

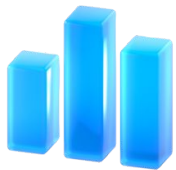
BBVA Research

November 2025

The BBVA Research Big Data & AI WebSite

A Radical Client Perspective on Economics and Geopolitics

New BBVA Research Big Data & AI Website



ECONOMIC RESEARCH

Real-Time Economy

Economic activity indicators (consumption, investment, sectoral) for daily monitoring of the economy.



ECONOMIC INDICATORS

Economics of High Granularity

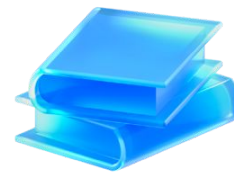
Highly detailed daily activity indicators, broken down by department, city, and sector.



TEXT AS DATA USING AI

AI for Geopolitical and Social Issues

Daily sentiment indicators in the media to monitor economic, social, and geopolitical issues.



BIG DATA & AI PROJECTS

Big Data & AI Projects

Special projects Big Data and AI by BBVA Research (publications, events and conferences).

A real-time and HD view of the economy

A high-frequency, high-definition snapshot of economic, geopolitical and social developments (Transactions and Text)

Daily Data

Robustness and Validation

High quality

Leading signals

Differential Analysis

Interactive and customizable website


Frontier use of Big Data & AI



Ir a la página

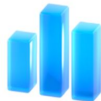
Just “Click” and “Navigate” on a New experience of Big Data & AI to monitor Economics and Geopolitics

Just [Click](#) and navigate



[Inicio](#) [Publicaciones](#) [Quiénes somos](#) [Big Data e IA](#) [Previsiones](#)


Our tools Big Data and Artificial Intelligence to monitor the economy and geopolitics



High frequency

Economic activity indicators (consumption, sectoral...) to monitor the economy on a daily basis


[Show more](#)



High granularity

Daily economic activity indicators at high level of detail, disaggregated by regions, provinces, and cities


[Show more](#)



Geopolitics

Daily media sentiment indicators to monitor economic, social, and geopolitical issues

[Show more](#)



Publications

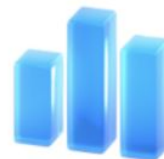
Special projects Big Data and AI by BBVA Research (publications, events and conferences)

[Show more](#)



High Frequency Economics

Consumption, Investment, Sectoral to monitor the Economy in Real Time



High frequency

Economic activity indicators
(consumption, sectoral...) to monitor
the economy on a daily basis

[Show more](#)

Economic indicators with BBVA data

What transformations they have and how to interpret them

Methodology and transformation

- **Indicators built from financial transaction data** (card payments, account movements, cash withdrawals, etc.) operated by **BBVA**.
- **Filters and definitions** similar to those used by official sources (e.g., INE) are applied in the construction of each indicator.
- **Market share biases** are corrected, and the information is scaled up to the national level.
- **Annual growth rates (%)** are presented as **28-day moving averages**.
- Data are shown in both **nominal** and **real terms** (adjusted for inflation).

Interpretation and usage guidelines

- **Qualitative interpretation:** A positive variation indicates that activity is above the same period last year, while a negative variation reflects a decline compared to a year ago.
- **High frequency + smoothing:** The 28-day moving average smooths the evolution of the indicators and captures monthly momentum.
- **The indicators show trend signals, not official statistics**
- **Different methodologies:**
 - **INE:** Data from official surveys
 - **AEAT:** Records through VAT
 - **BBVA:** Data comes from financial transactions

A Snapshot of recent trends in Spanish Consumption from our Real-Time “Indicators” (nominal & real)

Spain

Total consumption

National aggregate

Payment methods

Categories

Select up to 6

Education

Restaurants & Hotels

Other

Total

Total consumption in Spain

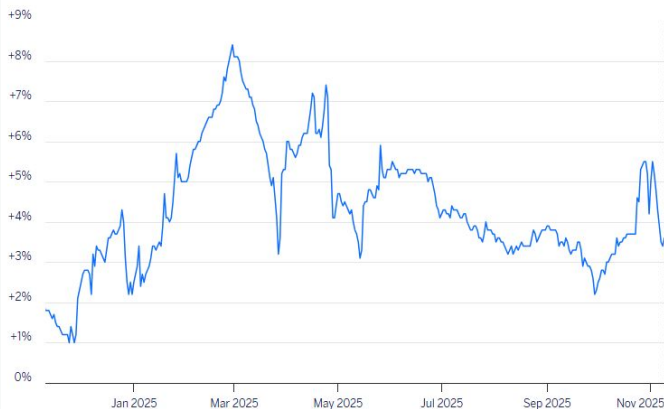
Big Data indicator. 28 days moving average, %

