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# THE ROLE OF TAIL-RISK REPRICING IN THE USD/EUR EXCHANGE RATE

by Marco Massa\* and Gabriele Zinna\*

## Abstract

We assess the behaviour of the US dollar over the 2015–2026 period, with a particular focus on the developments since 2025, by examining the dollar exchange rate against the euro. The analysis is conducted at a daily frequency using a parsimonious model and information from currency options. We find that the dollar depreciation following the US tariffs announcement on 2 April 2025 was mainly associated with a repricing of currency tail risks, while interest rate differentials played a smaller role. Unlike previous episodes of market stress, the dollar behaved more like a risky asset, losing some of its traditional safe-haven and hedging properties. Following the outbreak of the Middle East conflict, the dollar appreciated and tail risks became more balanced. Overall, our findings point to an ongoing reassessment of the dollar's risk profile.

**JEL Classification:** F31, G12, G15.

**Keywords:** USD/EUR exchange rate, tail risk, currency options, oil-price volatility.

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# 1 Introduction<sup>1</sup>

Since early 2025, the US dollar (USD) has undergone one of its sharpest depreciations in recent years, falling by around 8% in broad effective terms (as measured by the DXY) and by roughly 11% against the euro.<sup>2</sup> More strikingly, the dollar at times appeared disconnected from traditional drivers such as interest-rate differentials, behaving unusually relative to previous episodes of global uncertainty (e.g., see [Panetta, 2025](#)). This has prompted renewed questions about the USD's safe-haven role and a significant reassessment of tail risks by financial markets.

This research note analyses developments in the USD exchange rate against the euro (USD/EUR) over the 2015–2026 period at daily frequency, with a particular focus on the period since 2025.<sup>3</sup> It first examines the co-movement between the USD/EUR exchange rate, the interest-rate differential and the three-month risk reversal, a market-based measure of tail risks in the exchange rate.<sup>4</sup> Previous literature has shown that tail risk can play an important role in driving currency returns both in the time series and in the cross-section of currencies (e.g., [Rafferty, 2012](#); [Jurek, 2014](#); [Chernov, Graveline, and Zviadadze, 2018](#); [Li, Sarno, and Zinna, 2026](#)). These findings are consistent with exchange-rate determination models featuring rare disasters ([Farhi and Gabaix, 2016](#)). The analysis then turns to the relationship between the risk reversal and a set of salient financial variables – currency volatility, the correlation between the USD/EUR exchange rate and US stock returns, and oil-price volatility – that may have shaped market perceptions of tail risks.

The main results are as follows. To start with, we find that the repricing of tail risks has become a key driver of USD/EUR exchange-rate movements since early 2025, while the relative importance of short-term interest-rate differentials has declined. Specifically, the risk reversal explains roughly 43% of the daily variation in the USD/EUR exchange rate since early 2025, up from 18% in the sample starting in 2015. It is therefore important to shed light on what has been driving the risk reversal.

We find that the three financial variables listed above, taken together, explain a significant share of the variation in the risk reversal, with their relative contributions changing over time. In particular, currency option-implied volatility explains a significant share of the movements in the risk reversal on several occasions. What is most striking, however, is the switch in the sign of this relationship. Historically, higher USD/EUR-implied volatility was associated with expectations of large appreciations of the USD, consistent with its traditional safe-haven role. By contrast, following the US tariff announcement on 2 April 2025, this relationship turned negative, as expectations of large USD depreciations became associated with higher currency volatility.

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<sup>2</sup>The sample period starts on 1 January 2015 and ends on 4 June 2026.

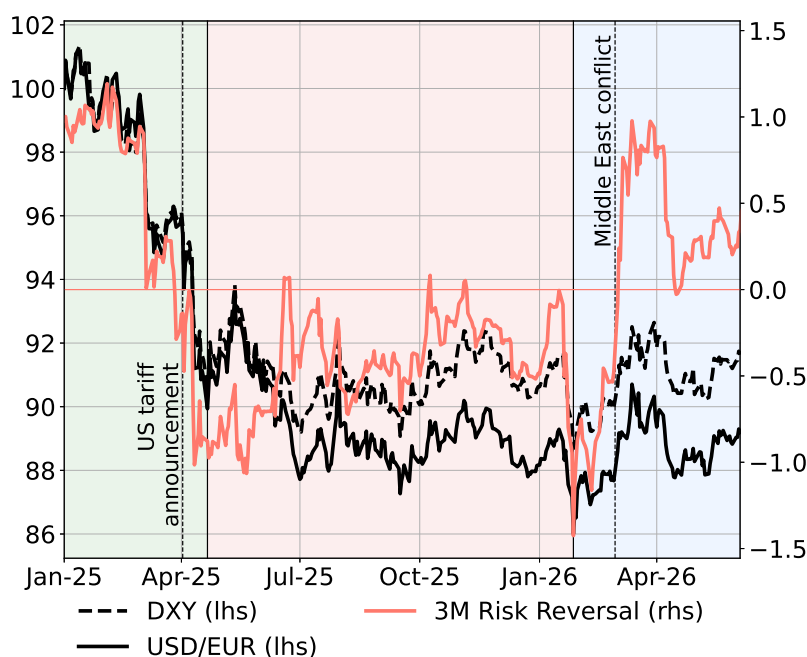
<sup>3</sup>We take the perspective of a euro area investor and define the exchange rate as units of euros per unit of USD, or equivalently as the price of one USD in euros. Hence, an increase in the exchange rate corresponds to an appreciation of the USD against the euro. We follow the FX market ticker convention and denote the exchange rate as USD/EUR.

<sup>4</sup>The risk reversal is the difference in implied volatility between an out-of-the-money call and a symmetric out-of-the-money put option. Market risk reversals are quoted for the EUR/USD exchange rate. Since we express the exchange rate as USD/EUR, namely the number of euros per USD, we reverse the sign of the quoted EUR/USD risk reversal. Accordingly, a negative USD/EUR risk reversal indicates relatively greater demand for protection against a depreciation of the US dollar.

