

# DEALING WITH INCREASING UNCERTAINTY: MEASUREMENT AND COMMUNICATION

**ÁNGEL GAVILÁN**

Director General Economics

ECONOMIC FORUM 2025 – THE GENEVA ASSOCIATION

Barcelona

13 March 2025



## INDEX

- 1. Measuring uncertainty and other related concepts**
- 2. Macroeconomic implications of uncertainty**
- 3. Policy decision making under uncertainty**
- 4. Communicating in a highly uncertain environment**

# SOME OF THE MOST POPULAR MEASURES OF UNCERTAINTY NOWADAYS COME FROM COUNTING “SELECTED” WORDS IN NEWSPAPERS → TEXT-BASED RISK AND UNCERTAINTY INDICATORS

economy AND policy AND uncertainty



Economic Policy Uncertainty (EPU)

S. Baker et al, Measuring Economic Policy Uncertainty  
Chicago Booth Research Paper No.13-02 (2013)

trade policy AND uncertainty



Trade Policy Uncertainty (TPU)

D. Caldara et al, The economic effects of trade policy uncertainty  
Journal of Monetary Economics, 109 (2020)

conflict AND risk

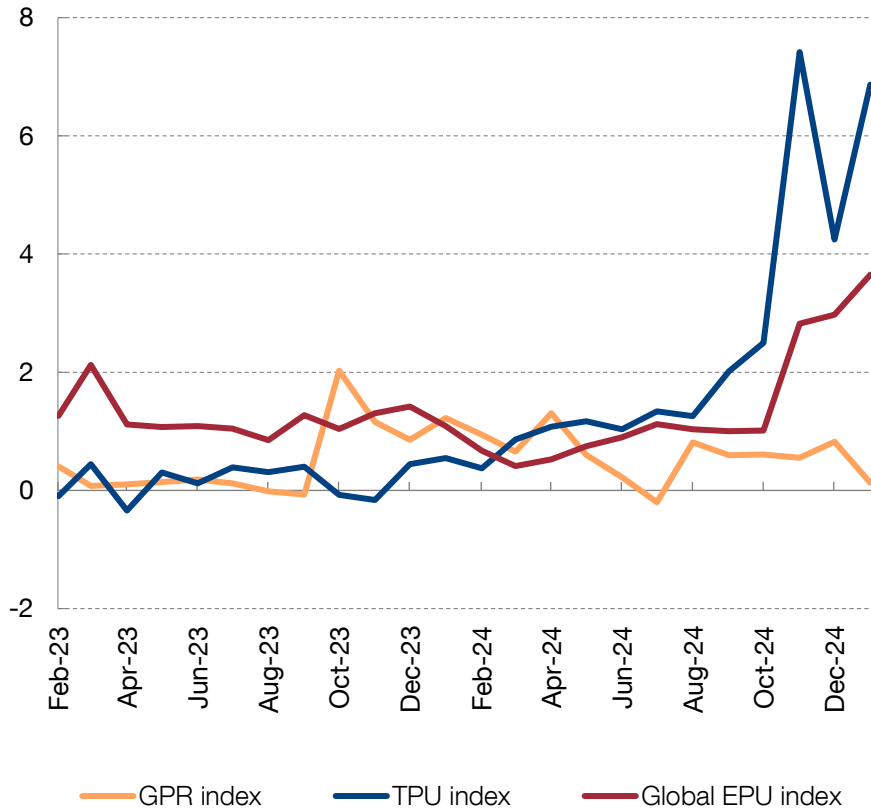


Geopolitical Risk Index (GPR)

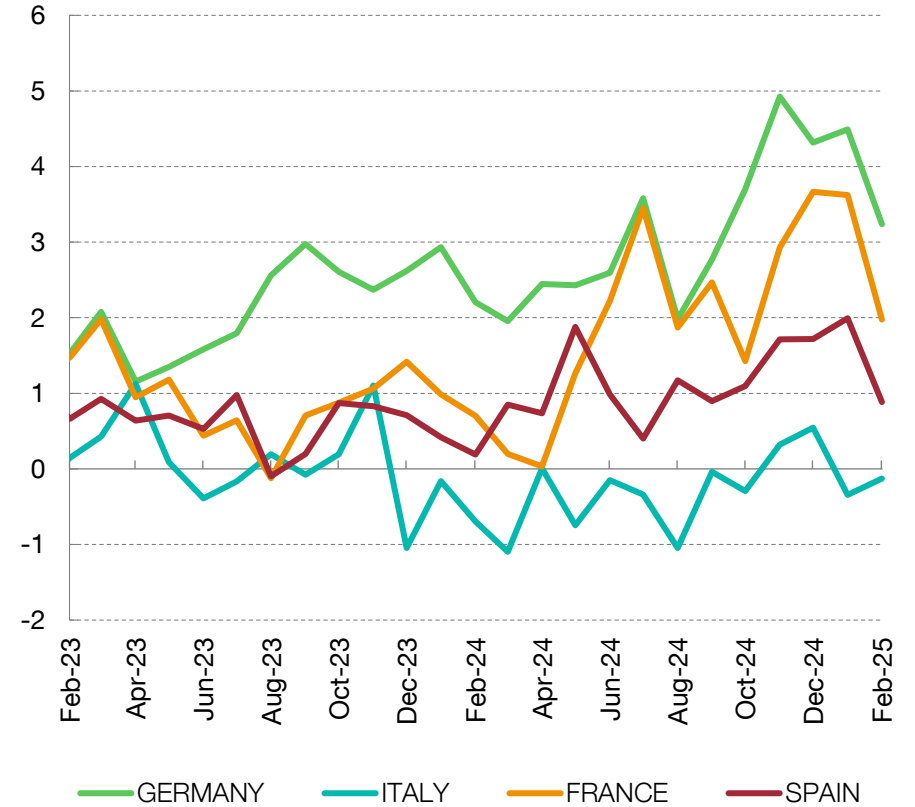
D. Caldara et al, Measuring Geopolitical Risk  
American Economic Review, 114 (4) (2022)

