Economics/Rates Strategy

Long EA rates: A quant approach

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In this note, we introduce two new models that enrich our quantitative framework for EA rates.

The first is an asset-price decomposition model that breaks down movements in EA rates into macroeconomic drivers, central bank policy stance, and the broader risk environment, while distinguishing between domestic factors and those imported from the US.

The second is a term premium model that disentangles ECB policy expectations from risk compensation and provides an estimate of the Bund term premium comparable to the Adrian, Crump & Moench (ACM) term premium estimate for the US.

Both models suggest that, since the onset of the Middle East conflict:

1. *The repricing of monetary policy expectations in both the EA and the US - across both the short and long ends of the curve - has been the primary driver of the rise in EA rates.*
2. *More than 60% of the increase in EA rates can be attributed to tighter financial conditions imported from the US, through both macroeconomic channels and central bank expectations.*

Against this backdrop, we continue to believe that EA rates are close to their peak levels, and we remain tactically LONG on Bunds and BTPs for the following reasons:

1. *If the conflict de-escalates over the coming weeks and the Strait of Hormuz reopens, we would expect the contribution of hawkish monetary policy expectations — from both the Fed and the ECB — to decline materially.*
2. *If the conflict persists and the Strait of Hormuz remains closed, we would expect the positive contribution of EA macro factors to rates to diminish significantly, while downside risks to growth would likely lead the ECB to adopt a more dovish stance, thereby reducing the contribution from tighter monetary policy expectations.*

The main risk to our view is 1) that the Middle East conflict continues and EA countries significantly scale up the size of their fiscal easing, 2) hat the US economy fares too well, as that would lead to even more hawkish monetary policy expectations and a higher term premium.

Two new models for EA rates

In this note we present our two in-house models which we use to study the underlying dynamics of the Euro Area (EA) interest rate market and which enrich our existing framework, improving our analysis of EA rates markets.

I) **An asset-price decomposition model.** This model breaks down movements in EA rates into macroeconomic drivers, central banks' stance, and the broader risk environment, while distinguishing between domestic factors and those imported from the US.

II) **A term premium model**. This model disentangles ECB policy expectations from risk compensation and provides an estimate of the term premium in Bunds, which is comparable to the Adrian Crump & Moench (ACM) term premium estimate for the US.

ANIMA Asset Price Decomposition Model

This model assumes that asset prices contain valuable real-time macroeconomic information. However, fluctuations in asset prices are driven by a multitude of factors, often with conflicting effects. This makes extracting macroeconomic information from asset prices more complicated and requires a structural model that can disentangle the different drivers and quantify their cumulative impact over time.

Our methodology disentangles the forces at work and quantifies their cumulative impact over time.

Based on a model developed and used by the ECB (see Brandt et al.; 2021)[1], we employ a daily Bayesian SVAR model (B-SVAR) for the EA, where the underlying drivers of daily changes in the EA and US asset prices are identified through sign restrictions exploiting cross-asset price movements. Further details are provided in the **Appendix**.

Within this framework, we express every variable as a function of its own past values and the past values of other variables, along with a new information component. We decompose daily movements in our set of endogenous variables (*i.e. the 10Y EA OIS - Overnight Index Swap, the EUROSTOXX, the S&P500, the EURUSD exchange rate and the spread between the10Y EA OIS and 10Y US Treasury yields)* into the contributions of five underlying macro-financial drivers. **These drivers are**:

1) EA/US restrictive monetary policy shocks, i.e. changes in the perception of the monetary policy stance.
2) EA/US favourable domestic macro shocks, i.e. changes in expectations regarding the macroeconomic environment.
3) Shifts in overall risk sentiment, which aim to capture the growing importance of flight to safety or "risk-on/risk-off" episodes in driving daily market movements across the Atlantic.

This decomposition is based on an assumed sign pattern describing how each driver affects the variables (see **Table 1**), using the algorithm developed by Rubio-Ramirez et al. (2010)[2].