To shed further light on this finding, we decompose the currency three-month risk-neutral variance into a USD “bad” variance, associated with expected USD depreciations, and a “good” variance, associated with expected USD appreciations. To obtain this decomposition, we use three-month options on the USD/EUR both at the money and out of the money, which allow us to recover the full volatility smile, following the method of [Bakshi and Madan \(2000\)](#) and [Bakshi, Kapadia, and Madan \(2003\)](#), recently applied to currencies by [Li et al. \(2026\)](#). Interestingly, we find that, unlike previous episodes of heightened currency volatility, the post-2 April 2025 US tariff announcement surge was characterized by the USD bad variance reaching higher levels than the USD good variance. At the same time, the correlation between USD/EUR and US stock returns turned positive. Overall, this evidence further suggests that 2 April 2025 led to a reassessment of the USD risk profile, inconsistent with its traditional safe-haven role and hedging properties.

The outbreak of the Middle East conflict in late February 2026 led to a new repricing of USD tail risks, with investors again demanding protection primarily against large USD appreciations. In turn, our regression shows that oil-price volatility became the main driver of the risk reversal. Therefore, the energy shock triggered by the Middle East conflict restored a more symmetric distribution of risks for the USD/EUR exchange rate. Consistent with this repricing, the correlation between USD/EUR and US stock returns turned sharply negative again. Whether this reassessment represents a lasting return to pre-2 April 2025 dynamics remains an open question.

**Figure 1:** DXY and USD/EUR exchange rate indices (start date = 100)



Source: Authors' calculations on Bloomberg data.

Notes: The vertical dashed lines mark 2 April 2025 (US tariff announcement) and 28 February 2026 (Middle East conflict); the areas mark the three phases, which correspond to the USD/EUR local minima in phases 1 and 2. Sample period: 1 January 2025 – 4 June 2026, daily frequency. A negative risk reversal (OTM calls minus OTM puts) on the USD/EUR means that the US dollar (risk-neutral) expected asymmetry measured against the euro is negative, i.e., consistent with downside tail risks on the USD.

## 2 The USD/EUR exchange rate: some stylized facts

The evolution of the USD exchange rate since 2025 can be divided into three phases. The first phase was characterized by a sharp depreciation of the USD, which began before the 2 April 2025 US tariff announcement and culminated in a trough on 21 April 2025 (Figure 1 and Table A.1 in Appendix A). The second phase saw the dollar stabilize somewhat although it weakened further, particularly against the euro. More recently, the USD has appreciated, although it remained far below the January 2025 levels, both in effective terms and against the euro.<sup>5</sup>

Market perceptions of tail risks evolved markedly in these three phases. The three-month USD/EUR risk reversal remained negative throughout most of the period, indicating elevated concerns about large USD depreciations.<sup>6</sup> It reached a multi-year low in April 2025 and stayed in negative territory thereafter. The Middle East conflict temporarily reversed this pattern, with risk reversals moving back towards their positive early-2025 levels before weakening again following the ceasefire.

These developments suggest that changes in perceived tail risks have been an important driver of USD/EUR exchange-rate dynamics. Therefore, understanding the recent behavior of the exchange rate largely requires shedding light on what has driven the repricing of tail risks.

## 3 Empirical analysis

We first provide evidence supporting the view that the risk reversal, or tail risks, played a major role in explaining USD/EUR dynamics. We then investigate what has determined the variation in the risk reversal, focusing on the role of currency implied volatility and its upside and downside components.

### 3.1 The USD/EUR exchange rate: the role of interest-rate differentials and tail risks

In what follows, we estimate a simple bivariate model in which daily changes in the log USD/EUR exchange rate are regressed on changes in the short-term interest-rate differential and in the three-month risk reversal. The specification is intentionally parsimonious and is not intended to provide a comprehensive model of exchange-rate determination. Rather, it is designed to isolate the role of tail risks and assess their importance relative to that of interest-rate differentials.<sup>7</sup>

The relationship between tail risk and currency returns is not novel as it has been established both theoretically (e.g., Farhi and Gabaix, 2016) and empirically (e.g., Carr and Wu, 2007; Farhi,

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<sup>5</sup>Note that the USD started appreciating already a few weeks before the outbreak of the Middle East conflict. Thus, the third phase starts on 27 January 2026.

<sup>6</sup>We use the 3-month 25-delta risk reversal. In FX markets, options are identified by their delta, which measures how sensitive the option price is to a small change in the exchange rate and, equivalently, indicates how far the option is from being at the money. A 50-delta option is approximately at the money, whereas 25- and 10-delta options are out of the money, with 10-delta options capturing more extreme exchange-rate movements than 25-delta options. 25-delta risk reversals are the market standard for measuring currency tail risk as 10-delta options are less liquid.

<sup>7</sup>Figure A.1 in Appendix A shows the one-year interest-rate differential and the three-month risk reversal, alongside the USD/EUR exchange rate. The analysis is conducted at daily frequency, which naturally favors financial variables that can be observed and repriced at high frequency, while many standard macroeconomic determinants evolve more slowly. The start of the sample is due to the availability of option and intraday data used in the subsequent analysis.

Fraiberger, Gabaix, Ranciere, and Verdelhan, 2009). In essence, currencies tend to depreciate when downside tail risk increases and appreciate when upside tail risk increases. The spot exchange rate adjusts to reflect changes in tail risk, so that currencies exposed to greater downside (upside) tail risk command higher (lower) expected returns.<sup>8</sup>

The role of the short-term interest-rate differential appears to have weakened since early 2025. In both the long and short samples, starting in 2015 and 2025 respectively, the coefficient on the interest-rate differential is positive and highly statistically significant (Table 1). However, the point estimate is smaller in the short sample, with the overall fit of the regression remaining virtually unchanged. This suggests that interest-rate differentials continued to matter for exchange rate dynamics but accounted for a relatively smaller share of exchange rate fluctuations than in the past.