# THESE MEASURES POINT TO INCREASING UNCERTAINTY ALMOST EVERYWHERE FOR MANY DIFFERENT REASONS ...

## GLOBAL: TRADE POLICY UNCERTAINTY AND ECONOMIC POLICY UNCERTAINTY

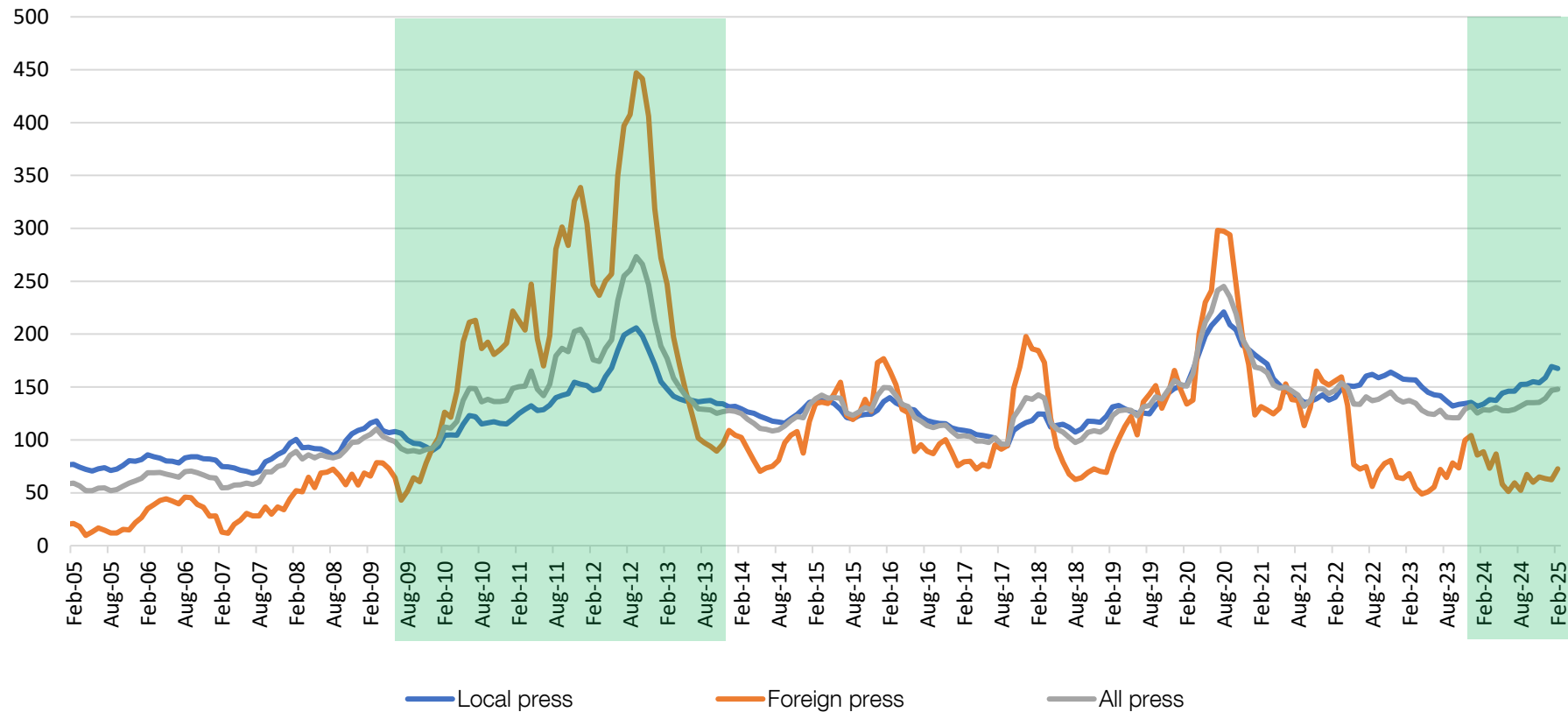


## EUROPE: ECONOMIC POLICY UNCERTAINTY



Sources: (LHS) GPR index: Caldara and Iacoviello (2022); TPU index: Baker, Bloom and Davis (2016); [Global EPU index](#). (RHS) Spain EPU index: [Banco de España](#); EPU index for France, Germany and Italy: [Policy Uncertainty webpage](#). Notes: Standardized series for comparability.