☒ YoY ☐ Real ☒ Nominal

1m 3m 6m **1y**

Nominal

Nov 10, 2024 → Nov 9, 2025



Download data



Download charts



Total consumption in Spain

Big Data indicator. 28 days moving average, %

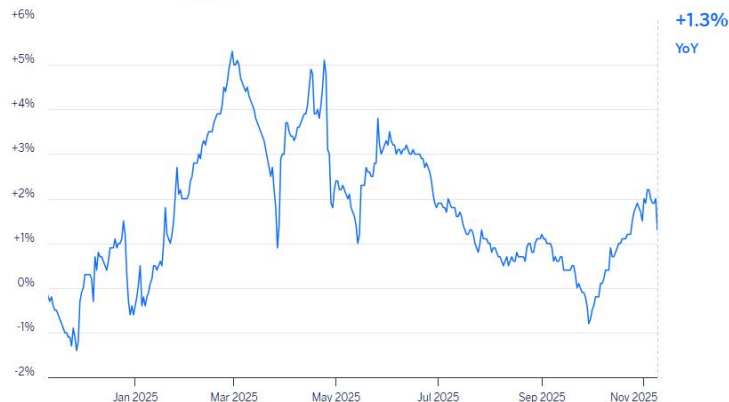
☐ YoY ☒ Real ☐ Nominal

1m 3m 6m **1y**

Real (CPI deflated)

Nov 10, 2024 → Nov 9, 2025

Nov 9, 2025



Downloadable Graphs and Data

Radiography of Argentina Crisis-Recovery in Real Time

Argentina

- Card consumption
 - National aggregate
 - Payment methods
 - Categories
- External sector

Select up to 6

- Food
- Accommodation
- Automotive
- Bars and restaurants

Card consumption in Argentina

Big Data indicator: 28 days moving average, %

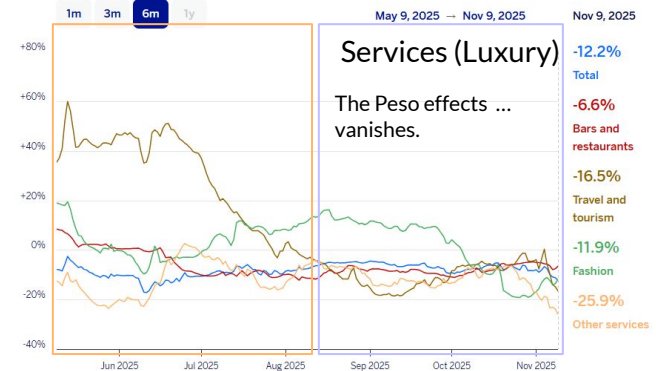
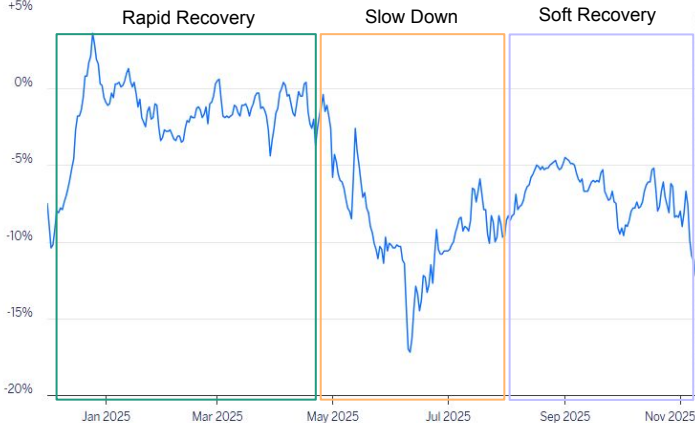
YoY Real Nominal

1m 3m 6m 1y

Dec 1, 2024 → Nov 9, 2025

Nov 9, 2025

-12.2%
YoY



Corporate activity (Sales) in Türkiye: Rich Real Time & HD information to track the pulse of corporates

