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Asset price dynamics and global macro-financial conditions index

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Summary

- We identify the main drivers of Eurozone financial market assets, namely domestic and external monetary policy and macro situation, spillovers between the Eurozone and the US, shifts in global risk sentiment and commodity terms of trade shocks using a sign-restricted SVAR model. These shocks help explain the evolution since 2008 of the Euro US Dollar exchange rate and the differential of sovereign rates between the US and the Eurozone. The model also facilitates the extraction of a global macro-financial conditions indicator.
- The structural shocks identified by the model, namely - 1) global risk, 2) restrictive Fed policy, 3) restrictive ECB policy & 4) unfavorable Eurozone terms of trade relative to the US - are combined to construct a high frequency global macro-financial conditions index. This index captures not only the shifts in global financial risk sentiment but also takes into account the effects of relative monetary policy stance and terms of trade dynamics.
- The shocks derived from the model are individually useful to gauge past as well as current policy, macro and risk environment. As such, these shocks capture well different aspects of the last 15 years' crisis episodes, including the Global Financial Crisis, the Eurozone debt crisis, the Taper Tantrum episode, the pandemic, the Ukraine War as well as the tariff led uncertainty over the past six months.
- Results of the model as portrayed through an historical decomposition of the euro-dollar movement over the past half a year helps identify the key drivers of the recent appreciation in the euro since late February of this year. Chief amongst these is the increased uncertainty over the impact of President Trump's tariff policies on the US economy and the prospects of the US dollar. In favor of the Euro is the announcement of Germany's massive fiscal spending package, which is supportive of the Eurozone macro outlook and also puts upward pressure on Eurozone yields given the fiscal risk premium. Furthermore, a sharp rebound in global risk appetite following Trump's 90 day pause on retaliatory tariffs has underpinned euro-dollar strength since mid-April. On the flipside, we do see the Fed's wait and watch approach before adjusting rates lower, in times of uncertainty and tariff led upside risks to US inflation, as weighing on the euro-dollar.
- The widening of Bund-UST yield spreads over the past half a year is seen to be driven

mainly by the boost to Eurozone Macro factor caused primarily by the German fiscal spending announcement. Meanwhile, the weaker US macro factor owing to tariff uncertainty is seen to weigh on US yields. Interestingly, the safe haven appeal of US treasuries is seen to have taken a beating in the recent risk-aversion episode unlike during past crisis events such as the global financial crisis of 2008 (GFC).

- The recent evolution (data up to end May '25) of our global macro-financial conditions index suggests an improvement in risk appetite since the peak of tensions towards the end of March. In early April, while the global risk component of the index jumped due to Trump's tariff threats and the US monetary policy remained relatively restrictive, its rise was partly offset by a visible improvement in terms of trade. Since mid-April, the easing in the global risk factor has further underpinned the supportive terms of trade conditions even as monetary policy conditions, particularly in the US, are less supportive.

Introduction

In the last few years, geopolitical developments and trade tensions have assumed increased relevance amongst economic and non-economic factors driving investors' reassessment of financial market developments. In this new world, the role of cross country spillovers and terms of trade shocks have a pertinent role in identifying financial market developments in the broader macroeconomic framework. In this watch, we identify the drivers of Eurozone financial market assets as a mix of domestic monetary policy and macro developments, spillovers between the Eurozone and the US, shifts in global risk sentiment and commodity terms of trade shocks using a sign restricted vector autoregression model (SVAR model). This approach is in line with the paper by Brandt, Guilhem, Schroder, Robays (2021, ECB Working Paper[1]), although we include an additional variable - the relative terms of trade - given the increasing importance of this variable for the Eurozone asset markets in the aftermath of the Ukraine war and its subsequent impact on growth-inflation dynamics for the Eurozone. Extraction of the exogenous relative terms of trade shock is a major contribution of this paper especially in the wake of rising geopolitical turmoil and its impact on terms of trade through the commodity price channel.