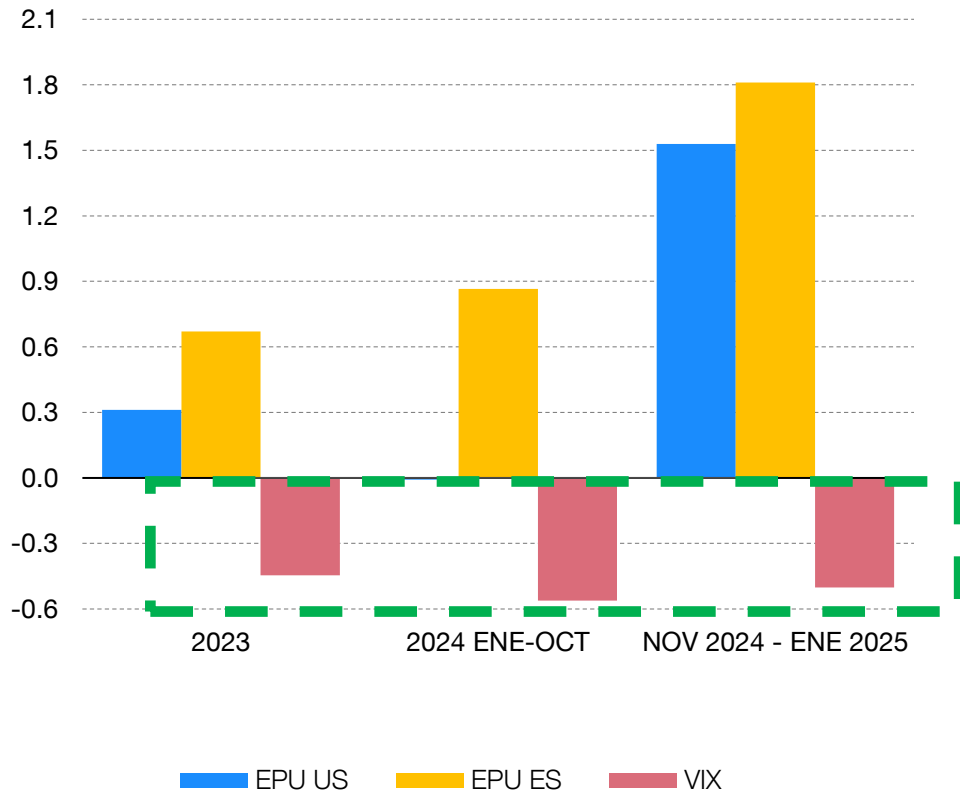
### SPAIN: ECONOMIC POLICY UNCERTAINTY



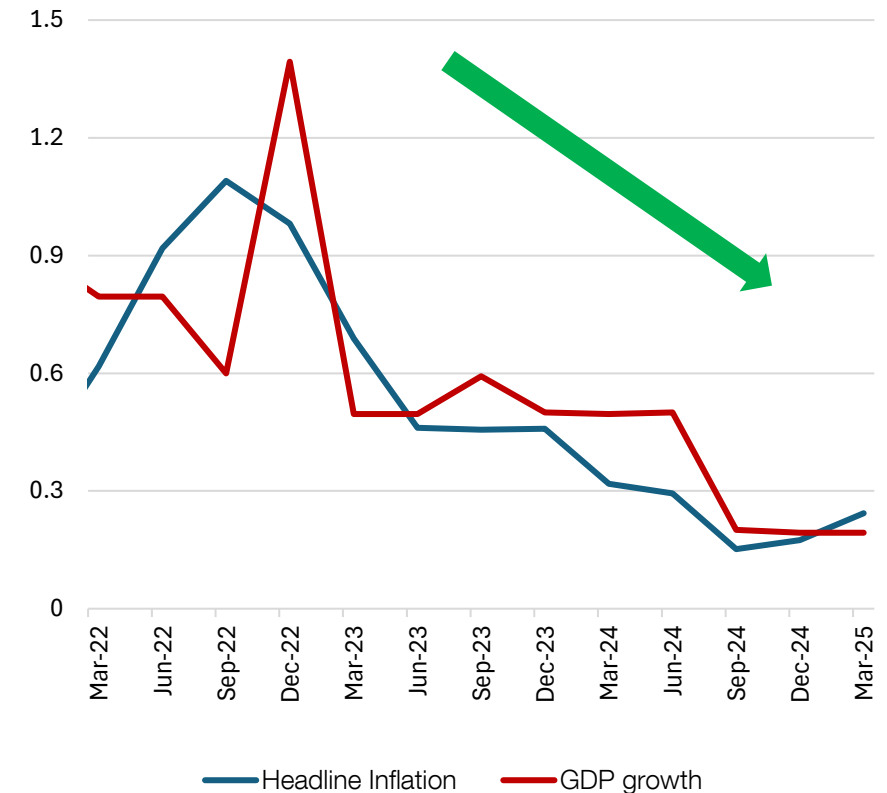
Source: [Banco de España](#).

# BUT THERE ARE SOME OTHER PROXIES OF UNCERTAINTY THAT HAVE NOT INCREASED AS MUCH IN SOME SEGMENTS ... AT LEAST, UNTIL VERY RECENTLY

## ECONOMIC POLICY UNCERTAINTY AND MARKET VOLATILITY



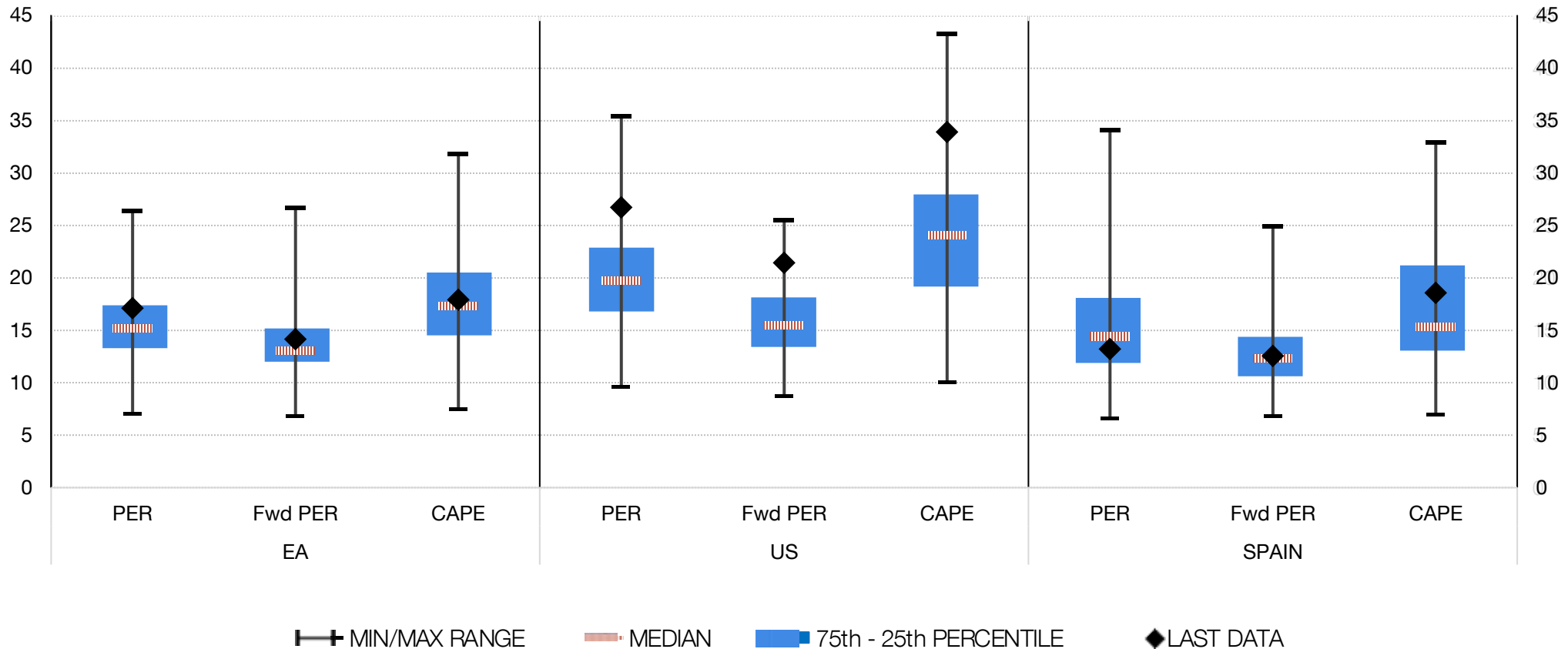
## STANDARD DEVIATION OF 12-MONTHS AHEAD EURO AREA MACROECONOMIC FORECASTS



Sources: (LHS) Spain EPU index: [Banco de España](#); VIX: Bloomberg; US EPU index: [Policy Uncertainty website](#). (RHS) Consensus and Survey of Professional Forecasters.  
 Notes: (LHS) Standardized uncertainty measures for comparability. (RHS) Std. deviation of panel of Consensus EA inflation forecasts and of Survey of Professional Forecasters EA GDP growth forecasts.