Sectoral activity in Türkiye by sectors

Big Data indicator. 28 days moving average, YoY rate, %

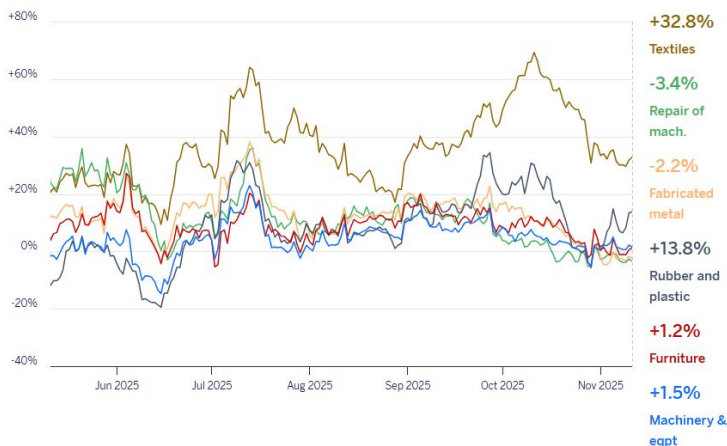
☒ Real ☐ Nominal

Time series Sectors

1m 3m 6m 1y

May 11, 2025 → Nov 11, 2025

Nov 11, 2025



A homogeneous moderation /
Recovery in Industrial Activity

Sectoral activity in Türkiye by sectors

Big Data indicator. 28 days moving average, YoY rate, %

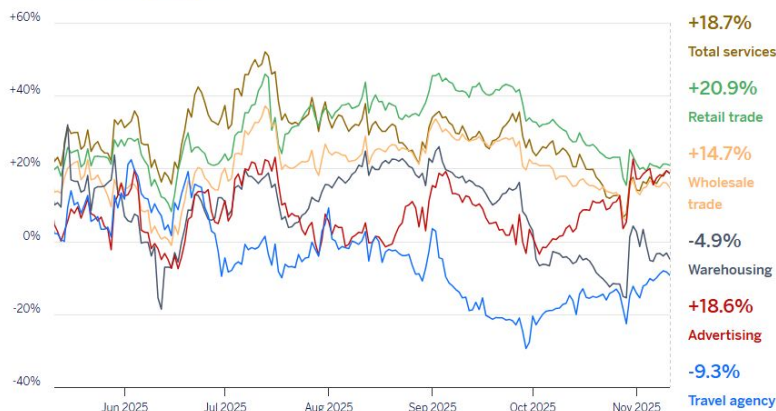
☒ Real ☐ Nominal

Time series Sectors

1m 3m 6m 1y

May 11, 2025 → Nov 11, 2025

Nov 11, 2025



Heterogeneous Service Activity with
Sharp deceleration in some sectors

Soon in
Spain!!!



Economics of High Granularity (HD)

Data for Regions, Provinces, Cities... and by Categories



High granularity

Daily economic activity indicators at high level of detail, disaggregated by regions, provinces, and cities

[Show more](#)

An in-depth view of recent Consumer trends in Spanish Regions (CC.AA): Total & Category consumption

Spain

Total consumption

National aggregate

Regions

Provinces

Cities

Tourism spending

Compare up to 6

Map of Spain with regions highlighted

+

-

Select a category

Total

Total consumption by regions (Spain)

Big Data indicator. 28 days moving average, YoY rate, %

☒ Real ☐ Nominal

Time series Categories

1m 3m 6m 1y Nov 10, 2024 → Nov 9, 2025

Region	YoY rate, %
Valencian Community	+2.5%
Andalusia	-0.4%
Galicia	+0.1%
Catalonia	-1.3%
Basque Country	-3.9%
Madrid	-2.2%

1m 3m 6m 1y Nov 10, 2024 → Nov 9, 2025

Transport (Cars)

Region	YoY rate, %
Valencian Community	+17.3%
Andalusia	+11.5%
Galicia	+5.7%
Catalonia	+5.1%
Basque Country	+1.0%
Madrid	-0.4%

1m 3m 6m 1y Nov 10, 2024 → Nov 9, 2025

Hotels & Restaurants

Region	YoY rate, %
Valencian Community	+3.2%
Andalusia	-1.6%
Galicia	-3.7%
Catalonia	-4.7%
Basque Country	-6.4%
Madrid	-5.6%

An in-depth view of recent Consumption trends in Spanish regions and provinces

Spain

Total consumption

National aggregate

Regions

Provinces

Cities

Tourism spending

Compare up to 6

+

-

Select a category

Total

Total consumption by regions (Spain)

Big Data indicator: 28 days moving average, YoY rate, %

☒ Real ☐ Nominal

Time series Categories

1m 3m 6m 1y

Nov 10, 2024 — Nov 9, 2025



Total consumption by provinces (Spain)