[1] *BRANDT L., GUILHEM A.S., SCHRÖDER M., ROBAYS I.V. (2021), What drives euro area financial market developments? The role of US spillovers and global risk - ECB Working Paper Series No 2560 / May 2021.*

[2] *RUBIO-RAMÍREZ, J. F., WAGGONER, D. F., & ZHA, T. (2010). Structural Vector Autoregressions: Theory of Identification and Algorithms for Inference. The Review of Economic Studies, 77(2), 665–696.*

Table 1 – Sign Restriction Matrix

	Restrictive EA Monetary Policy	Favourable EA Macro	Restrictive US Monetary Policy	Favourable US Macro	Favourable Global Risk
EA 10Y-Yield	+	+	+	+	+
EA Equity Prices	-	+	-	+	+
US Equity Prices			-	+	+
EUR-USD	+	+	-	-	+
EA vs US Yield Spread	+	+	-	-	-

Notes: Empty cells indicate that parameter is unrestricted. A "+" or "-" denotes an increase/decrease in the respective variable on impact. A "+" for the EUR/USD indicates that the euro appreciates. A "-" for the EUR/USD indicates that the euro depreciates. Source: ANIMA Research

ANIMA Term Premium Model

In this model, we decompose German Bund yields into a model-implied risk-free rate and a term premium using an Adrian, Crump, and Moench (ACM, 2013)[3] affine term-structure framework adapted to the German market. The model generates a daily estimate of the average expected short rate over a bond's life. The difference between observed yields and that estimate - the term premium - measures the extra compensation investors require to hold the bond to maturity. Through this framework, we produce estimates for the 2, 5, 10 and 30-year maturities. Further details are provided in the **Appendix.**

EA rates surged on central banks' stance and on US-imported tightening

Since the beginning of the Middle East conflict long-end 10Y OIS yields have increased by around 40-50bp. According to our ANIMA Asset Price Decomposition Model (**Figure 1**):

1) Around 75% of the increase in 10Y OIS yields can be explained by a more restrictive monetary policy stance by both the ECB and the Fed, while only less than 20% of the increase can be explained by developments in macro data in the US and EA (but mostly in the US).
2) 62% of the increase in yields is "imported" from the US, either via the macro component or through a more restrictive monetary policy stance by the Fed, while only 30% is domestically generated.
3) The risk environment has shown a negligible contribution to the movement in rates since the start of the war.

If we compare the current energy shock episode with the one in 2022 (in particular end February-end August 2022, when 10Y OIS rates rose around 150bp, **Figure 2**), we note that:

1) While in both episodes of energy price shocks, EA yields increased mainly on the back of a tighter central banks' stance, the contribution from the macro backdrop was much more sizeable in 2022 than in the current episode (45% vs. 20%), in our view a result of a weaker starting point of the economy at present compared to 2022.
2) In both cases, EA yields rose mostly as a result of tighter financing conditions in the US (in both episodes, around 62% of the increase in EA yields was imported from a more restrictive Fed stance and from a resilient US macro drop).

[3] *ADRIAN T., CRUMP R.C., MOENCH E. (2013). Pricing the term structure with linear regressions. Journal of Financial Economics, 110(1), 110-138.*

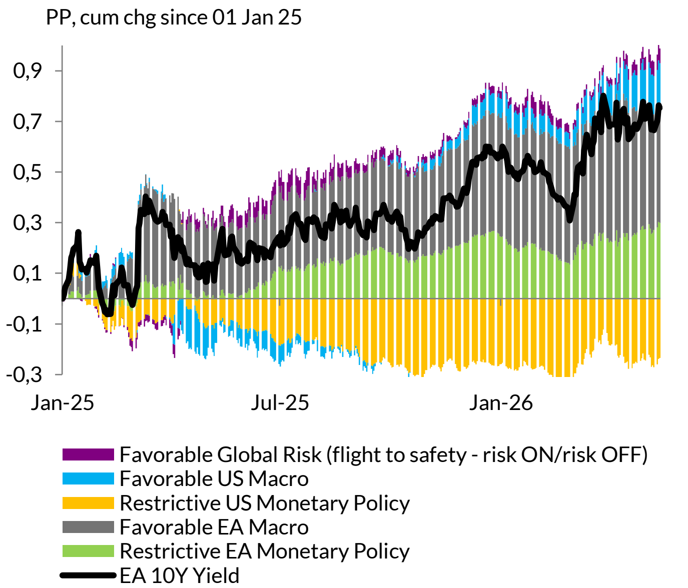
3) The risk environment showed a negligible contribution to the movement in rates in both episodes.