# AND ALL THIS HAS HAPPENED IN A CONTEXT OF RELATIVELY HIGH EQUITY VALUATIONS AND TIGHT CORPORATE SPREADS, ESPECIALLY IN THE US

## STOCK MARKETS VALUATION INDICATORS (a)

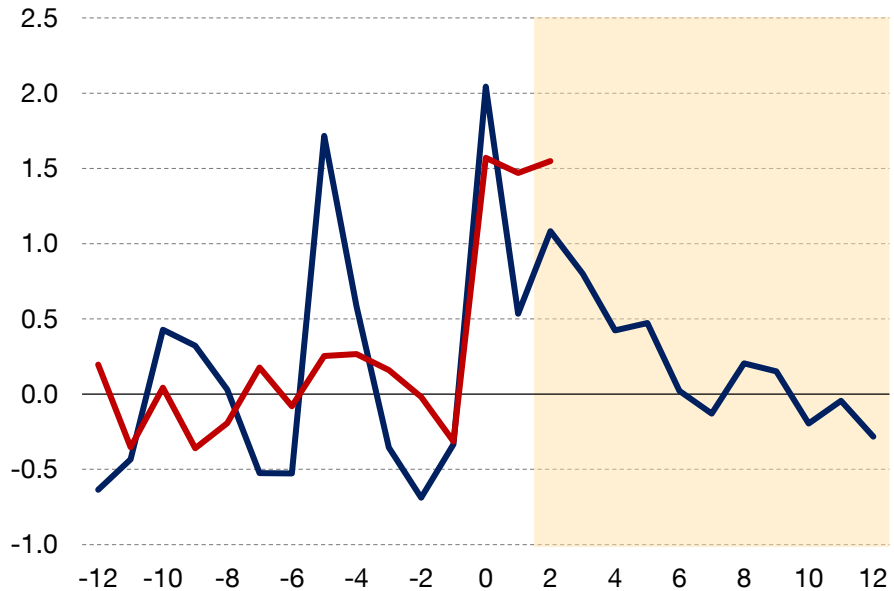


Sources: LSEG DataStream and Banco de España. Last data: 06/03/2025.

(a) Monthly data since 1985 for the EA and the US and since 1987 for Spain. Ratios provided by Datastream, except the CAPE ratio (Cyclically Adjusted Price-to-Earnings Ratio) which is calculated as the value of the stock market index in real terms (with CPI) on a ten-year moving average of the profits of listed companies in the index in real terms. The Price Earnings Ratio (PER) and 1-year Forward PER (Fwd PER) ratios reflect the relationship between share price and earnings per share (observed or expected).

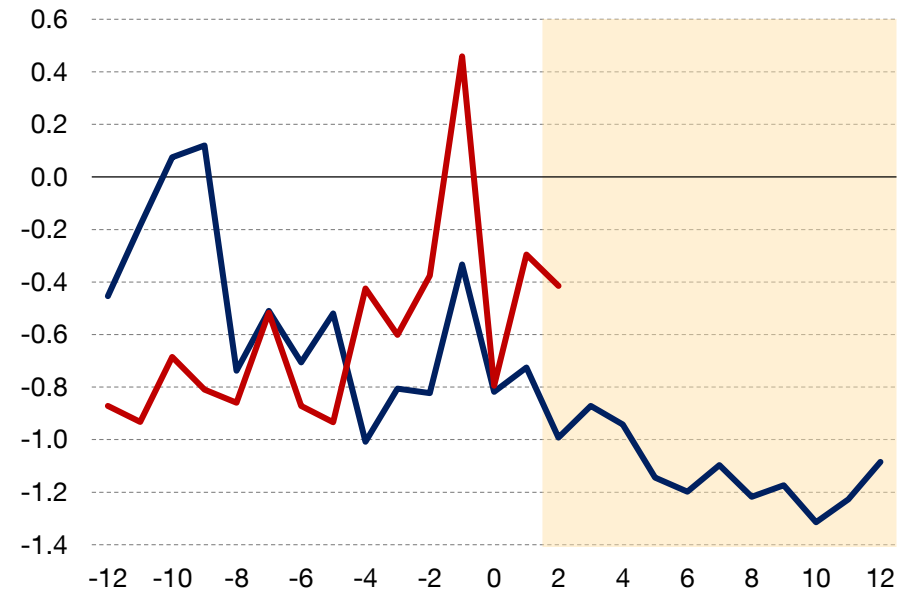
# A "QUICK AND CHEAP" LOOK INTO THE US: MAY THIS TIME BE DIFFERENT?

## ECONOMIC POLICY UNCERTAINTY DURING TRUMP PRESIDENCIES



- Trump presidency
- EPU USA - 1st presidency
- EPU USA - 2nd presidency

## MARKET VOLATILITY DURING TRUMP PRESIDENCIES



- Trump presidency
- VIX - 1st presidency
- VIX - 2nd presidency

Sources: (LHS) USA EPU index: [Policy Uncertainty website](https://www.policyuncertainty.com/). (RHS) VIX: Bloomberg.

Notes: The uncertainty measures are standardized for comparability. The horizontal axis represents the months before (t<0) or after (t>0) the election (November) of Donald J. Trump as President of the United States in each of the two terms.



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## Some channels through which uncertainty operates