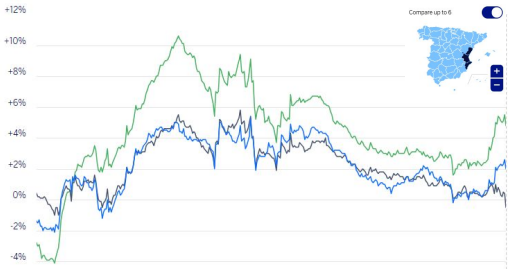
Big Data indicator: 28 days moving average, YoY rate, %

☒ Real ☐ Nominal

Time series Categories

1m 3m 6m 1y

Nov 10, 2024 — Nov 9, 2025



Nov 10, 2024 — Nov 9, 2025



How was the Summer season in Tourism (Hotel & Restaurants) on the Coast... What about car sales?

Total consumption in restaurants & hotels by provinces (Spain)

Big Data indicator: 28 days moving average, YoY rate, %

☐ Real ☒ Nominal

Compare up to 6



Time series Categories

1m 3m 6m 1y

May 9, 2025 → Nov 9, 2025

Nov 9, 2025



Total consumption in transport by provinces (Spain)

Big Data indicator: 28 days moving average, YoY rate, %

☐ Real ☒ Nominal

Compare up to 6



Time series Categories

1m 3m 6m 1y

May 9, 2025 → Nov 9, 2025

Nov 9, 2025



Unique ‘HD’ Urban Data Unlocks New Opportunities

Spain

Total consumption

National aggregate

Regions

Provinces

Cities

Tourism spending

Compare up to 6

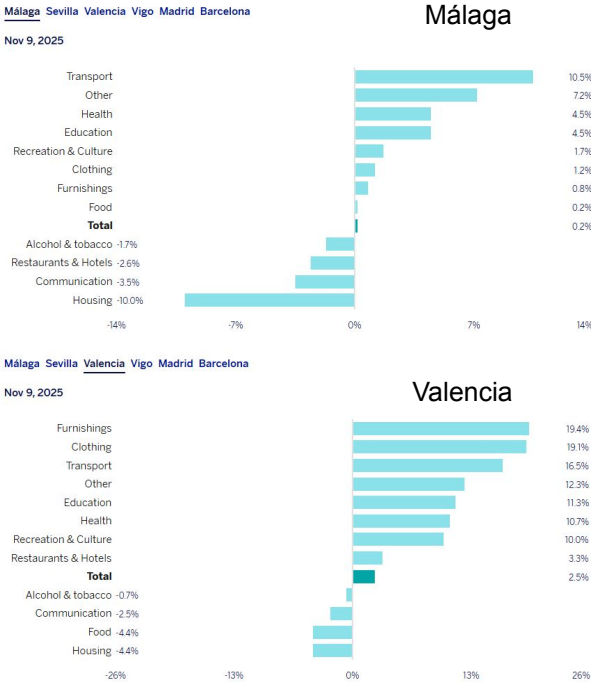
Select a category

Food

Alcohol & tobacco

Clothing

Housing



Valencia deserved special “zoom in” after Dana

Spain

Total consumption

National aggregate

Regions

Provinces

Cities

Tourism spending

Compare up to 6



Select a category

Total

Total consumption by cities (Spain)

Big Data indicator: 28 days moving average, %Y rate, %

Real Nominal

Time series Categories



Total consumption in transport by cities (Spain)

Big Data indicator: 28 days moving average, %Y rate, %

Real Nominal

Time series Categories



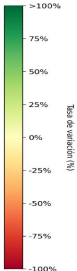
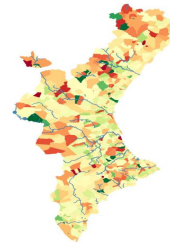
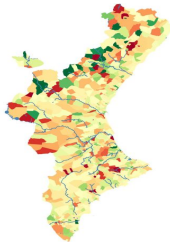
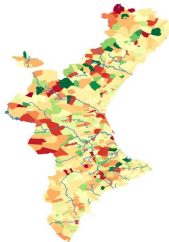
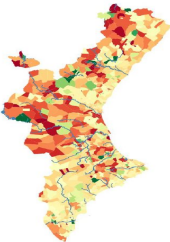
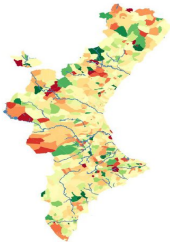
Before DANA

During DANA

1W after DANA

4W after DANA

5W after DANA



Fuente: BBVA Research a partir de BBVA.