Thus, our model involves an identification approach based on sign restrictions exploiting information content of daily co-movements in risky and risk-free bond yields, equity prices, commodity terms of trade and the Euro-US dollar exchange rate. Furthermore, the structural shocks extracted from the model, namely - 1) Global risk, 2) Restrictive Fed policy, 3) Restrictive ECB policy & 4) Unfavorable Eurozone terms of trade relative to the US - are combined to construct a high frequency global macro-financial conditions index that reflects not only the shifts in global risk sentiment but also takes into account the effects of relative macro policy shifts and terms of trade.

[1] What drives euro area financial market developments? The role of US spillovers and global risk

Closer look at the structural shocks extracted from the model

The identification of structural shocks involves imposing sign restrictions on the impulse response functions derived from the reduced-form VAR in order to identify the relevant structural shocks. These restrictions (Table 1) ensure that the shocks are uniquely identified (orthogonal) allowing for a meaningful economic interpretation of each underlying disturbance. The nature of these restrictions, i.e. whether positive, negative or left unrestricted (agnostic), reflects the reactions of different variables to different shocks and is decided based on the relevant past literature and stylized facts. As per our restrictions table, a contractionary monetary policy shock drives up bond yields while weighing on equity prices and strengthening the exchange rate. A positive macro shock increases domestic bond yields as well as equity prices and strengthens the domestic exchange rate. Restricting the sign on the spread between Eurozone and US yields (magnitude restriction) is meant to suggest that an unexpected tightening of US monetary policy puts upward pressure on both the US and Eurozone yields, but US yields are expected to react more strongly.

TABLE 1: SIGN RESTRICTIONS FOR THE SVAR MODEL (BLANK REFERS TO NO RESTRICTIONS)

	Shock/Drivers of asset prices					
Asset prices variables	**Restrictive Eurozone monetary policy**	**Favorable EA macro**	**Restrictive US monetary policy**	**Favorable US macro**	**Favorable global risk**	**Favorable EA terms of trade**
Euribor ten years irs	+	+	+	+	+	-
EuroStoxx 50 returns	-	+			+	
US S&P 500 returns			-	+	+	
EUR USD	+	+	-	-	+	+
EA-US 10 year sovereign yields spread	+	+	-	-	-	+
EA-US commodity terms of trade spread			+	+		+

Source: BBVA Research

A deterioration of global risk sentiment will reduce equity prices and lower risk-free rates in both jurisdictions (the US and the Eurozone), reflecting reduced investors' appetite for risky assets. Higher global risk leads to fall in US risk free rates more strongly than Eurozone rates, causing Eurozone-US yield spread to rise and the US dollar to appreciate vs. the Euro on safe haven status of USD. At times when global risk undermines US assets, such as during the

recent episode of Trump's tariff led uncertainty, the model captures such effects as an unfavorable US macro shock. Favorable EA terms of trade shock vis-a-vis the US leads to Euro appreciation. The effect of domestic macro shock on foreign equity prices is left unrestricted. The shocks derived from the model are individually useful to gauge past as well as current policy, macro and risk environment. In particular, the global risk structural shock provides insights into global financial market volatility. We examine the six structural shocks to check for validity with the important events in financial markets since 2007.