**Households:** Increase in precautionary savings and reduction in consumption

**Firms:** Delay in investment projects and in hiring

**Financial institutions:** Restrict/reduce credit for investment and consumption

**Financial markets:** Increase in financing costs via risk premiums and volatility



## Elements to consider in quantifying the economic impact of uncertainty



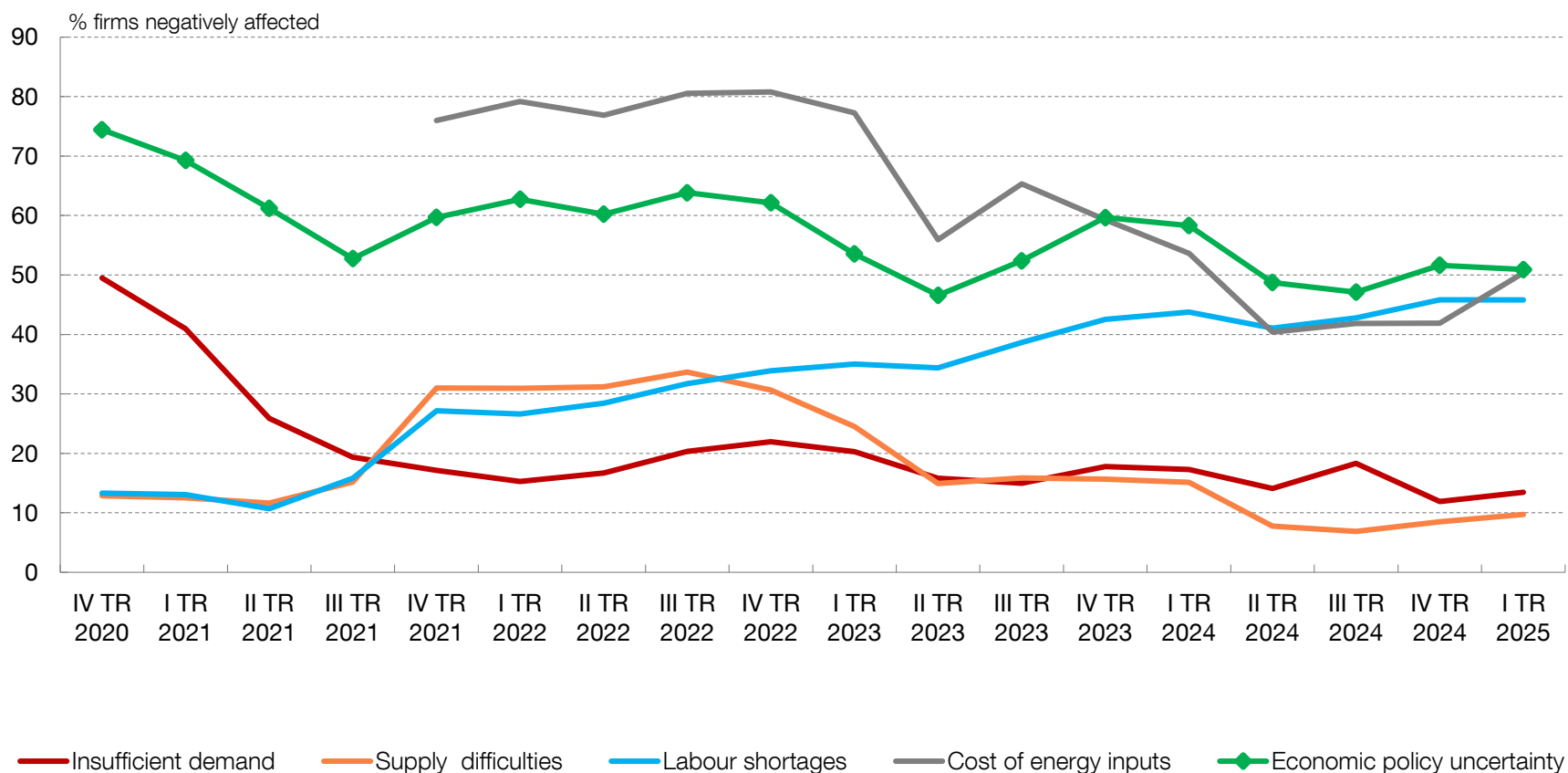
**Model uncertainty**

**¿Transitory or permanent?**

**¿Through demand or supply?**

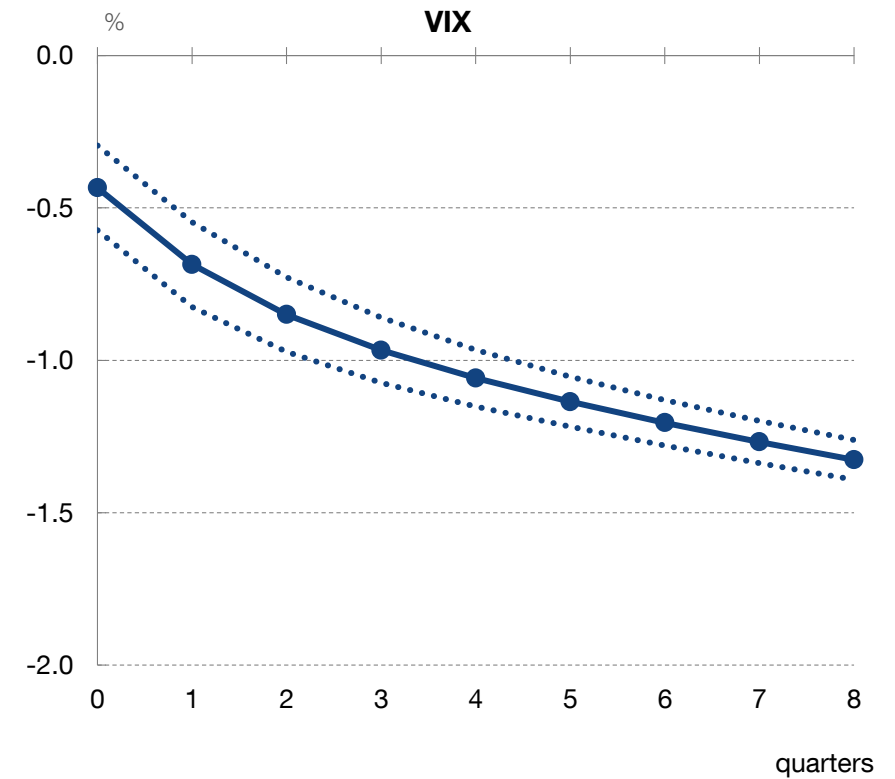
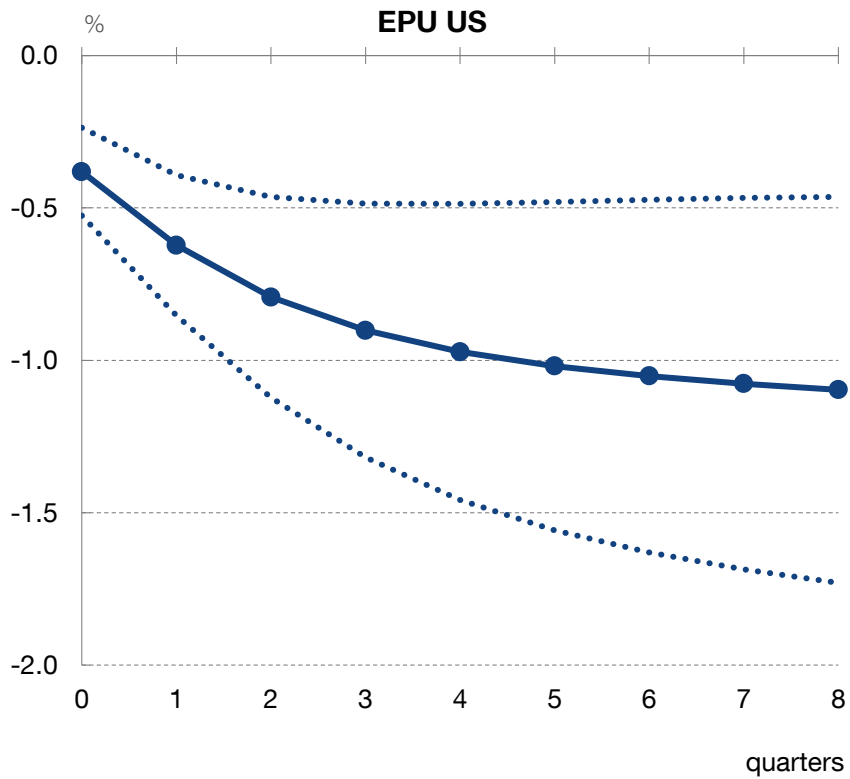
# ECONOMIC POLICY UNCERTAINTY REMAINS ONE OF THE MAIN LIMITING FACTORS OF BUSINESS ACTIVITY FOR SPANISH FIRMS