Against this backdrop, our model shows that during **an energy shock the EA economy is hit by a double whammy**: on the one hand, economic growth is hit because the EA is a net energy importer; on the other hand, the economy suffers from an imported tightening of financing conditions from the US resulting from the same energy crisis.

This should be taken into account by the ECB in its reaction function during energy shocks.

Figure 1

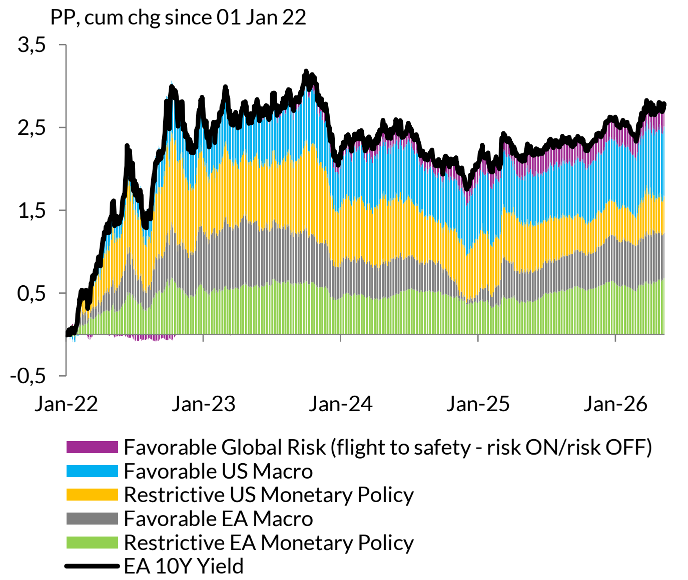
Macro Drivers of EA10Y Yield – Jan-25-to-date



Source: Bloomberg, ANIMA Research

Figure 2

Macro Drivers of EA10Y Yield – Jan-22-to-date



Source: Bloomberg, ANIMA Research

Term premium broadly unchanged

Our ANIMA Term Premium Model shows that:

1) Since the start of the Middle East conflict the rise in Bund yield has been mainly driven by the developments in the expected short-term rate rather than the term premium (**Figure 3**). The result holds across the complete maturity spectrum. This indicates that investors are not only revising up their short-term expectations regarding the ECB's monetary policy stance but are also pricing in a more hawkish ECB monetary policy stance over the long-term.

2) The dynamic is very different from what happened during the energy shock in 2022 (**Figure 4**). Back then the 150bp rise in Bund yields observed in the period from end February 2022 to end August 2022 was entirely driven by a rise in term premium, while the expected short-rate component remained basically unchanged (and only surged afterwards once it was clear that the ECB was embarking in a rate hike cycle).

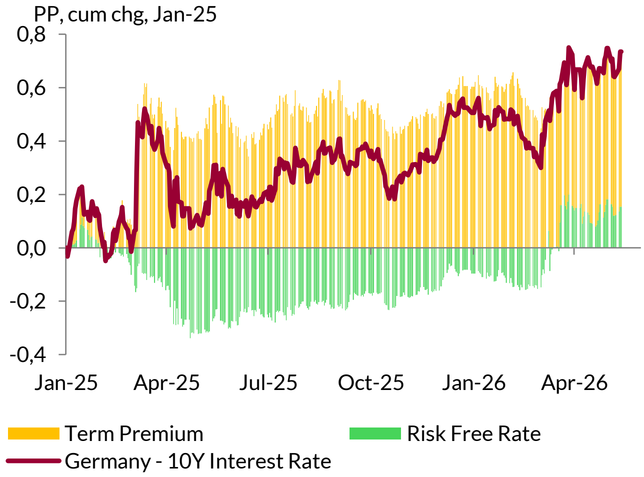
We believe that the difference between the two cases is due to:

- ✓ In 2022 markets did not immediately price in a strong reaction by the central banks, as they were coming from a period of deflationary forces, low growth and low rates. Against this backdrop, it took time for markets to adjust to the idea of more hawkish central banks. At the same time however, the economy was in a much more solid position, the labour market was much tighter, and governments started approving fiscal easing measures right after Russia invaded Ukraine (although the larger part of the fiscal packages was approved towards the end of 2022). These factors led investors to price in a higher inflation risk premium and expectations of higher bond issuance. At present, the memory of the 2022 energy shock episode is guiding market expectations and leading to higher monetary policy expectations, even though the much less buoyant economy and the disinflationary forces in the EA should act as a deterrent to pricing significantly higher official rates. Meanwhile, investors are not pricing in sizeable fiscal packages for the time being as 1) they are hopeful that the conflict will conclude soon 2) the room for further fiscal easing by EA countries is much more limited than in 2022 (Figure 5). These factors are preventing a sharp rise in the term premium in our view.
- ✓ At the beginning of 2022, the term premium was sizably negative, while it is now in the 1% region at the 10Y tenor. The 10Y Bund term premium is higher than the UST term premium and has increased quite sizably since March 2025, when Germany announced its massive fiscal package.

  Against this backdrop, **we believe that absent another sizeable fiscal easing in the eurozone, the term premium has very little room to increase further from current levels.**

Figure 3

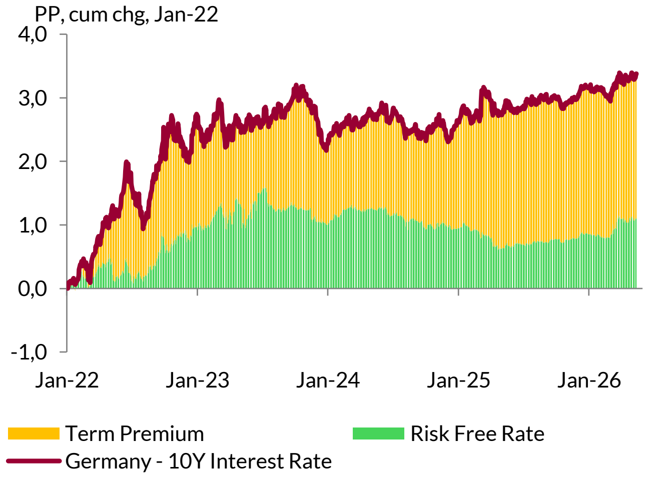
Bund 10Y Term Premium Estimates – Jan-25-to-date



Source: Bloomberg, ANIMA Research

Figure 4

Bund 10Y Term Premium Estimates – Jan-22-to-date



Source: Bloomberg, ANIMA Research

We remain tactically LONG EGBs

The results of our models confirm our view that EA rates are near their peaks. Against this backdrop, **we remain tactically LONG on both Bunds and BTPs**, for the following reasons:

1) If the conflict concludes in the next few weeks and the Strait of Hormuz re-opens, we expect the contribution to high rates from hawkish monetary policy stances by both the Fed and the ECB to decline sizably.

2) If the Middle East conflict continues and the Strait of Hormuz remains closed, we expect the positive contribution of the EA macro backdrop to EA rates to become much smaller (or even negative) and the ECB to soften its stance as downside risks to growth pile up, thereby reducing the contribution from tighter monetary policy expectations.

The main risks to our view are 1) that the Middle East conflict continues and EA countries significantly scale up the size of their fiscal easing and 2) that the US economy fares too well. In this context, we see the risks that EA yields could move higher, as:

1) Markets would expect the downturn in the EA economy to be less pronounced.