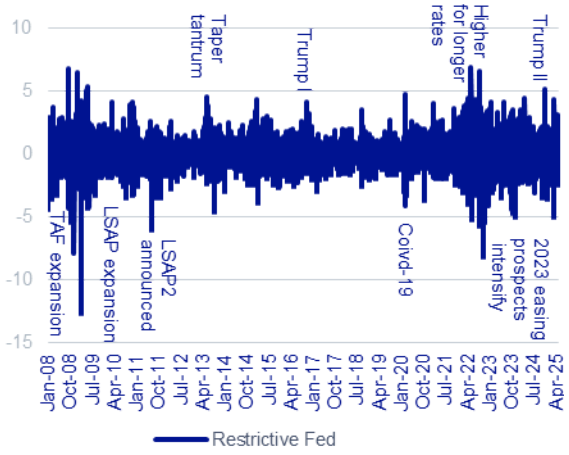
1. The shocks representing the US and Eurozone monetary policy (Figure 2 and 3) coincide very well with key easing events such as the GFC shock in 2008, the EU debt crisis episodes leading up to Mario Draghi's 'Whatever it takes' pledge (mid 2011 to May 2013), and COVID-19 pandemic (early 2020) as well as monetary policy tightening episodes such as during the Ukraine war (2022) which materialized into 'higher for longer rates' rhetoric (until Nov 2023), Powell's dovish pivot (Dec 2023) and Fed's 'no rush' to cut rates rhetoric post Trump's tariff uncertainty.

2. Macro shocks for the US and Eurozone (Figures 4 and 5) validate the main negative macro shocks such as the GFC, European debt crisis, the COVID-19 pandemic and the Ukraine war. We find that US macro and monetary policy shocks have spillovers onto the Eurozone although Eurozone shocks have muted impact on the US.

3. The relative terms of trade shock for the Eurozone is marked by the Ukraine war episode, which led to a spike in energy prices, mainly natural gas. (Figure 6).

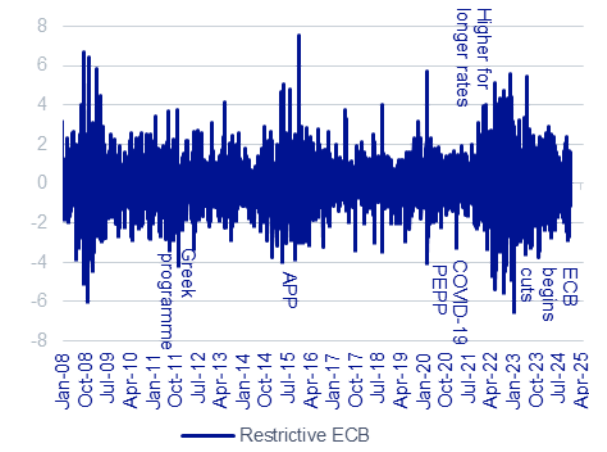
4. Finally, for the global risk shock (Figure 7), we see validation for several important episodes besides the GFC, Euro Debt crisis and the pandemic, such as the Taper tantrum (May-Sept 2013), RMB devaluation episode (late 2015), trade tensions in 2018, the Ukraine war and the recent rise in global risk post Trump election win in early November 2024, particularly since the escalation of trade war earlier this year.