## FACTORS LIMITING FIRM'S ACTIVITY IN SPAIN



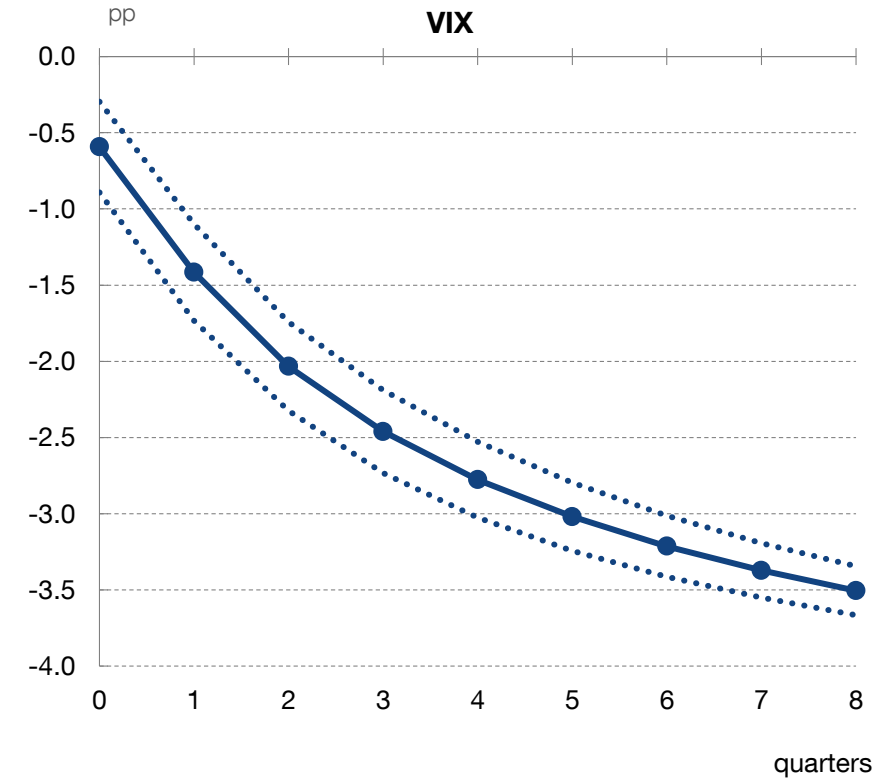
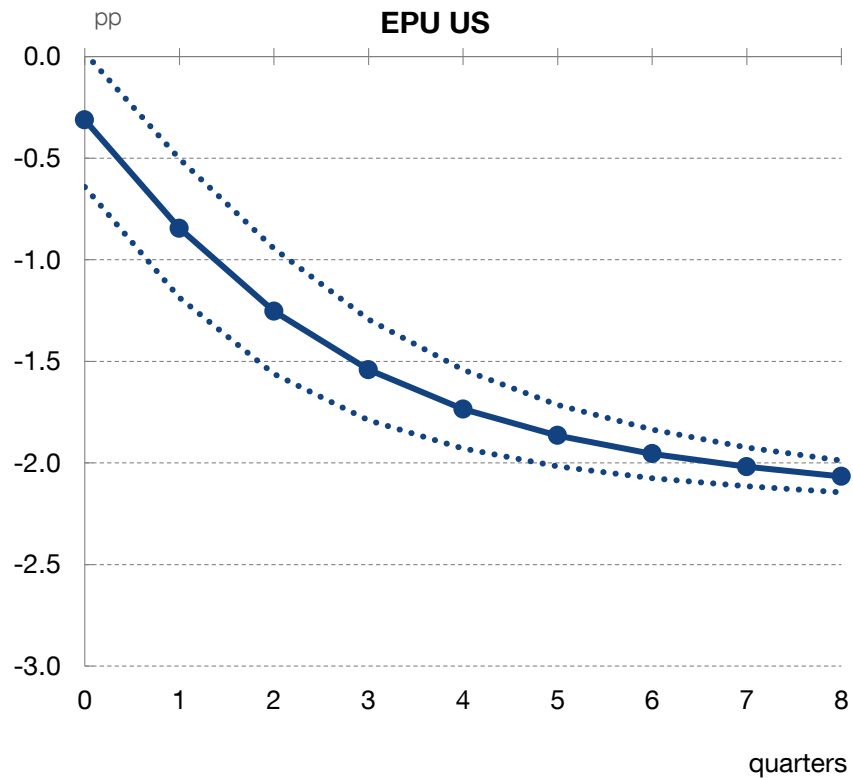
Source: [Encuesta a las empresas españolas sobre la evolución de su actividad: primer trimestre de 2025](#), Banco de España.

## CUMULATIVE IMPACT ON GDP LEVEL AFTER AN INCREASE IN GLOBAL UNCERTAINTY BY 1 STANDARD DEVIATION



Source: Banco de España. Sample ends in 2024Q4. 95% confidence intervals.

