key trading window. Average volatility levels did not follow.

READING THE RESULTS

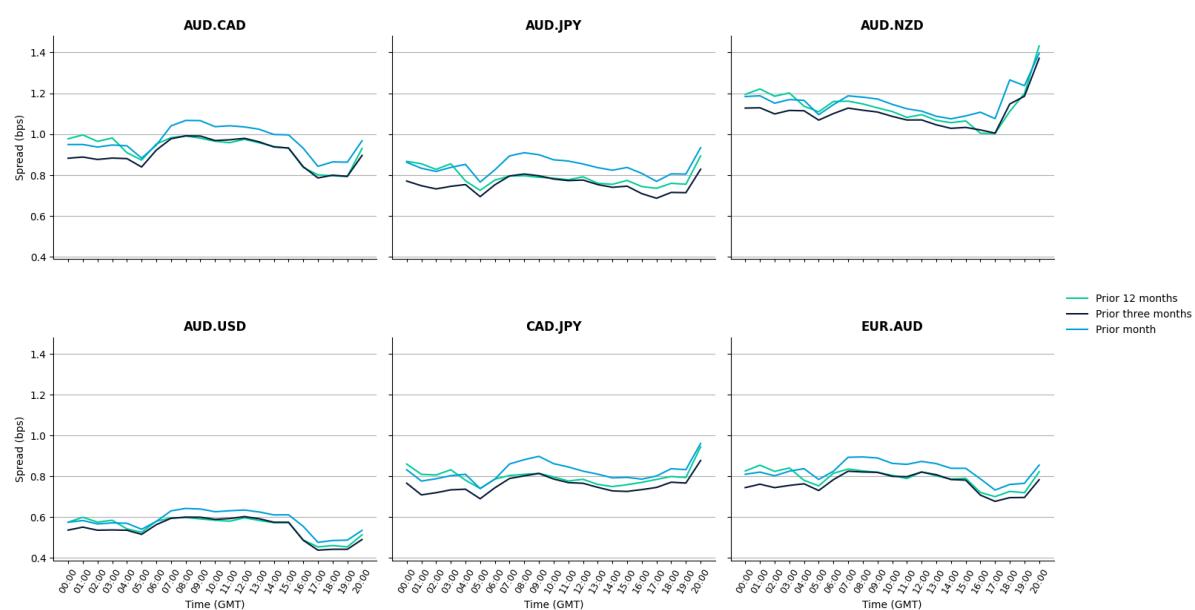
On the intraday charts, the green line represents the average spread or volatility for the past 12 months, the black line represents the past three months, and the blue line represents the past month. On the daily charts, the green area represents the 95th percentile confidence interval for the spread and volatility.