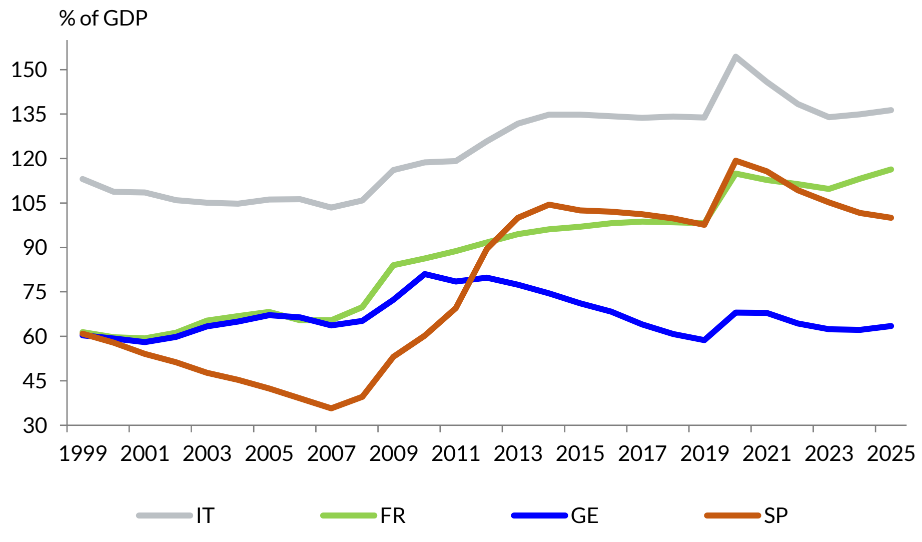
2) Monetary policy expectations would become even more hawkish.

3) The term premium would rise due to a higher inflation risk premium and increased bond issuance, while long-term monetary policy expectations could rise as well.

4) Spillover from the US could drive yields higher in the short-term.

Figure 5

Little fiscal room for expanding public debt sizably (debt as % of GDP)



Source: Bloomberg, Haver Analytics, ANIMA Research

Appendix

ANIMA Asset Price Decomposition Model

Our modelling approach employs a Bayesian Structural Vector-Autoregressive (B-SVAR).

We consider five endogenous variables where the structural shocks are assumed to be i.i.d. with zero mean and unit variance. The set of variables includes daily changes in 10Y EA OIS Yields, the log-difference in EA/US stock price index, the EUR/USD exchange rate and the spread between the 10Y EA OIS and 10Y US Treasury yields.

The sample comprises daily observations starting from January 2000, and we include four lags of the dependent variables.

We use a combination of sign restrictions to identify the underlying drivers within our set of endogenous variables. As previously reported, our structural shock identification scheme is based on sign restrictions applied to the contemporaneous impulse response function (see **Table 1**). A "+" or "-" denotes an increase or decrease, respectively, in a variable following a specific shock, while empty fields indicate that the parameter is left unrestricted. All restrictions are imposed on impact, reflecting the fact that markets typically react to news instantaneously or within the same day.

In terms of econometric specification, we follow the notation of Rubio-Ramirez et al. (2010)[4], and specify the following model, where u_t represents the reduced-form errors with covariance matrix Σ:

$$y_t = \underbrace{c}_{intercept} + \sum_{h=1}^{p} \Phi_h y_{t-h} + u_t, \qquad t = p+1, \dots, T$$

We adopt a Normal–Inverse-Wishart (NIW) prior for the parameter matrices $\{\varphi_h\}$ and the residual covariance Σ. Specifically, for a chosen number of lags p, we arrange the system in a standard linear regression form $\mathrm{Y} = \mathrm{X}\,\mathrm{B} + \mathrm{U}$. We then iteratively sample:

1. Σ from an Inverse Wishart distribution,
2. B from a Gaussian distribution, conditional on Σ,

This process generates a large number of candidates, denoted as draws $\{(B, \Sigma)\}$, each reflecting plausible variations in the posterior distribution. Each draw preserves the daily structure of the VAR, allowing us to handle high-frequency data points without imposing a restrictive parametric form beyond the linear setup.