**Table 1:** The USD/EUR exchange rate: the role of interest-rate differentials and tail risks

|                | 2015–2026           | $R^2$ | 2025–2026           | $R^2$ |
|----------------|---------------------|-------|---------------------|-------|
| USD/EUR (p.a.) | 4%<br>(0.868%)      |       | –11%<br>(2.3%)      |       |
| const. (p.a.)  | 3%<br>(0.7%)        | –     | –8%<br>(1.7%)       | –     |
| $\Delta i$     | 2.583***<br>(0.271) | 6.0%  | 2.158***<br>(0.417) | 6.0%  |
| $\Delta RR$    | 1.788***<br>(0.142) | 24.4% | 2.697***<br>(0.193) | 49.4% |

Source: Authors' calculations on Bloomberg data.

Notes: Results of the regression of the log changes in the exchange rate on changes in the interest-rate differential and the USD/EUR risk reversal.  $i$  denotes the one-year bond yield differentials, United States minus Germany; RR denotes the three-month USD/EUR 25-delta risk reversal. The reported  $R^2$  reflects the explanatory power of models including an increasing number of regressors. For clarity, we report the USD/EUR and the constant in percent, annualized. The long (left panel) and short (right panel) samples start on 1 January 2015 and 1 January 2025, respectively, and both end on 4 June 2026. Data are at daily frequency. Standard errors (in parentheses) are heteroskedasticity- and autocorrelation-robust. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

Since early 2025 the risk reversal has become an increasingly important driver of the exchange rate. Indeed, its coefficient has increased by roughly one half, and its incremental  $R^2$  has reached roughly 43%, from 18% over the full sample.<sup>9,10</sup> By estimating the model over yearly rolling windows, it is apparent that the risk reversal accounted for an increasing share of the currency variation since

<sup>8</sup>See Li et al. (2026) for a comprehensive review of the literature on skewness, tail risks and currency returns.

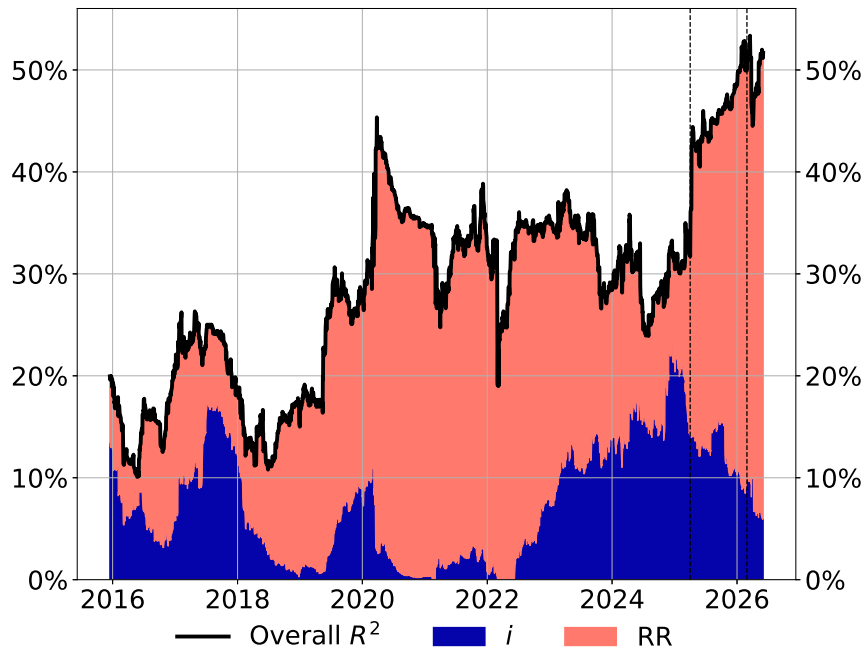
<sup>9</sup>The  $R^2$ s reported in Table 2 are an incremental diagnostic of explanatory power across specifications with an increasing number of regressors. For example, the  $R^2$  next to the interest-rate differentials refers to the univariate model including only the interest-rate differentials, while the  $R^2$  next to the risk reversal refers to the bivariate model that also includes changes in the risk reversal. The increase in  $R^2$  therefore captures the additional variation in weekly exchange-rate changes associated with the inclusion of the risk-reversal term, conditional on the interest-rate differential.

<sup>10</sup>As a robustness check, we have verified that the relative contribution of the risk reversal is very similar when using the Shapley method, i.e., when we order the risk reversal first in the regression. The *Shapley*  $R^2$  allocates total explanatory power across regressors by averaging each variable's marginal contribution over all possible orderings of the regressors. This is useful when regressors are correlated, because it avoids making the attribution depend on the order in which the variables enter the regression.

2 April 2025, while the contribution of interest-rate differentials progressively declined (Figure 2). The loading on the risk reversal jumped up with the tariff announcement and marginally decreased following the outbreak of the Middle East conflict (Figure A.2 in Appendix A).

This evidence is therefore consistent with the notion that tail-risk repricing has been a central feature of the recent USD/EUR adjustment. Thus, it is natural to ask what has been driving such repricing and hence the risk reversal, which we analyse next.

**Figure 2:** Time-varying analysis of USD/EUR exchange rate



Source: Authors' calculations on Bloomberg data.

Notes: The log changes in the USD/EUR exchange rate are regressed on changes in the one-year interest-rate differential and the three-month USD/EUR risk reversal. The figure shows the relative contribution of each factor to the overall  $R^2$ . The vertical dashed lines mark 2 April 2025 and 28 February 2026. Sample period: 1 January 2015 – 4 June 2026, daily frequency.

### 3.2 Explaining changes in tail risks

We consider three variables that may help explain the risk reversal and, more broadly, the evolving risk profile of the USD: (i) exchange rate volatility, measured by the implied volatility of at-the-money USD/EUR options with a maturity of three months; (ii) correlation between US equity returns and the USD/EUR exchange rate, computed using 5-minute intraday data; and (iii) implied volatility of an oil exchange traded fund (ETF), a proxy for uncertainty on oil prices (Figure A.3 in Appendix A).