SPREADS

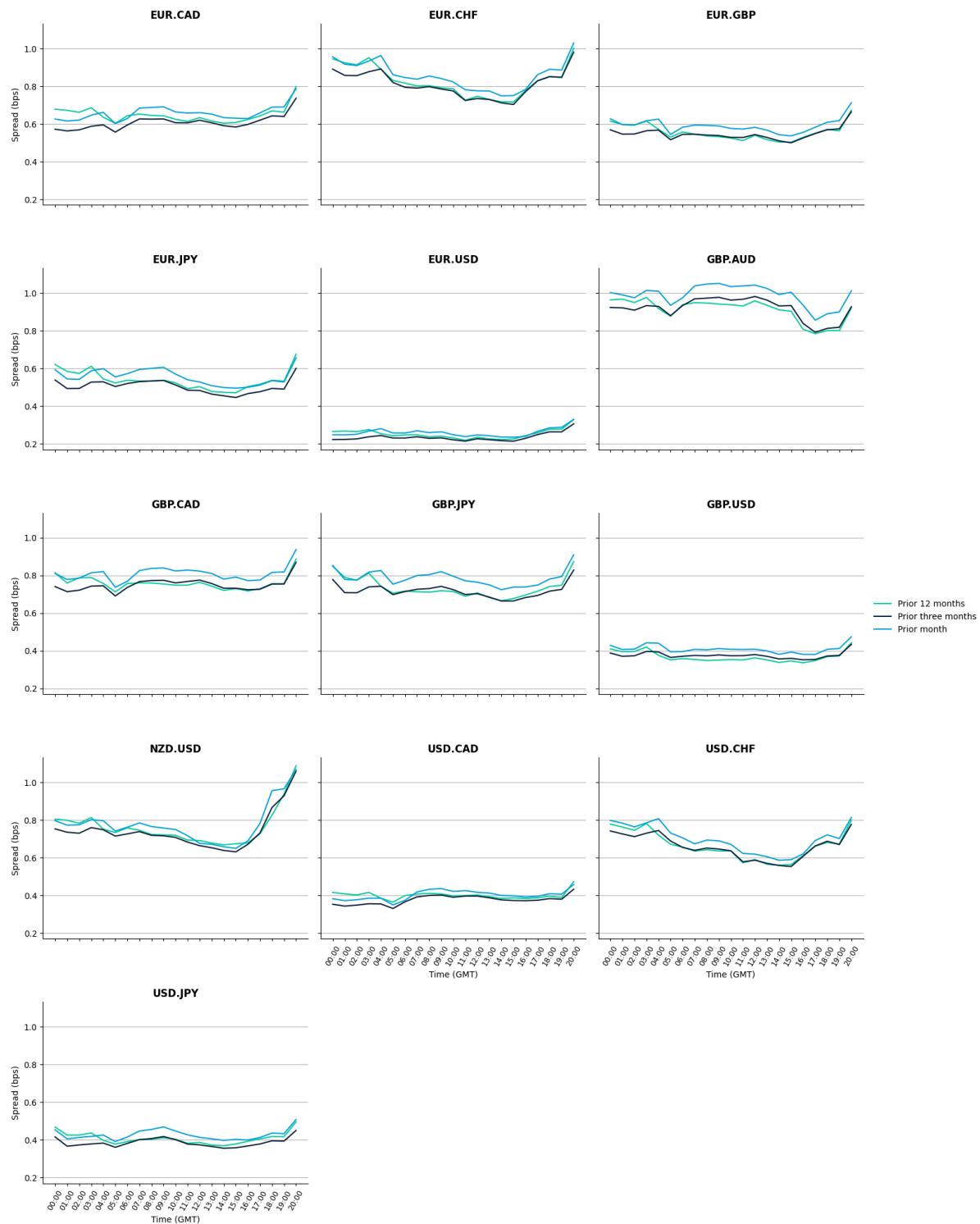
As shown in the Average Daily Spread charts, November's median spread during the pre-WMR trading window, (12:00-16:00 GMT), decreased for all 23 pairs we monitor. The drop was small, reversing the gradual increasing trend we have seen for the past two months. From the below charts, intra-day spreads for most pairs remain slightly higher than three or 12 months ago. Turning outside of London desk hours, the increases we saw in the pre-WMR window extended into New York hours where spreads traded wider for all but six pairs.

G-10 Currency Pairs: Average Hourly Spread, 00:00-20:00 GMT

Comparison over the past month, three months, and year



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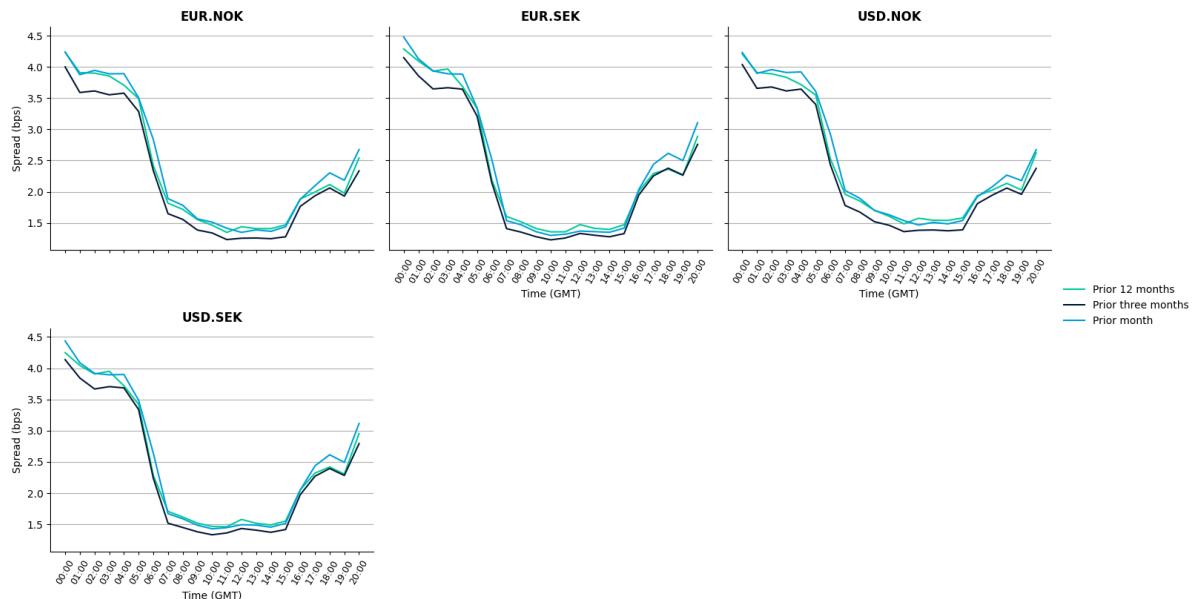