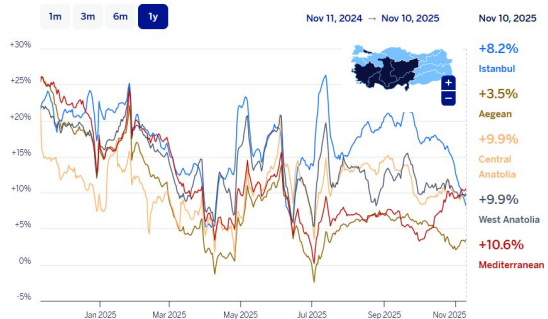
One can extend to our countries: Türkiye regions & provinces, Mexican States or Colombian cities

Card consumption by regions (Türkiye)

Big Data indicator: 28 days moving average, YoY rate, %

☒ Real ☐ Nominal

Time series Categories



Card consumption by states (Mexico)

Big Data indicator: 28 days moving average, YoY rate, %

☒ Real ☐ Nominal

Time series Categories



Card consumption by cities (Colombia)

Big Data indicator: 28 days moving average, YoY rate, %

☒ Real ☐ Nominal

Time series Categories





AI for Geopolitics, Economics & Social Issues

AI-Text generated information as Data to track the pulse of the world



Geopolitics

Daily media sentiment indicators to monitor economic, social, and geopolitical issues

[Show more](#)

What’s in the Geopolitics Section : Geopolitics, Social and Global Issues captured in News by AI sentiment

Geopolitics

Follow here our media sentiment indicators developed with AI techniques to analyze the global geopolitical landscape

Geopolitics & economics

Global issues

Real time media sentiment indicators per country to monitor the global geopolitical landscape

Economic sentiment

It captures the sentiment and media coverage of news about the economy in the country

Show more

Economic Policy Uncertainty

It collects news about the country's economic policy uncertainty (monetary, fiscal and regulatory policies)

Show more

Trade Policy Uncertainty

Global trade faces several challenges. We disentangle between the perception to verbal and material cooperation news articles to trade

Show more

Geopolitical risk

It captures the country's geopolitical events and associated risks

Show more

Political tensions

It monitors the country's political instability, uncertainty and fragmentation

Show more

Protests

It is based on the media coverage regarding social protests or unrest in the country

Show more

Conflicts

It covers the media coverage of armed conflicts, which go beyond protests

Show more

Bilateral tensions

It collects news that are speaking about two countries/regions to monitor their relationship

Show more

Geopolitics

Follow here our media sentiment indicators developed with AI techniques to analyze the global geopolitical landscape

Geopolitics & economics

Global issues

Media sentiment and web searches indicators per country to study the performance of the main hot topics with an impact on the global geopolitics

Semiconductors

Sentiment to semiconductor chips, which are essential to modern technologies and play a critical role in some key strategic industries

Show more

Cyberattacks

Perception on Cybercrime, one of the main risks and concerns in the next decade

Show more

Artificial Intelligence

AI has become a major global issue, with a great potential for the society, but challenges too. We analyze the perception of AI by countries

Show more

Environment

The environment represents one of the main global challenges ahead. Our analysis breaks it down into key dimensions such as public sentiment toward climate change, biodiversity, droughts, and floods

Show more

Inequality

Social and income inequality is a major issue. We monitor the sentiment of inequality over time and by countries

Show more

Geopolitical and social indicators using news media data

What transformations they have and how to interpret them

Methodology and transformation

- Indicators constructed from **international, national, regional, and local media data**, classified by language and media origin (domestic vs. foreign).
- **Use of machine learning (NLP) and AI techniques** to capture the set of terms for monitoring different topics. The algorithms capture news coverage and sentiment.
- Depending on the meaning of the indicator, only coverage is considered in its construction, or coverage multiplied by -sentiment.
- The data is presented as a 28-day moving average and standardized relative to the indicator's own history (mean zero and variance one).

Interpretation and usage guidelines

- **Interpretation based on the indicator** (risk, uncertainty, sentiment, etc.). Positive (negative) values indicate higher (lower) risk/uncertainty/sentiment relative to the average for the period 2017-present for each indicator in each country.
- **The evolution of the indicators is analyzed relative to their historical values** (they are not numerically comparable across countries).
- The **28-day moving average** smooths fluctuations over time and captures monthly dynamics.
- The indicators show signals based on media coverage, not official data. They are useful for identifying trends, shifts and turning points, as well as for quantifying topics for which no official data exist.