The first two variables are closely linked to the hedging properties of the USD, while the third captures energy-related uncertainty. Exchange rate volatility and the currency-equity correlation are key determinants of optimal currency hedge ratios and became particularly relevant after the 2 April 2025 tariff announcement (Massa, Poli, and Venturi, 2026),<sup>11</sup> when currency hedging emerged as a

<sup>11</sup>The analysis derives an optimal US dollar hedging ratio and quantifies it in the data using the perspective of

prominent market theme in explaining the USD weakness (e.g., [Smith, 2025](#)).<sup>12</sup> Foreign investors typically underhedged their exposures to the USD, because the latter tended to appreciate when equities declined; put simply, the USD behaved as a natural hedge.<sup>13</sup> The third variable – the Chicago Board Options Exchange crude oil volatility index – helps account for the turmoil in energy markets spurred by the Middle East conflict and, more generally, uncertainty associated with oil-market developments. Increases in oil-price uncertainty may trigger flight-to-safety flows into the USD while weighing on the euro, reflecting the US's status as a net energy exporter and the euro area's status as a net energy importer.<sup>14</sup>

**Table 2:** Explaining changes in the risk reversal

|               | 2015–2026            | $R^2$ | 2025–2026            | $R^2$ |
|---------------|----------------------|-------|----------------------|-------|
| const.        | –0%<br>(0.2%)        | –     | –0.326%<br>(0.006)   | –     |
| $\Delta IV$   | 0.182***<br>(0.037)  | 15.3% | –0.180***<br>(0.047) | 9.1%  |
| $\Delta \rho$ | –0.031***<br>(0.011) | 15.5% | –0.077***<br>(0.027) | 11.1% |
| $\Delta OVX$  | –0.000<br>(0.001)    | 15.5% | 0.012***<br>(0.002)  | 23.1% |

*Source:* Authors' calculations on Bloomberg, Federal Reserve Economic Data (FRED) and LSEG data.

*Notes:* Results of the regression of the changes in the USD/EUR risk reversal – purged of the effect of interest-rate differentials – on the change in the currency implied volatility (IV), the daily correlation between the exchange rate and the S&P 500 ( $\rho$ ), and the crude oil ETF volatility index (OVX). The reported  $R^2$  reflects the explanatory power of models including an increasing number of regressors. The long (left panel) and short (right panel) samples start on 1 January 2015 and 1 January 2025, respectively, and both end on 4 June 2026. Data are at daily frequency. Standard errors (in parentheses) are heteroskedasticity- and autocorrelation-robust. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

Movements in exchange rate volatility, the currency-equity correlation and oil-price uncertainty closely mirrored the evolution of the risk reversal. Following the 2 April 2025 tariff announcement,

a euro investor with a portfolio invested in US equities and bonds (with typical 60/40 weights). US dollar hedging demand should increase with (i) expected US dollar depreciation, (ii) investors' risk aversion, (iii) covariance between the US dollar and the asset returns, (iv) exchange rate volatility, while it should decrease with (v) the hedging costs. Empirically, the analyses find that the optimal hedging ratio has mainly surged due to (iii)-(iv).

<sup>12</sup>When a foreign investor hedges US dollar exposure by selling dollars in the forward market, the dealer acting as counterparty typically offsets the resulting currency risk by selling dollars in the spot market. As a result, higher hedging demand can generate downward pressure on the US dollar in both the forward and spot markets. These effects are likely to be stronger when investors increase hedge ratios after acquiring the underlying US assets, rather than hedging from the outset, and when dealers face tighter balance-sheet constraints ([Liao and Zhang, 2025](#)). [Liao and Zhang \(2025\)](#) also show that US dollar hedging can be a source of tail risk.

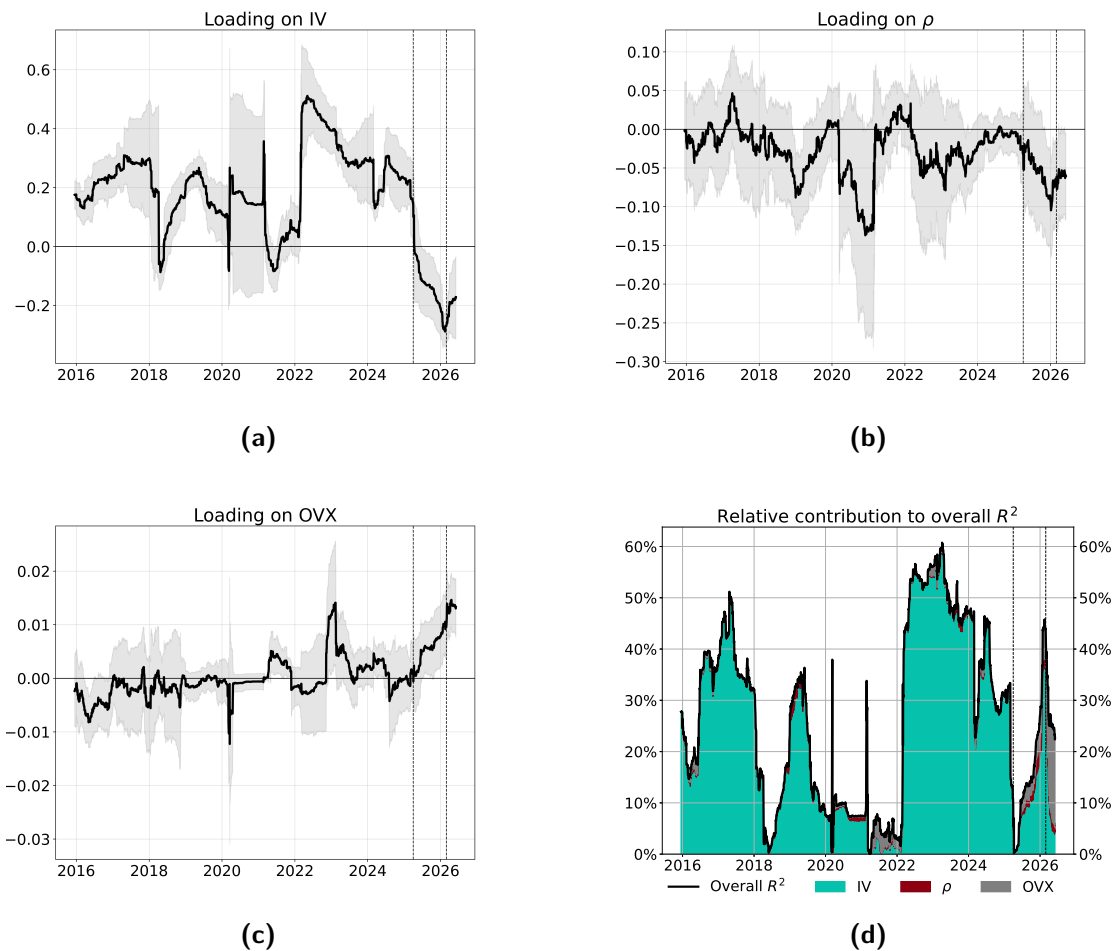
<sup>13</sup>Moreover, the stock market beta of the currency is typically used in the literature as a key characteristic to capture the riskiness of a currency (e.g., [Kremens and Martin, 2019](#); [Lilley and Rinaldi, 2018](#); [Antolin-Diaz, Cenedese, Han, and Sarno, 2026](#)). For example, a currency's equity beta is directly informative about how the currency loads on priced global equity and volatility risks.