All chart sources: Virtu Financial, 2025. Spread and volatility calculations are derived from sources that Virtu believes to be reliable, but Virtu does not make any claims to its accuracy. USD.NOK, USD.SEK, EUR.NOK and EUR.SEK are shown in separate exhibits.



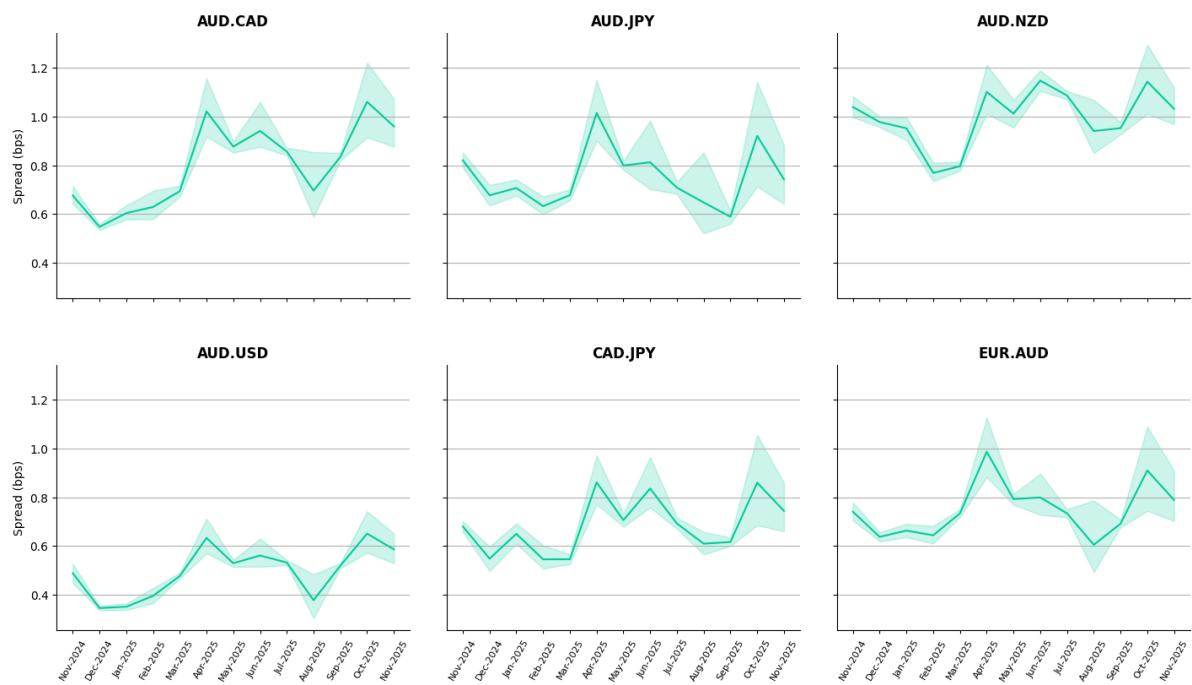
Scandinavian G-10 Currencies: Average Hourly Spread, 00:00-20:00 GMT