To interpret the daily fluctuations in y_t as arising from meaningful shocks - such as "Restrictive Monetary Policy Shock" or "Favourable EA Macro Shock" - we decompose the reduced-form innovations u_t into structural shocks e_t via:

$$u_t = B_0 \epsilon_t, \qquad Cov(e_t) = I$$

This implies:

$$\Sigma = B_0 B_0^T.$$

We construct B_0 by multiplying $chol(\Sigma)$ by an orthonormal rotation matrix Q. The sign-restriction approach retains only those rotations Q for which the on-impact response

[4] *RUBIO-RAMÍREZ, J. F., WAGGONER, D. F., & ZHA, T. (2010), Structural Vector Autoregressions: Theory of Identification and Algorithms for Inference. The Review of Economic Studies, 77(2), 665–696.*

of each variable in y_t to each identified shock aligns with our hypothesised sign pattern.

Mathematically, we encode these sign expectations in a sign matrix, which must be satisfied by B_0.

Having isolated these five shocks, we construct a historical decomposition that shows how each shock cumulatively contributes to daily changes in the variables. Formally, we express this using a finite moving-average (MA) representation:

$$y_t = \sum_{l=0}^{\min(t,\ H)} \Theta_l \varepsilon_{t-l}$$

where $\Theta_0 = \mathrm{B}_0$ is the immediate-impact matrix, and each subsequent Θ_l is built recursively from the VAR parameters $\{\varphi_h\}$.

For each day t and each shock j, the product $\Theta_l[\cdot, j]\mathrm{e}_{t-l,j}$ yields the raw contribution of shock j. In the daily yield equation, we then adjust these raw contributions so that their sum exactly matches the observed daily change, distributing any residual mismatch proportionally across shocks based on their short-run share in the forecast error variance (FEVD). This ensures an exact day-by-day accounting of yield changes. In other words, we distribute the residual across shock contributions using FEVD results as weights, preserving consistency with the model's structural interpretation.

ANIMA Term Premium Model

German Bund yields are decomposed into a model-implied risk-free rate and a term premium using an Adrian, Crump and Moench (2013) [5] affine term-structure framework adapted to the German market. We produce estimates for the 2-, 5-, 10- and 30-year maturities.

The best-known public ACM benchmark is the New York Fed model for US Treasuries; our Bund estimates follow the same core logic but differ in several important respects. Most notably, unlike the New York Fed implementation, which estimates the factor structure using maturities only up to 10 years, our approach uses the German zero-coupon curve out to 30 years, allowing the model to capture long-horizon bond-pricing dynamics more fully. In addition, term premia are computed using observed zero-coupon yields rather than model-fitted yields, so the final estimate reflects the actually observed market curve rather than the model's fitted approximation. For Germany, we begin by reconstructing a smooth zero-coupon curve from the Deutsche Bundesbank's Svensson parameters, which are used to generate monthly-spaced maturities from 3 months to 30 years. Five underlying factors are then extracted from the curve, while 1-month Euribor is used as the short-rate proxy instead of a curve-implied 1-month yield, because the German zero-coupon curve is estimated starting at 3 months, making the 1-month point an extrapolation that can be excessively volatile at the very short end. Model parameters are estimated on end-of-month data and then applied to daily observations[6]. The risk-free component captures the model-implied path of short-term rates over the life of the bond, while the term premium is the difference between the observed zero-coupon yield and that risk-free estimate. The sample period for parameter estimation begins in January 1999.

[5] *ADRIAN T., CRUMP R.C., MOENCH E. (2013). Pricing the term structure with linear regressions. Journal of Financial Economics, 110(1), 110-138.*

[6] *A similar approach is also used by GALVAO B., SAKTHIVEL B. (2026). ACM Term Premium Estimates by Bloomberg Economics. 2026 Bloomberg L.P.*

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