<sup>14</sup>For example, [Hofmann, Igan, and Rees \(2023\)](#) show that higher commodity prices trigger temporary flight-to-safety flows into the US dollar. Moreover, the emergence of the United States as a net energy exporter has led the dollar to behave increasingly like a commodity currency, strengthening when commodity prices rise.

the risk reversal turned sharply negative, implied currency volatility increased markedly and the correlation between the USD/EUR exchange rate and US equity returns turned positive, suggesting that the US dollar lost part of its hedging value (Figure A.3 in Appendix A). The outbreak of the Middle East conflict partly reversed these dynamics, consistent with a partial restoration of the USD's safe-haven and hedging properties.

The regression results confirm that these three variables, taken together, explain a significant share of the variation in the risk reversal. In the full sample, the risk reversal is mainly driven by currency volatility, while the currency-equity correlation also contributes, albeit to a much lesser extent (Table 2, left panel). Both estimates are highly statistically significant.

**Figure 3: Time-varying analysis of the risk reversal**



Source: Authors' calculations on Bloomberg data.

Notes: Changes in the 3-month risk reversal – purged of the effect of interest-rate differentials – are regressed on at-the-money implied volatility and the correlation between USD/EUR and S&P 500 returns. Panels (a) – (c) report factor loadings estimated using rolling regressions with a one-year window. Shaded areas denote 95% confidence intervals computed using heteroskedasticity- and autocorrelation-robust standard errors. Panel (d) shows the relative contribution of each factor to the overall  $R^2$ . The vertical dashed lines mark 2 April 2025 and 28 February 2026. Sample period: 1 January 2015 – 4 June 2026, daily frequency.

Since 2025, the uncertainty on oil prices and the currency-equity correlation have become more important in driving the risk reversal. The contribution of oil-price uncertainty increases markedly, while that of the currency-equity correlation rises more modestly (Table 2 right panel). Their loadings also increase in absolute terms. Rolling estimates show that oil-price uncertainty became more relevant well before the outbreak of the Middle East conflict, with its explanatory power reaching a period high of around 20% (Figure 3).

The most striking result is the change in the relationship between the risk reversal and currency volatility. Historically, higher currency volatility was associated with expectations of large USD appreciations. Following the 2 April 2025 US tariff announcement, however, higher volatility became associated with expectations of large depreciations: rolling estimates show that the volatility coefficient switched sign after the US tariff announcement and retraced slightly with the energy shock.<sup>15</sup>

### 3.3 The changing nature of the USD/EUR currency volatility

To shed further light on the changing relationship between the risk reversal and currency volatility, we decompose the three-month expected variance ( $\text{Var}$ ) into a good variance, associated with an expected appreciation of the USD ( $\text{Var}^+$ ), and a bad variance, associated with an expected depreciation ( $\text{Var}^-$ ).<sup>16</sup> We perform this decomposition following Bakshi et al. (2003), recently extended to exchange rates by Li et al. (2026) to measure the balance of risks, or skewness, in currency markets.<sup>17</sup>

The composition of the currency volatility changed markedly after the 2 April 2025 US tariff announcement. The increase in total implied variance was driven predominantly by bad variance, which exceeded good variance and shifted the distribution of risks towards USD depreciations (Figure 4). This sharply contrasts with previous episodes of high currency volatility which were typically associated with USD risks skewed to the upside, consistent with the dollar's traditional safe-haven role.<sup>18,19</sup>

<sup>15</sup>This instability may help explain the decline in the explanatory power of currency volatility in the recent sample, with its incremental  $R^2$  falling to around 9%. Rolling windows combine observations from periods in which the relationship between volatility and risk reversals had opposite signs, thereby reducing the estimated fit.

<sup>16</sup>Therefore, in this section we move from the at-the-money implied volatility used in the previous regressions to the risk-neutral variance. We do this as the variance measure exploits information from all the currency options available, which is key to obtain the semi-variances. We construct the USD/EUR three-month risk-neutral expected variance ( $\text{Var}$ ), as in Bakshi and Madan (2000).