FIGURE 2. STRUCTURAL SHOCK - RESTRICTIVE FED



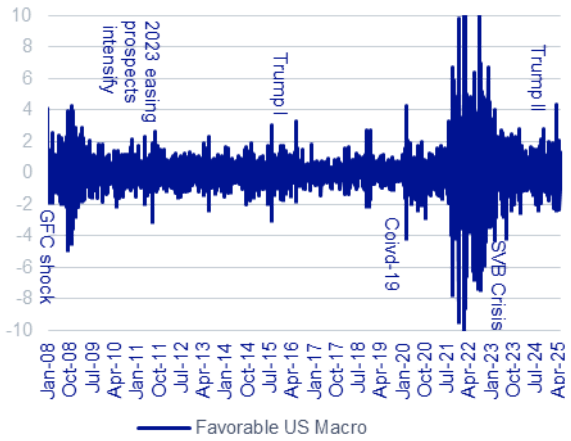
Source: BBVA Research

FIGURE 3. STRUCTURAL SHOCK - RESTRICTIVE ECB



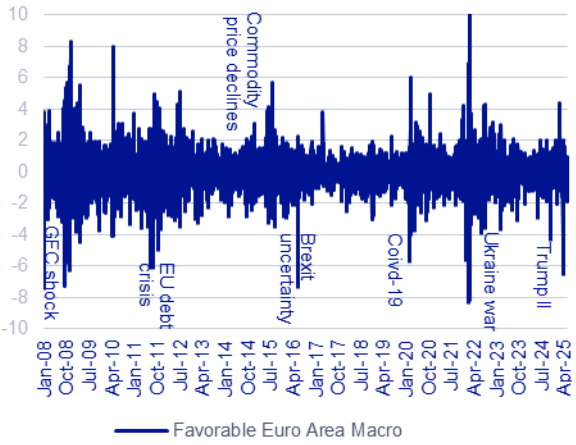
Source: BBVA Research

FIGURE 4. STRUCTURAL SHOCK - FAVORABLE US MACRO



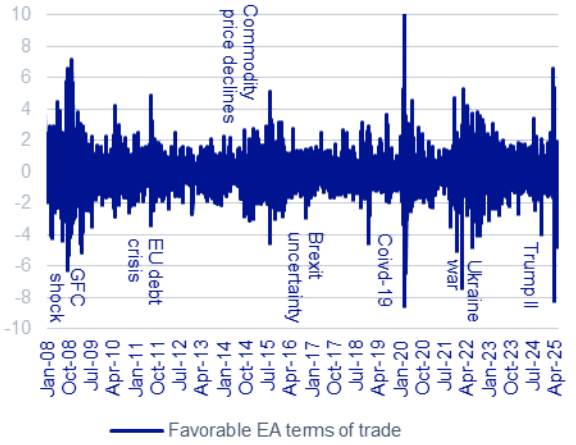
Source: BBVA Research

FIGURE 5. STRUCTURAL SHOCK - FAVORABLE EUROZONE MACRO



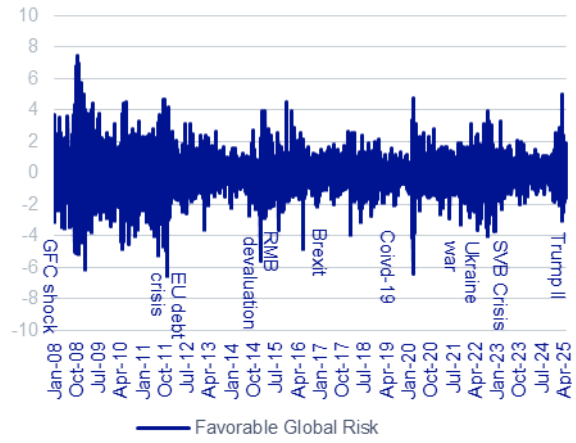
Source: BBVA Research

FIGURE 6. STRUCTURAL SHOCK - FAVORABLE EUROZONE TERMS OF TRADE



Source: BBVA Research

FIGURE 7. STRUCTURAL SHOCK - FAVORABLE GLOBAL RISK



Source: BBVA Research

What's driving the Euro and the Bund-UST spread? A historical decomposition

A historical decomposition of the euro-dollar movement over the past half a year (Figure 8) helps identify the key drivers of the recent appreciation in the euro since late February of this year. Chief amongst these is the increased uncertainty over the impact of President Trump's tariff policies on the US economy and the prospects of the US dollar, which is reflected in the graph as an increasingly unfavorable US macro outlook. This result is compatible with the findings from our separate note published recently on the long term perspective of the euro-dollar exchange rate (see), which indicates that the euro-dollar exchange rate began 2025 misaligned, primarily due to an overvaluation of the U.S. dollar rather than weakness in