Comparison over the past month, three months, and year



G-10 Currencies: Average Daily Spread, 12:00-16:00 GMT

November 2024 – November 2025



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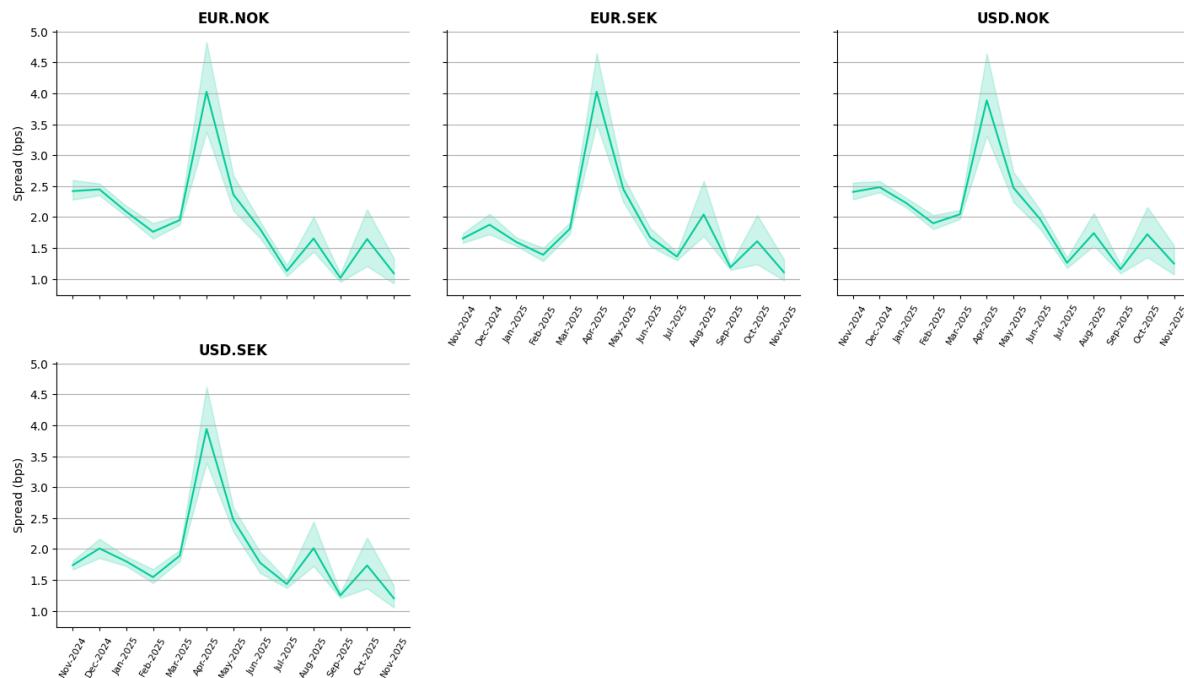


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Scandinavian G-10 Currencies: Average Daily Spread, 12:00-16:00 GMT