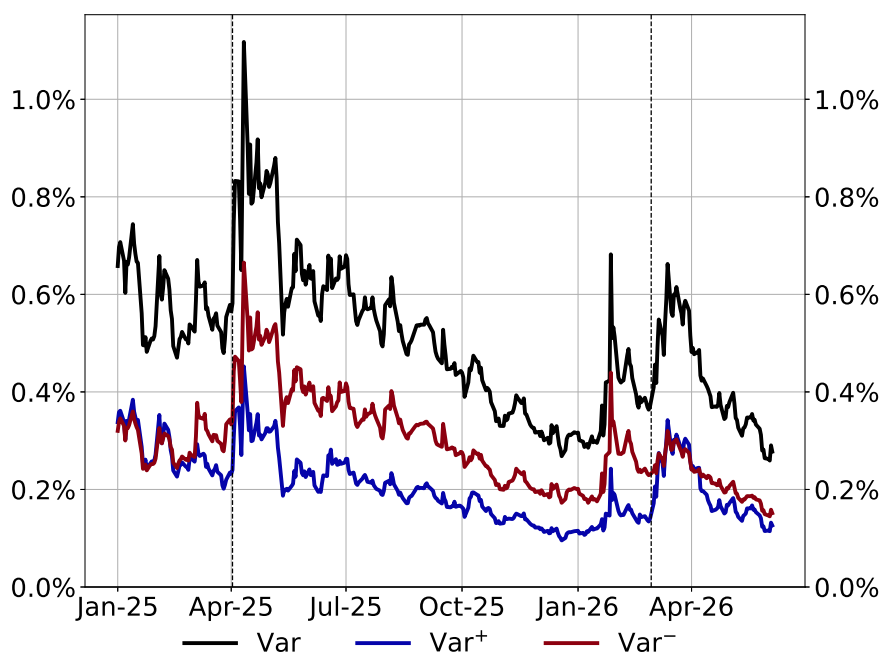
<sup>17</sup>Similar to the risk reversals, the difference between good and bad semi-variances is commonly used as a measure of asymmetry. However, unlike the risk reversals, which are defined at specific option deltas, the semi-variances inherit the same properties as the risk-neutral variance, thus condensing the information from the entire volatility surface. Put simply, they are constructed using the entire risk-neutral density. As a result, the difference in semi-variances provides a more comprehensive measure of asymmetry than a specific risk reversal. Moreover, Li et al. (2026) show that, when scaled by total variance, this difference provides a valid measure of currency skewness.

<sup>18</sup>Over the 2015 – 2026 period, the USD/EUR downside semi-variance persistently exceeded the upside semi-variance only between May 2017 and July 2019. Importantly, all major volatility spikes were associated with a larger upside than downside semi-variance (see Figure A.4 in Appendix A). The post-2 April 2025 episode therefore stands out, as the surge in volatility was driven predominantly by downside risks to the US dollar.

<sup>19</sup>As a by-product, this note introduces a new indicator of asymmetry in currency markets obtained by decomposing risk-neutral variance into upside and downside components. The indicator can be routinely employed to monitor the balance of risks in the exchange rate and provides richer information than a single risk reversal, as it exploits the full cross-section of option prices available for a given currency pair. However, while this decomposition can be applied to many USD currency pairs, its application to the euro is limited to a small number of currencies because option data are much less widely available.

The energy shock triggered by the Middle East conflict restored a more symmetric distribution of risks for the USD/EUR exchange rate. At the onset of the conflict, both good and bad variances increased, but the rise in good variance was much larger than the rise in the bad variance, bringing upside and downside risks back into balance. This strong increase in the good variance helps explain the recovery in the risk reversal and is consistent with the re-emergence of the historical positive association between currency volatility and USD strength during stress episodes. As expectations about a relatively rapid end to the conflict materialized, both the good and bad variances declined by similar amounts.<sup>20</sup>

**Figure 4:** Good and bad USD/EUR variances



*Source:* Authors' calculations on Bloomberg data.

*Notes:* Three-month USD/EUR risk-neutral expected variance (Var) and its decomposition into a good variance, associated with an expected appreciation of the USD ( $\text{Var}^+$ ), and a bad variance, associated with an expected depreciation of the USD ( $\text{Var}^-$ ).

## 4 Concluding remarks

This note highlights an ongoing reassessment of the USD's risk profile since early 2025. Following the 2 April 2025 US tariff announcement, the USD exhibited weaker safe-haven and hedging properties, depreciating during episodes of heightened uncertainty and becoming more positively correlated with US equity returns. With the global energy shock following the outbreak of the Middle East conflict, however, the USD appears to have regained some of its traditional safety characteristics. An alternative interpretation is that the USD simply benefited from the United States' status as a net energy exporter, implying that the vulnerabilities identified after the tariff announcement may

<sup>20</sup>Several indicators point to broadly balanced risks around the USD/EUR exchange rate. Risk reversals are slightly positive across maturities, net non-commercial positions are close to neutral, and fair-value estimates place the exchange rate between the levels implied by absolute and relative PPP. For PPP-based fair values computation, see [Menkhoff, Sarno, Schmeling, and Schrimpf \(2017\)](#).

re-emerge as the effects of the energy shock fade.

Whether this reassessment reflects temporary factors or a more persistent shift in the role of the USD remains an open question. Concerns related to US economic policy, institutional credibility, trade tensions and broader geopolitical risks may all have contributed to the repricing of the USD risk profile. At this stage, however, it is too early to draw firm conclusions about whether a lasting regime change is underway.

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## Appendix

### A Additional figures and tables

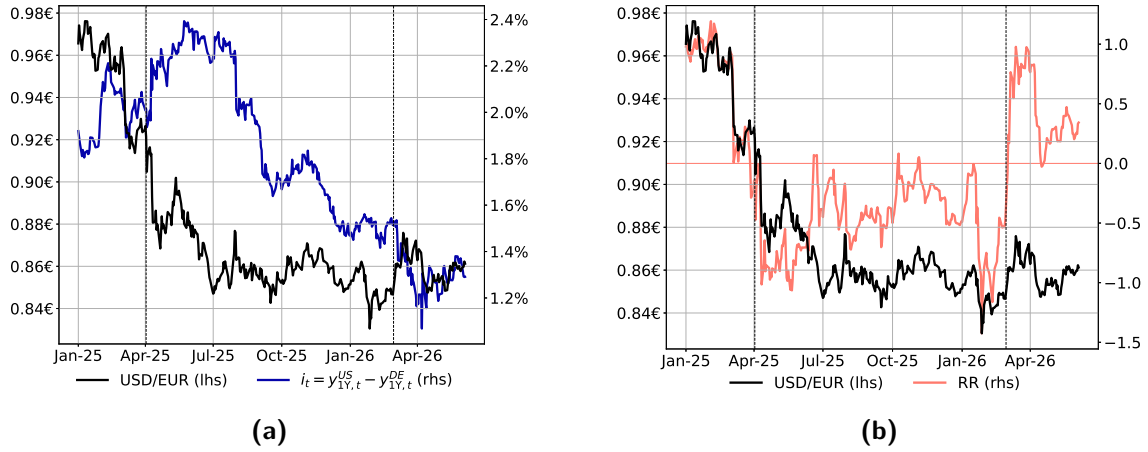
**Table A.1:** Dollar index, USD/EUR exchange rate, interest-rate differential and risk reversal