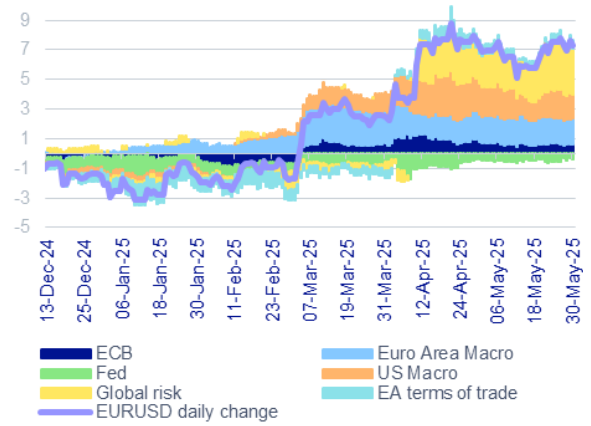
the euro, with liquidity and safe asset considerations explaining a significant share of that overvaluation.

On the other side of the Atlantic, in favor of the Euro is the announcement of Germany's massive fiscal spending package, which has improved the Eurozone medium term macro outlook while also putting upward pressure on Eurozone yields given the fiscal risk premium. Furthermore, we see that a sharp rebound in global risk appetite following Trump's 90 day pause on retaliatory tariffs underpinned euro-dollar strength since mid-April. On the flipside, we do see the Fed's wait and watch approach before adjusting rates lower, in times of uncertainty and tariff led upside risks to US inflation, to weigh on the euro-dollar.

Stepping back into history, EURUSD drivers at the height of the European debt crisis episode of 2012 (Figure 9) illustrates how the common currency revived on the back of improved risk sentiment post Draghi's famous 'Whatever it takes' pledge in July 2012 and further underpinned by a favorable terms of trade shift for the Eurozone alongside weakening US macro environment. As for the pandemic period, the model depicts global risk as being a dominant driver of weaker EURUSD during the height of the pandemic in early 2020 although the second half of 2020 saw Fed's ultra accommodative policy and weak US macro being dominant drivers of a stronger EURUSD. Moving further ahead, the Fed's aggressive rate hikes alongside unfavorable commodity terms of trade conditions for the Eurozone triggered by the Ukraine war were dominant contributors of the Euro weakness over most part of 2022.

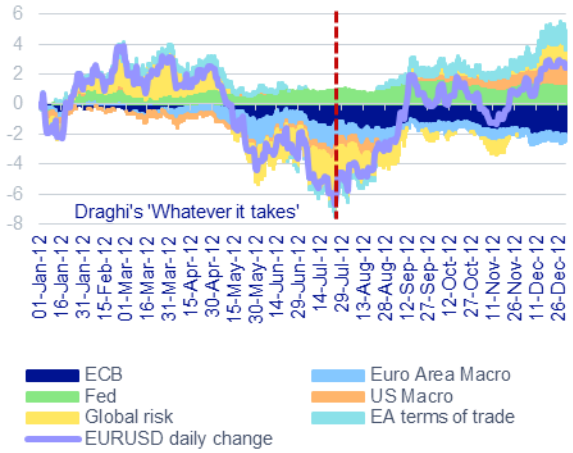
Separately, the widening of Bund-UST yield spreads over the past half a year (Figure 10) is seen to be driven mainly by the boost to Eurozone Macro factor caused primarily by the German fiscal spending announcement. This aside, we do see relative tightening in Eurozone monetary policy conditions (the ECB factor) as also playing a role in a wider spread. This comes despite a series of rate cuts by the ECB since June of last year. As for the dollar leg of the spread, the weaker US macro factor owing to tariff uncertainty is seen to weigh on US yields. Finally, in this recent episode, we find that the global risk component penalized US debt relatively more than European debt, which is not usually commonplace. In other words, the safe haven appeal of US treasuries took a beating in the recent risk-aversion episode unlike in the past crisis episodes, such as the 2008 GFC (Figure 11). Thereafter, we see that sharp rebound in global risk appetite following the temporary tariff respite in mid-April helped anchor the spread from widening further. Stepping back, during the global financial crisis episode of 2008, we find a sharp narrowing of the Bund-UST yield spread when Lehman collapsed in Sept 2008 led mainly by weak Eurozone macro and a restrictive Fed at the time. The spread started widening shortly after by the end of 2008 as the Fed eased, global risk sentiment worsened in turn causing a flight for US bonds and US macro prospects worsened.