November 2024 – November 2025



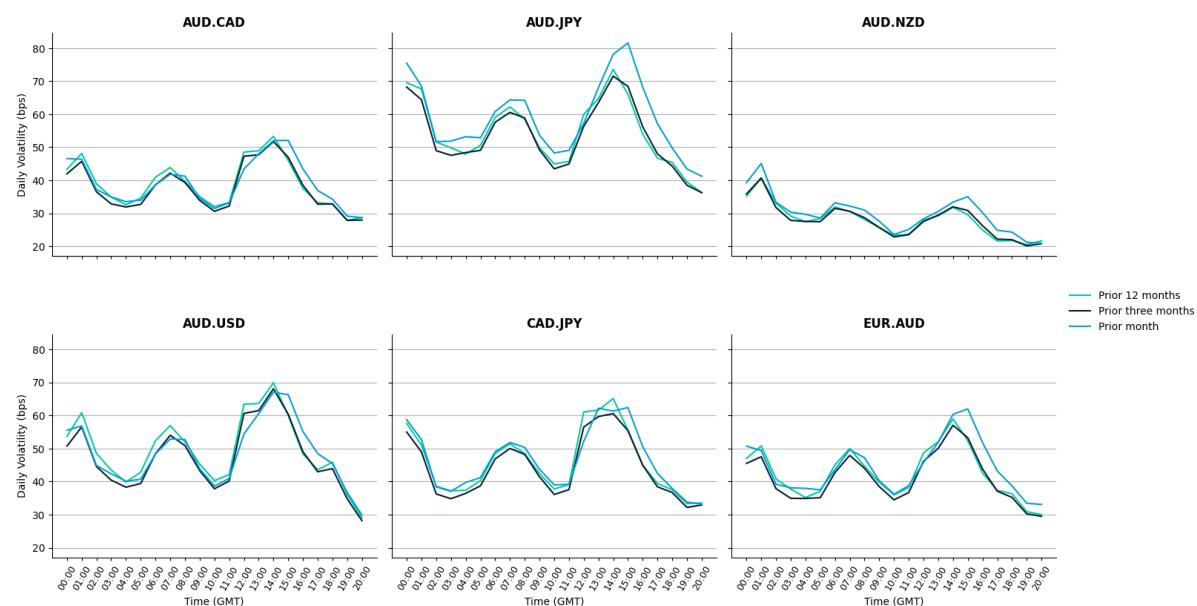


VOLATILITY

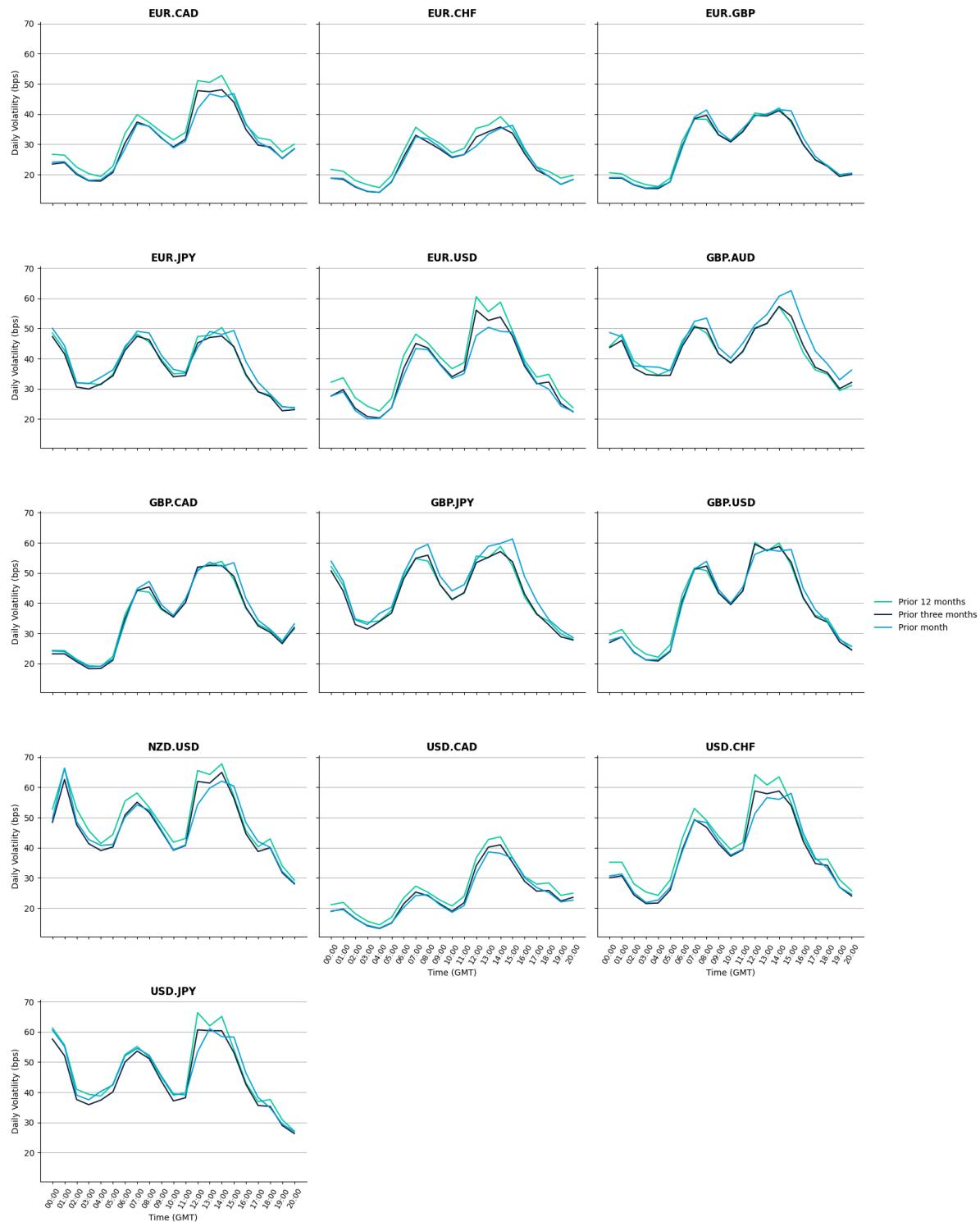
Median volatility levels increased in November for 11 of the 23 G-10 FX currency pairs we monitor. Volatility for all six AUD pairs increased from October but as the Daily Volatility Charts show, daily volatility remains within its recent range. The Average Hourly Volatility charts show that volatility levels in November remained consistent with historical levels, when comparing against three and twelve months ago. Consistent with that observation, on an intra-day basis, we observe that volatility seemed to increase around 15:00 GMT extending into New York desk hours for the AUD pairs. Note the increase is modest, and some pairs may have limited liquidity after the WMR auction.