How do we interpret them?

Standardized data

All indicators have a mean of 0 and variance of 1 for the period 2017-present

Values above (below) zero mean that the indicator is at **higher (lower) values** than its historical mean



The **indicators** are not directly comparable between countries, as they **represent relative values to each country's own history**.

In this chart, economic policy uncertainty in the US is above its historical average and, in relative terms, higher than in Germany or Spain. However, this does not imply that absolute levels are necessarily higher in the US than in the rest.

Geopolitical hotspots from East to West: A Risky Volatile situation now focusing in Russian Tests & Gaza

Geopolitical risk sentiment index by countries

28-day weighted moving average, normalized by its own country history

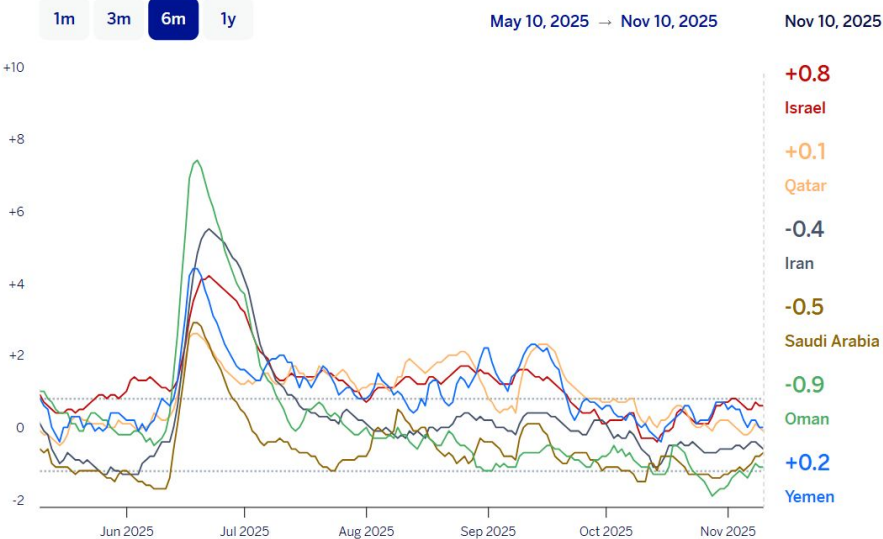
Time series Geographic map



Geopolitical risk sentiment index by countries

28-day weighted moving average, normalized by its own country history

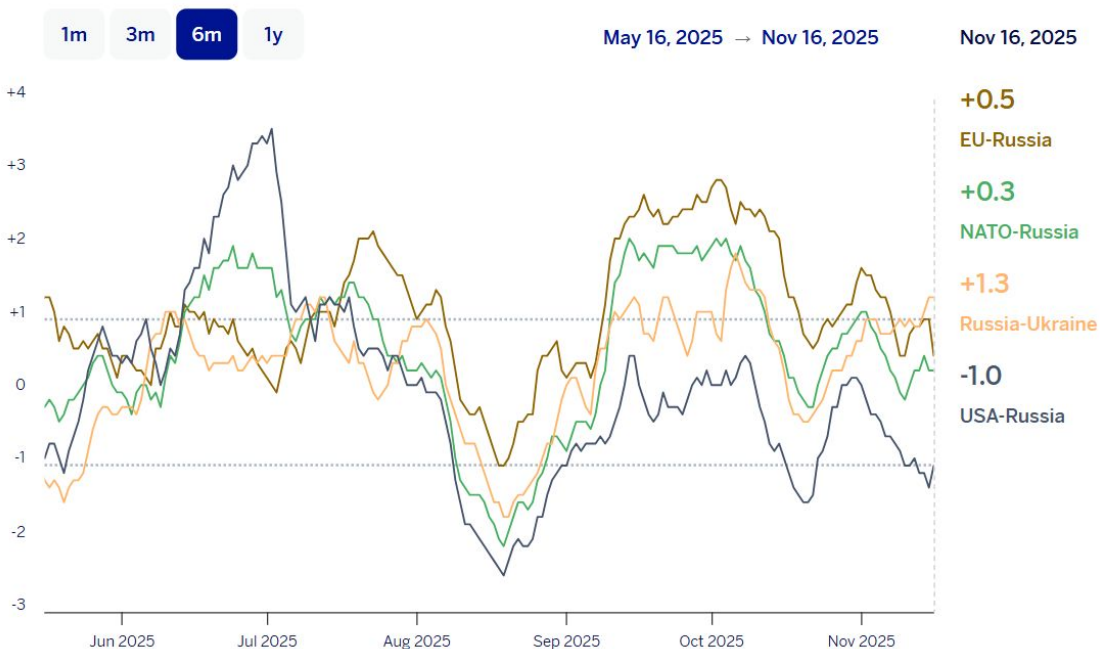
Time series Geographic map



Russia tests NATO partners' unity and response capabilities with its hybrid warfare