FIGURE 8. EURUSD - CUMULATIVE OVER PAST 6 MONTHS



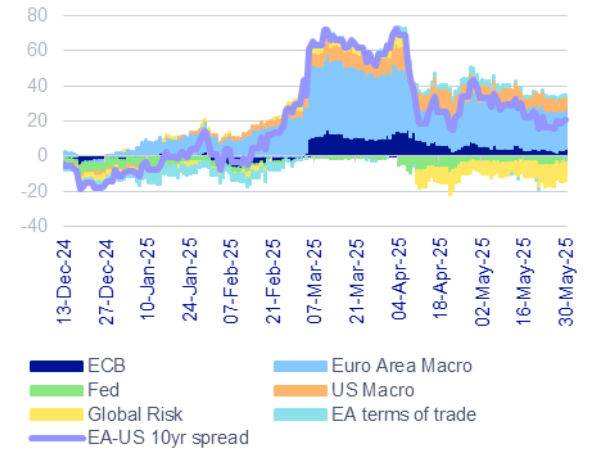
Source: BBVA Research

FIGURE 9. EURUSD - EUROZONE DEBT CRISIS 2012



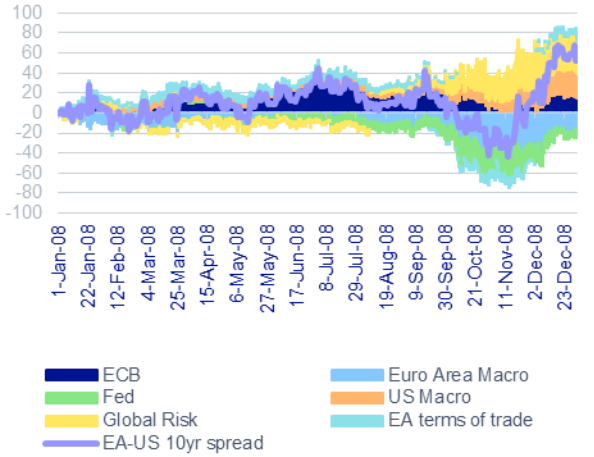
Source: BBVA Research

FIGURE 10. BUND-UST YIELD SPREAD - PAST 6 MONTHS



Source: BBVA Research

FIGURE 11. BUND-UST YIELD SPREAD - GFC

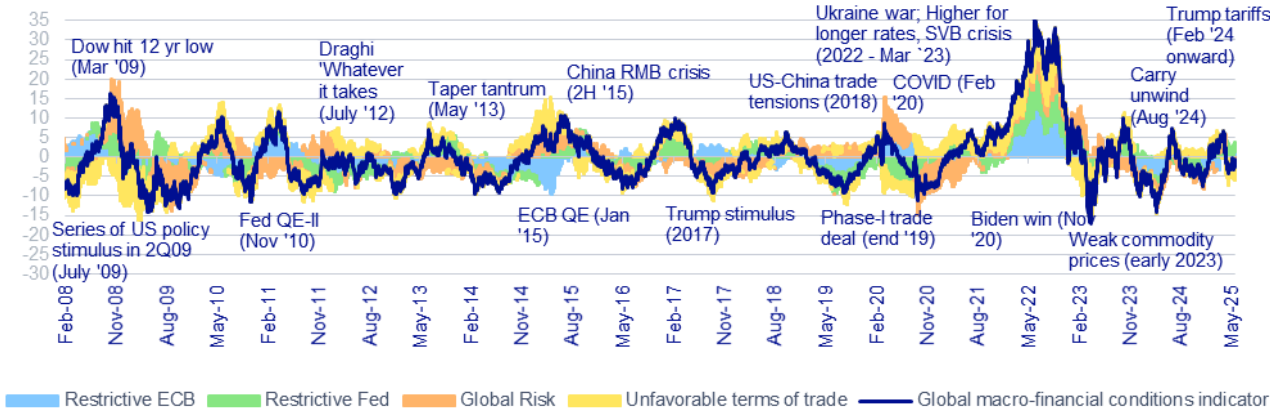


Source: BBVA Research

Constructing a global macro-financial conditions indicator:

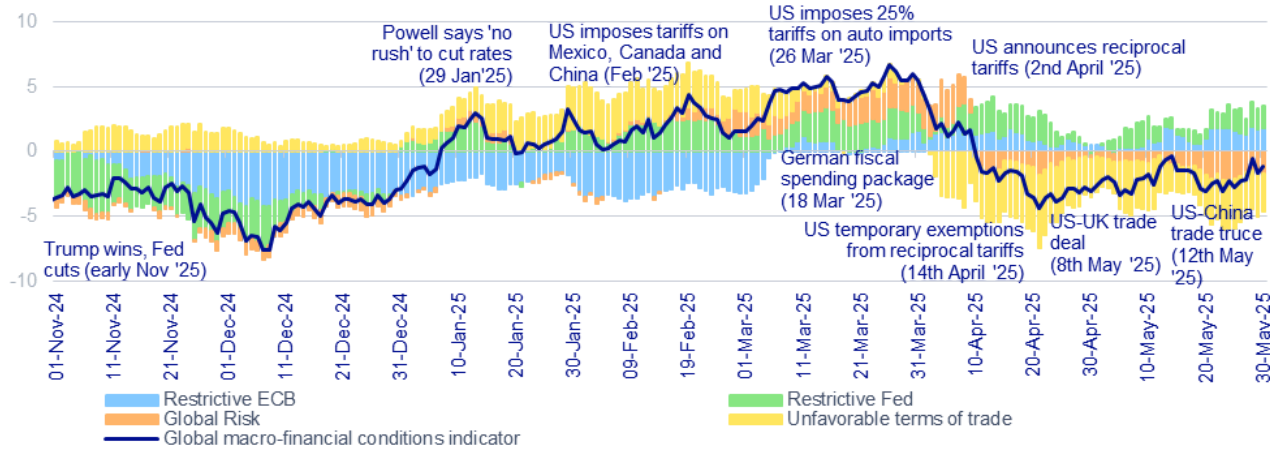
The exogenous structural shocks extracted from the model, namely - 1) Global risk, 2) Restrictive Fed policy, 3) Restrictive ECB policy & 4) Unfavorable Eurozone terms of trade relative to the US - are averaged after taking a 180 day rolling sum of each shock to construct a high frequency global macro-financial conditions index that reflects not only the shifts in global financial risk sentiment but also takes into account the effects of relative macro policy shifts and terms of trade. The historical decomposition of the index reflects very well the various factors at play in the evolution of the broader global risk sentiment and its drivers during various episodes of the business cycle since 2007 (Figure 12).

FIGURE 12. FACTORS DRIVING GLOBAL MACRO-FINANCIAL CONDITIONS INDICATOR



Source: BBVA Research

FIGURE 13. FACTORS DRIVING GLOBAL MACRO-FINANCIAL CONDITIONS INDICATOR (SINCE TRUMP'S SECOND PRESIDENCY)



Source: BBVA Research

The recent evolution of our global macro-financial conditions index suggests an improvement in risk appetite since the peak of tensions towards the end of March. In early April, while the global risk component of the index jumped due to Trump's tariff threats and the US monetary policy remained relatively restrictive, its rise was partly offset by a visible improvement in terms of trade. Since mid-April, the easing in the global risk factor has further underpinned the supportive terms of trade conditions even as monetary policy conditions, both in the Eurozone and the US are less supportive. In comparison to the VIX - the conventional market measure of risk sentiment - our global macro-financial conditions index moves both ways (positive and negative), and thus well represents favorable shifts in financial conditions (Figure 14). Finally, the indicator is observed to move very closely with EM portfolio flows, in turn providing higher frequency heads-up to EM flows given the weekly nature of flows data published by known sources.