G-10 Currencies: Average Hourly Volatility, 00:00-20:00 GMT

Comparison over the past month, three months, and year



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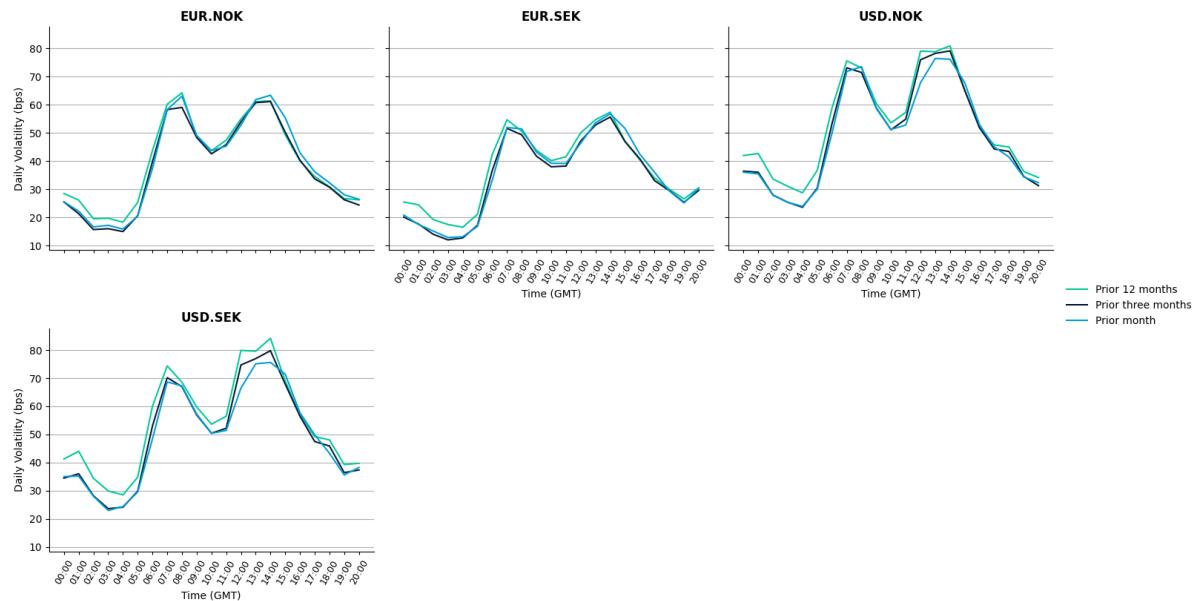