Bilateral tensions index by countries

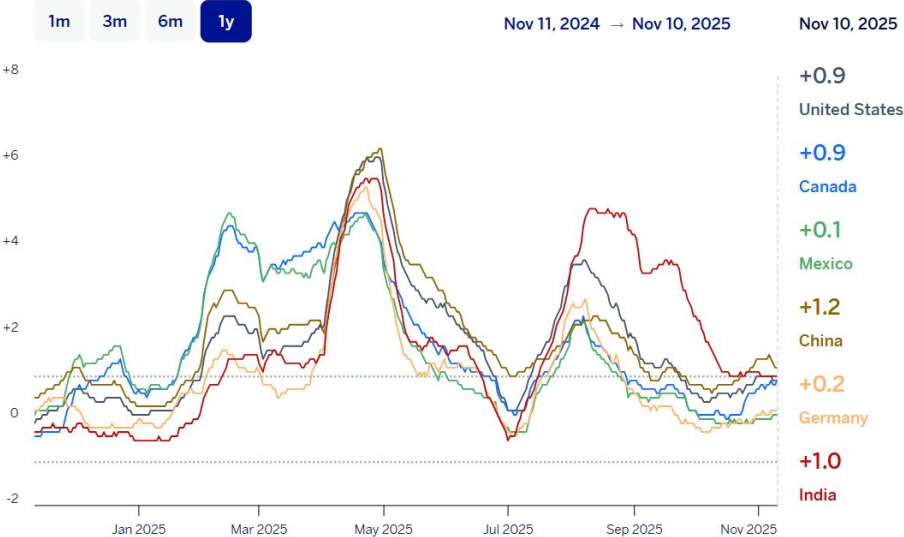
28-day weighted moving average, normalized by its own country history



Trade Policy Uncertainty: How Countries Feel on Tariffs? Somehow normalizing ... but It depends