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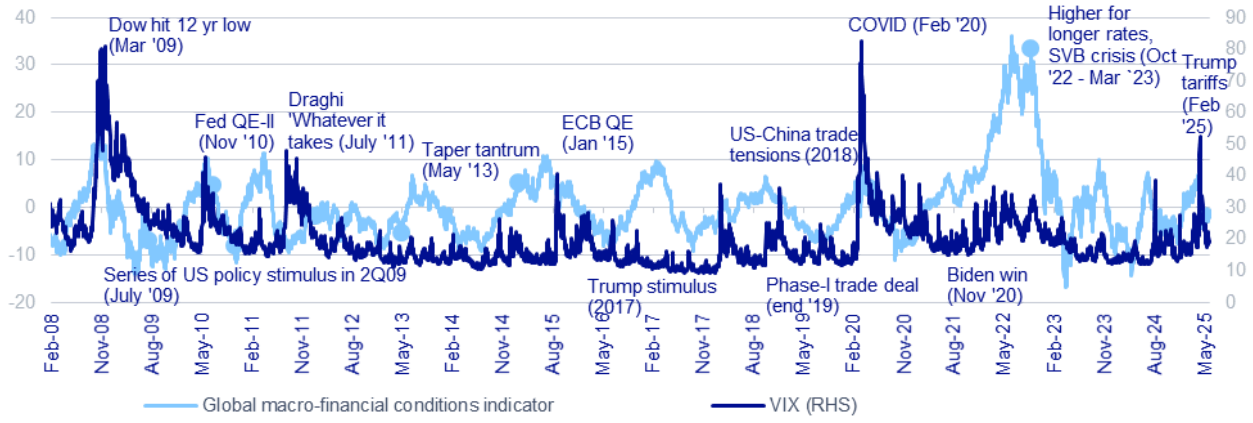
FIGURE 14. GLOBAL MACRO-FINANCIAL CONDITIONS INDICATOR VS VIX



Source: BBVA Research

Annex I: Methodology

Methodology

We set up a sign restricted SVAR model at daily frequency that identifies six different drivers of asset price fluctuations – Eurozone and US monetary policy, Eurozone and US domestic macro risk, global risk and terms of trade. We use an identification approach for the structural shocks via sign restrictions on the contemporaneous impulse response function, exploiting the information content of daily co-movements in risk-free yields, equity prices, the euro-US dollar exchange rate, and relative terms of trade between the US and Eurozone. The model is run over the period starting 2007 to 30th May 2025. Horizon restrictions are limited to the first period. The model is run with 1 lag, as identified by the AIC-BIC criteria.

SVAR variables description

VARIABLES

Variable/Asset prices	Type	Reason
Euribor ten year IRS	Daily changes (bps)	A Eurozone interest rate swap that captures well any changes in monetary policy stance or policy guidance, as well as overall financial conditions, including short term risk premia and long duration risk.
Euro Stoxx 50	Log differences (%, pp)	Eurozone macro conditions
S&P 500	Log differences (%, pp)	US macro conditions
EURUSD	Log differences (%, pp)	Captures the role of the US dollar as safe haven asset as well as the reflection of US monetary policy actions relative to the ECB
EA-US 10 year sovereign yield spread	Daily changes (bps)	Long term rates capture both conventional (that affects the curve) and unconventional monetary policy by the Fed and ECB. Large scale asset purchases are found to impact longer maturities by depressing the term premia. Risk free rates characterize global risk shock and help pin down the flight to safety component.
EA-US commodity terms of trade spread	Daily changes (bps)	Eurozone terms of trade impacts

Source: BBVA Research

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