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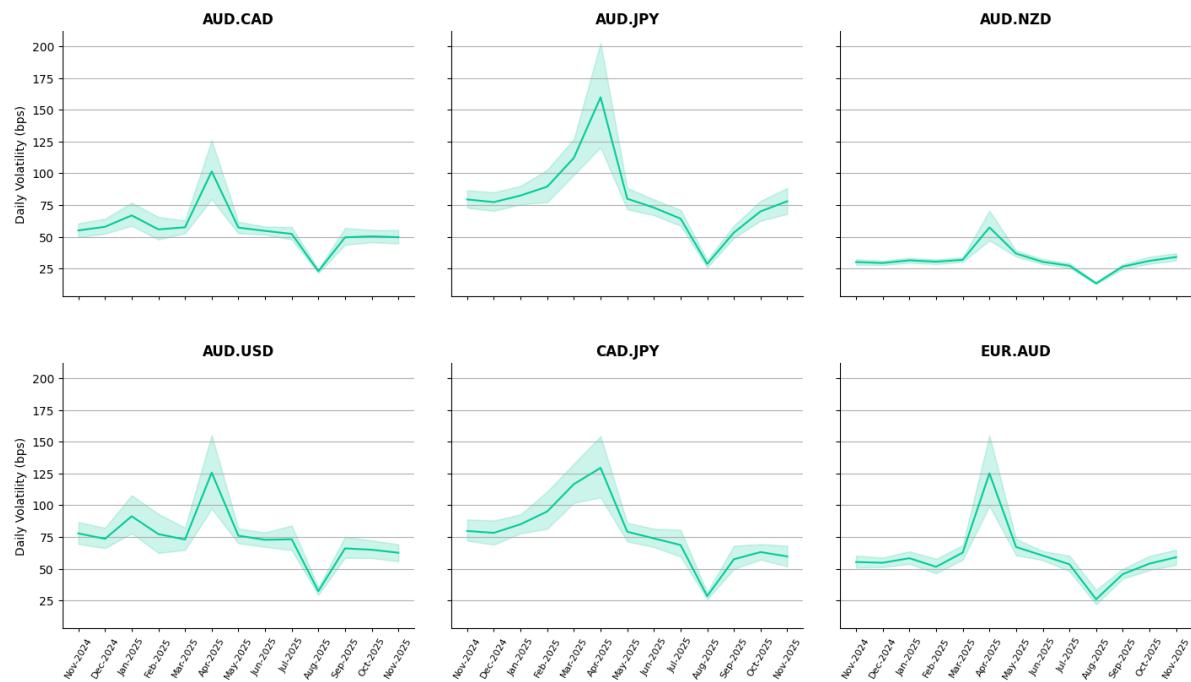
Scandinavian G-10 Currencies: Average Hourly Volatility, 00:00-20:00 GMT

Comparison over the past month, three months and year



G-10 Currencies: Average Daily Volatility, 12:00-16:00 GMT

November 2024 – November 2025



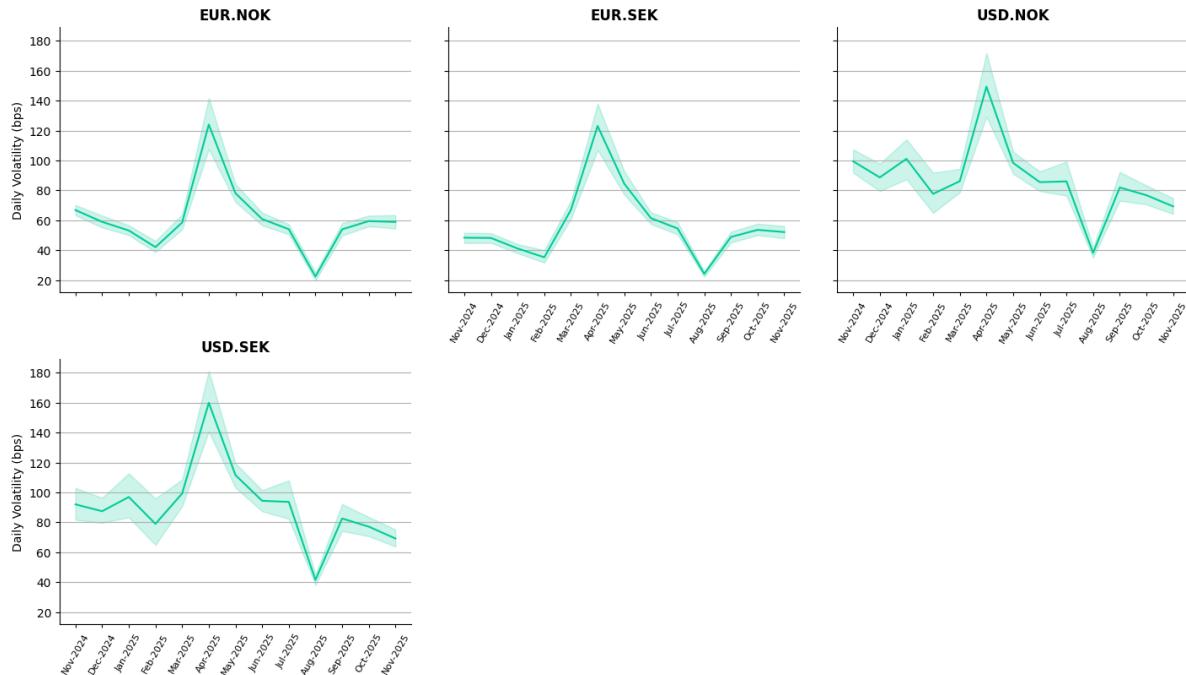


Scandinavian G-10 Currencies: Average Daily Volatility, 12:00-16:00 GMT

November 2024 – November 2025



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