| Date        | DXY    |              | USD/EUR |              | Interest rate diff. |                      | Risk reversal |                      |
|-------------|--------|--------------|---------|--------------|---------------------|----------------------|---------------|----------------------|
|             | Level  | $\Delta(\%)$ | Level   | $\Delta(\%)$ | Level               | $\Delta(\text{bps})$ | Level         | $\Delta(\text{bps})$ |
| 1 Jan 2025  | 108.49 |              | 0.97 €  |              | 1.92%               |                      | 0.98          |                      |
| 21 Apr 2025 | 98.28  | -9.4%        | 0.87 €  | -10.1%       | 2.2%                | +28                  | -0.88         | -186                 |
| 27 Jan 2026 | 96.22  | -11.3%       | 0.83 €  | -14.0%       | 1.52%               | -68                  | -1.43         | -55                  |
| 4 Jun 2026  | 99.86  | -8.4%        | 0.86 €  | -10.8%       | 1.31%               | -63                  | 0.46          | -64                  |

Source: Bloomberg data.

Notes: The DXY measures the value of the USD against a weighted basket of six major currencies. The USD/EUR exchange rate is defined as the price of one USD in euros. Interest rate diff. denotes the one-year bond-yield differential, United States minus Germany. Risk reversal is the 3-month USD/EUR risk reversal at 25-delta. The two intermediate dates correspond to local minima of USD/EUR in April 2025 and beginning of 2026, respectively.  $\Delta(\%)$  indicates percentage changes;  $\Delta(\text{bps})$  indicates absolute changes in basis points. All variations are computed relative to 1 January 2025.

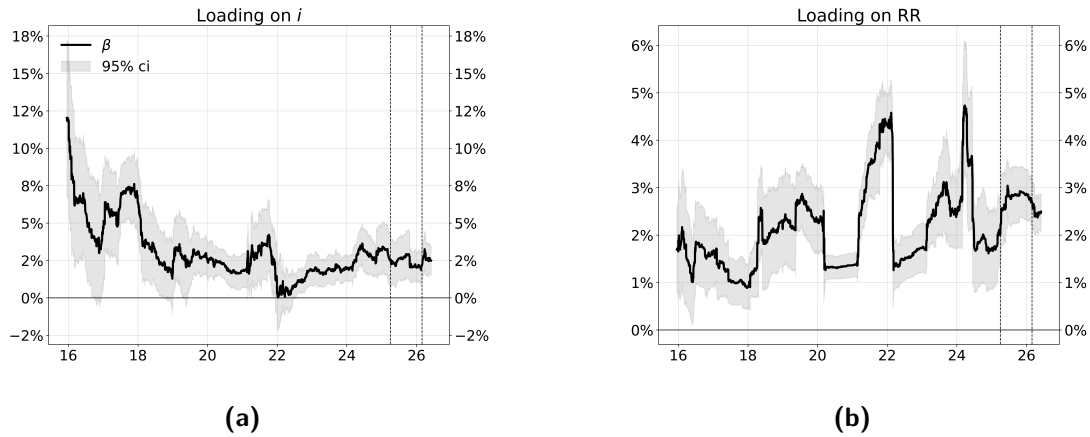
**Figure A.1: USD/EUR exchange rate, interest-rate differential and risk reversal**



Source: Bloomberg.

Notes: The USD/EUR exchange rate is defined as the price of one USD in euros;  $i_t$  is the one-year interest-rate differential, measured as the United States minus Germany; and RR is the three-month USD/EUR 25-delta risk reversal. Panels (a) and (b) show USD/EUR together with  $i_t$ , and RR, respectively. The vertical dashed lines mark 2 April 2025 and 28 February 2026. Sample period: 1 January 2025 to 4 June 2026, daily frequency.