Trade Policy Uncertainty index by countries

28-day weighted moving average, normalized by its own country history



Trade Policy Uncertainty index by countries

28-day weighted moving average, normalized by its own country history



“Global” Economic Policy Uncertainty is moderating but with some exceptions

Geopolitics & economics

Economic sentiment

Economic Policy Uncertainty

► Countries

Media origin

Trade Policy Uncertainty

Geopolitical risk

Political tensions

Protests

Conflicts

Bilateral tensions

Select up to 6
Finland

Select media origin

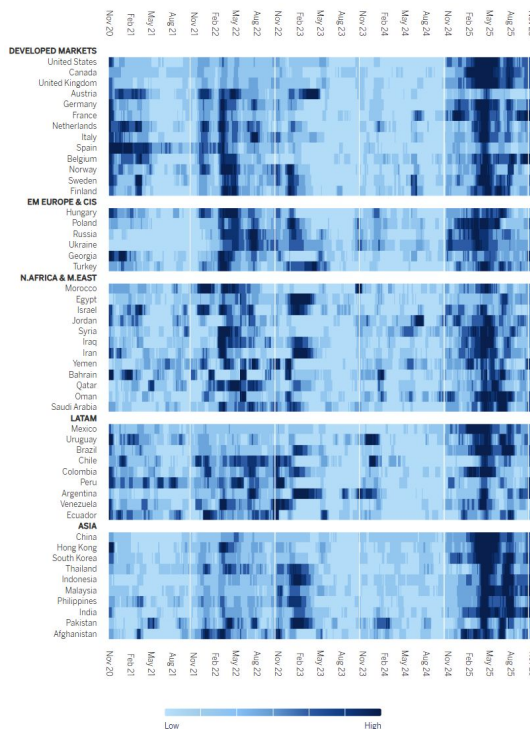
National

Foreign

Economic Policy Uncertainty index by countries

28-day weighted moving average, normalized by its own country history

Time series Heatmap



Economic Policy Uncertainty index in nationals media by countries

28-day weighted moving average, normalized by its own country history

Time series Heatmap



Economic Policy Uncertainty index in nationals media by countries

28-day weighted moving average, normalized by its own country history

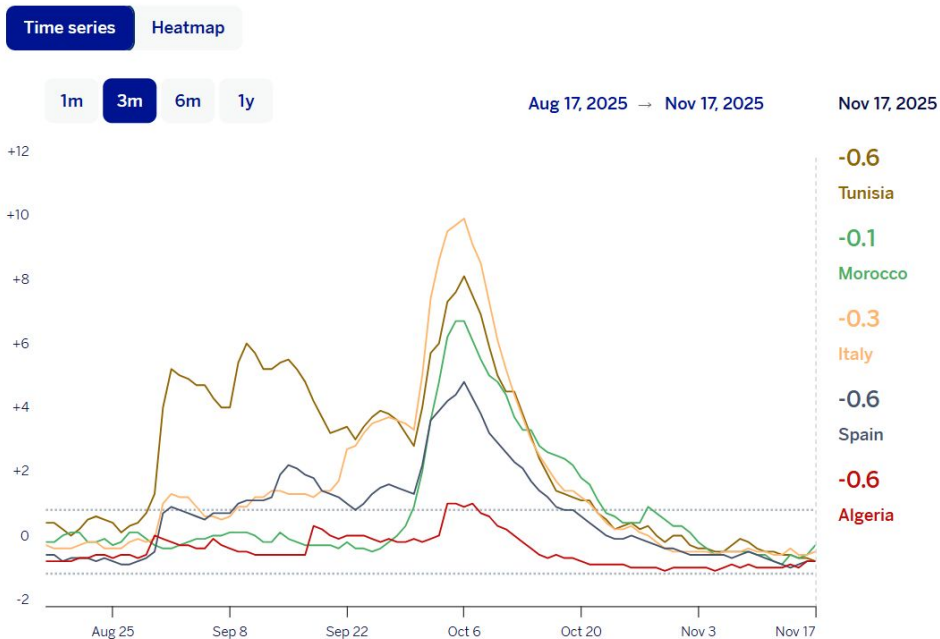
Time series Heatmap



The “protests” were increasing in the Mediterranean... but they have been corrected for the moment.

Protest intensity index by countries

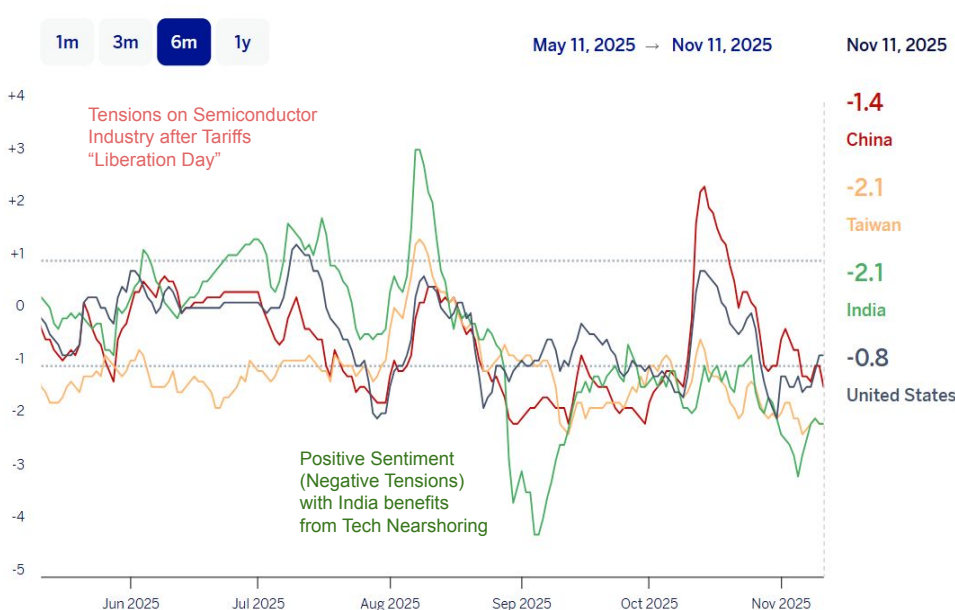
28-day weighted moving average, normalized by its own country history



And key Topics as Technology & Climate Change

Semiconductors tensions index by Countries

28-day weighted moving average, normalized by its own country history



Climate events Sentiment index by Media (Spain)

28-day weighted moving average, normalized by its own country history



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A Radical Client Perspective on Economics and Geopolitics