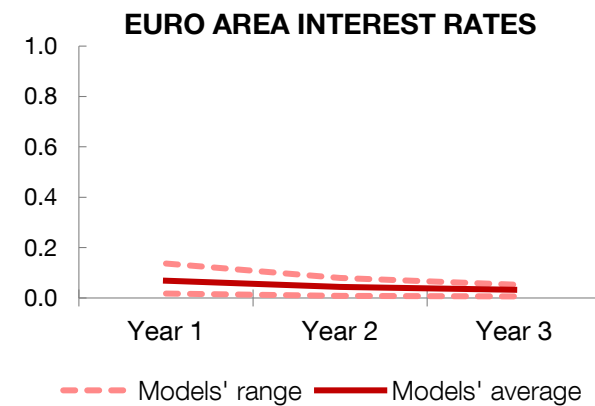
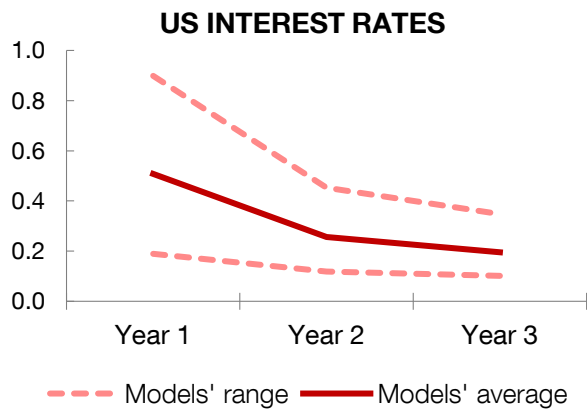
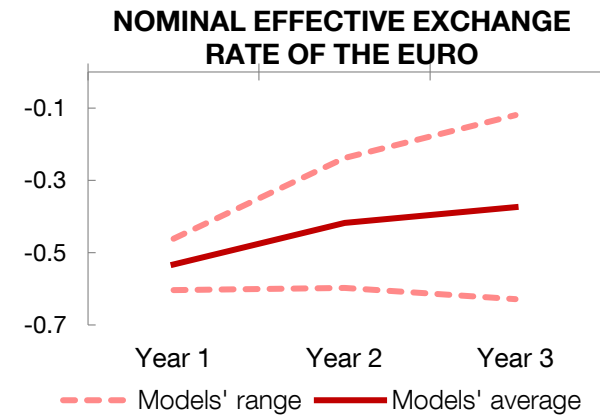
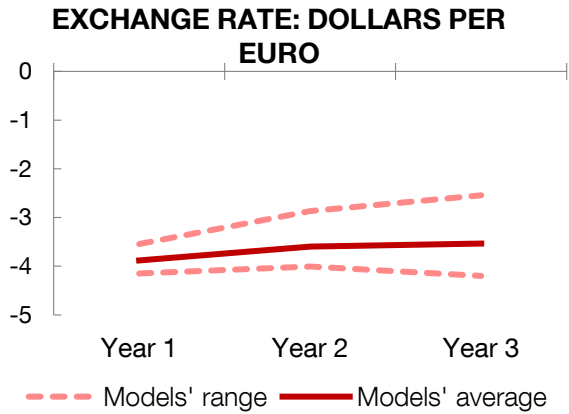
## CUMULATIVE IMPACT ON INVESTMENT LEVEL AFTER AN INCREASE IN GLOBAL UNCERTAINTY BY 1 STANDARD DEVIATION



Source: Banco de España. Sample ends in 2024Q4. 95% confidence intervals.

# IMPACT OF A US TARIFF OF 10% ON ALL IMPORTS

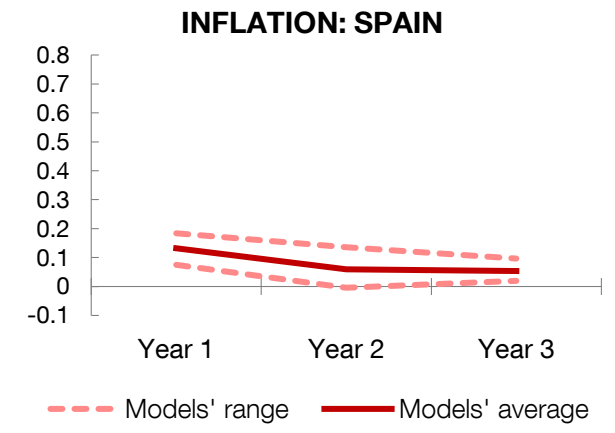
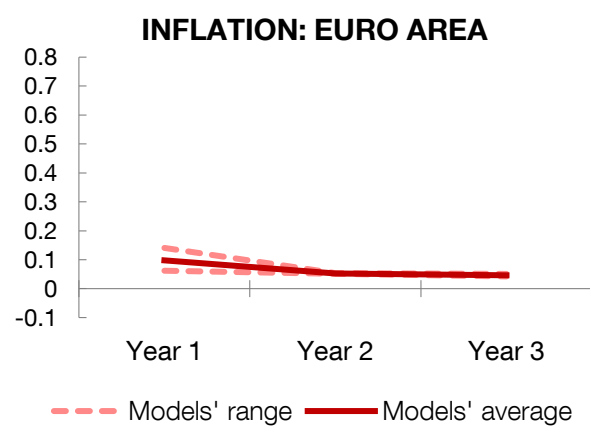
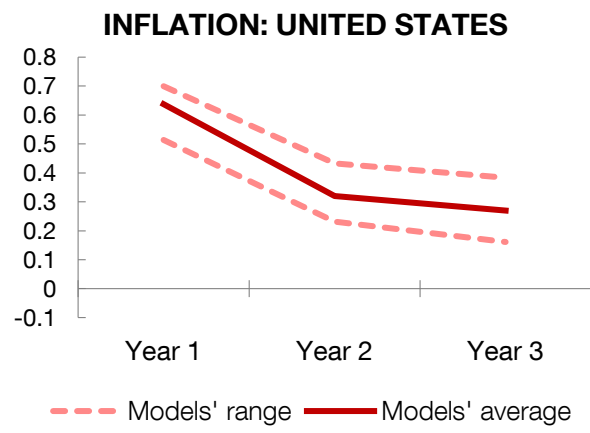
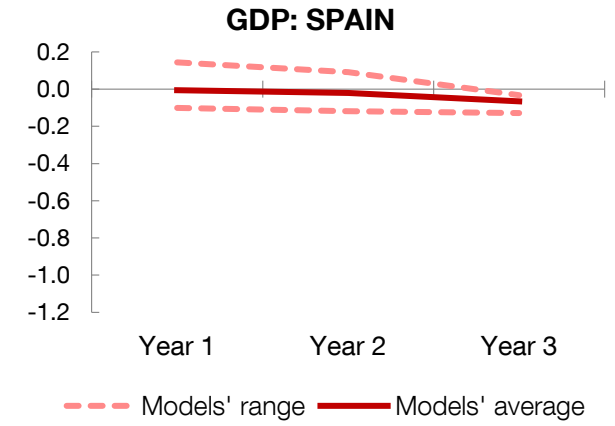
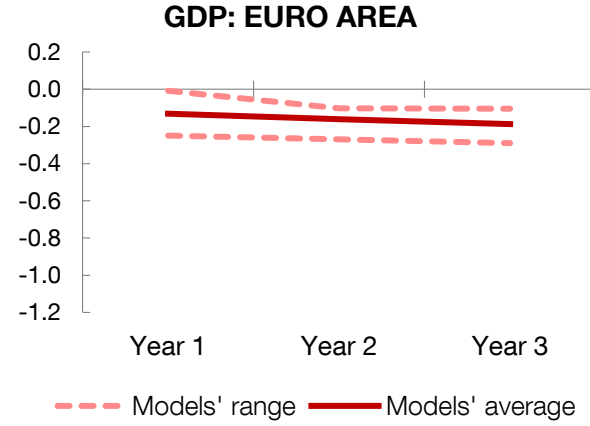
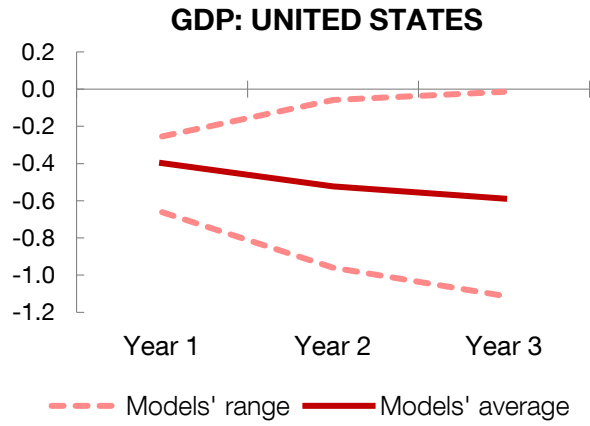
## EXCHANGE RATES AND INTEREST RATES