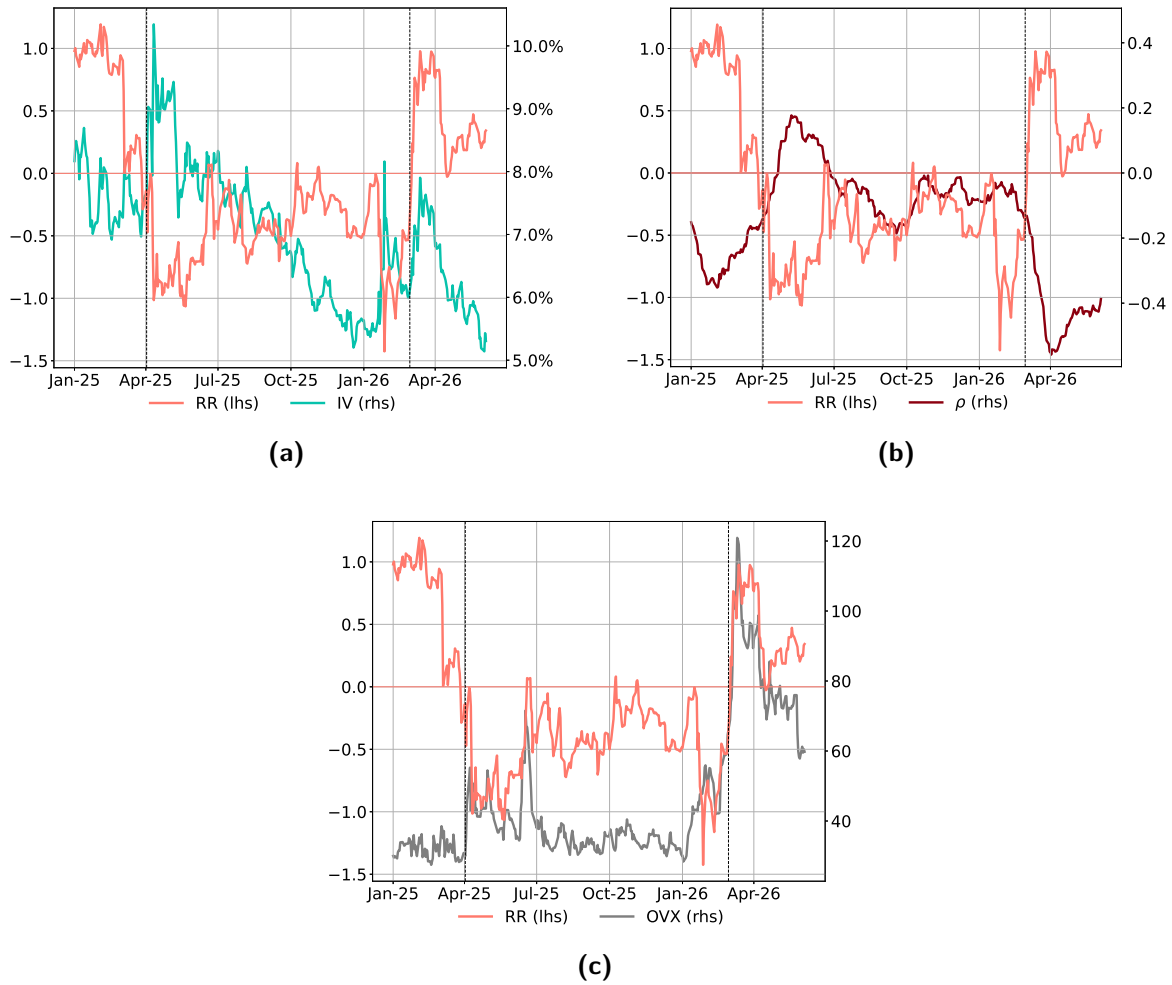
**Figure A.2: Time-varying analysis of the USD/EUR drivers**



Source: Authors' calculations on Bloomberg data.

Notes: The log changes in the USD/EUR exchange rate are regressed on changes in the one-year interest-rate differential and the three-month USD/EUR risk reversal. Panels (a) and (b) report factor loadings estimated using rolling regressions with a one-year window. Shaded areas denote 95% confidence intervals computed using heteroskedasticity- and autocorrelation-robust standard errors. The vertical dashed lines mark 2 April 2025 and 28 February 2026. Sample period: 1 January 2015 – 4 June 2026, daily frequency.

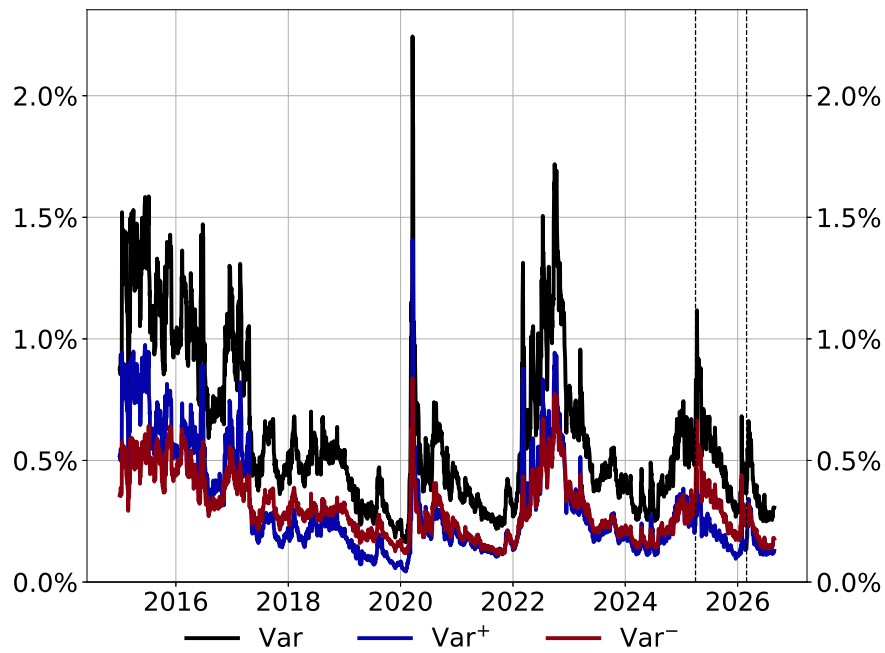
**Figure A.3:** Risk reversal, USD/EUR implied volatility, correlation between USD/EUR and S&P 500 returns, crude oil volatility



Source: Bloomberg, Federal Reserve Economic Data (FRED) and LSEG data.

Notes: RR is the three-month USD/EUR 25-delta risk reversal; IV is the three-month USD/EUR at-the-money implied volatility;  $\rho$  is the correlation between returns on the USD/EUR exchange rate and the S&P 500, estimated using intraday data and shown as a 21-day moving average, and OVX is the CBOE Crude Oil ETF volatility index. Panels (a), (b) and (c) show RR together with IV,  $\rho$  and OVX, respectively. The vertical dashed lines mark 2 April 2025 and 28 February 2026. Sample period: 1 January 2025 – 4 June 2026, daily frequency.

**Figure A.4:** Good and bad USD/EUR variances, 2015–2026



*Source:* Authors' calculations on Bloomberg data.

*Notes:* Three-month USD/EUR risk-neutral expected variance (Var) and its decomposition into a good variance, associated with an expected appreciation of the US dollar ( $\text{Var}^+$ ), and a bad variance, associated with an expected depreciation of the US dollar ( $\text{Var}^-$ ). Sample period: 1 January 2015 – 4 June 2026, daily frequency.