Source: Banco de España.  
Units of measurement: deviation from the level in pp.

# IMPACT OF A US TARIFF OF 10% ON ALL IMPORTS

## GDP AND INFLATION



Source: Banco de España.  
Units of measurement: deviation from the level in pp.

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## Some concepts

### BRAINARD PRINCIPLE (1967)

Central banks should **move carefully in the face of uncertainty** about how their policies are transmitted to the broader economy

Typically summarized as “**in a dark room you move with small steps**”

The higher the uncertainty, the greater the likelihood that a more aggressive monetary policy response to shocks may push inflation away from the target ([Ferrero et al, 2019](#))

### ROBUST CONTROL (e.g., Onatski and Stock, 2002)

*Sometimes*, monetary policy should respond forcefully in highly uncertain scenarios to minimize the risks of very bad economic outcomes in the future. For instance, a de-anchoring of inflation expectations



## Recent Central Bank approaches to uncertainty

### Bernanke’s review of Bank of England economic forecasting (\*)

**Main purpose:** How forecasting can better support policymaking and communication **during times of high uncertainty and structural change**

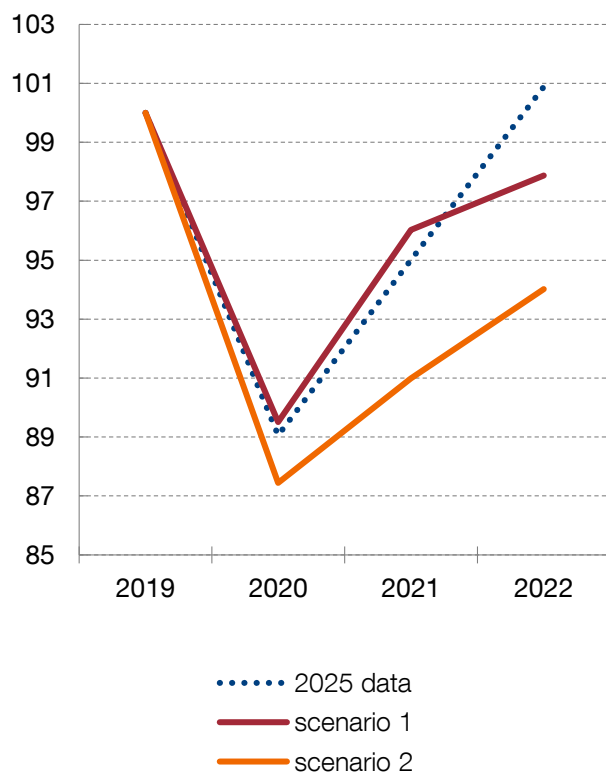
**Some changes already:** “... First, Bank staff simulated two alternative paths for how the economy may evolve relative to the baseline under different assumptions ... Second, we reconfigured how the Committee spent its time and what the discussions were focused on...” ([Clare Lombardelli, November 2024](#))

### European Central Bank 2025 assessment of monetary policy strategy

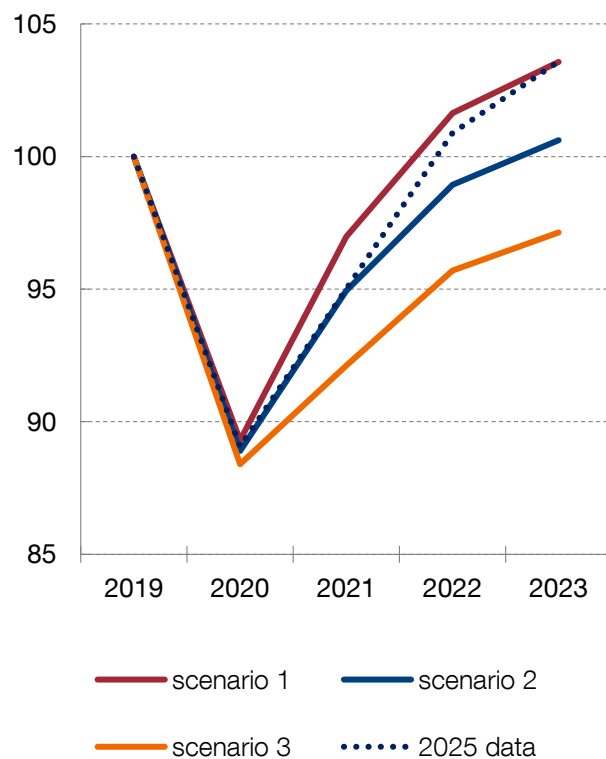
*... We will furthermore examine the operationalisation of the medium-term orientation of the monetary policy strategy, with a focus on the ECB’s reaction function to both upside and downside threats to the anchoring of inflation expectations to the target. This will include the **analysis of how risk and uncertainty should inform both policy decisions and policy communication*** ([Philip Lane, September 2024](#))

# SOME TOOLS TO DEAL WITH UNCERTAINTY: ALTERNATIVE SCENARIOS AND SENSITIVE ANALYSIS AROUND THE BASELINE SCENARIO

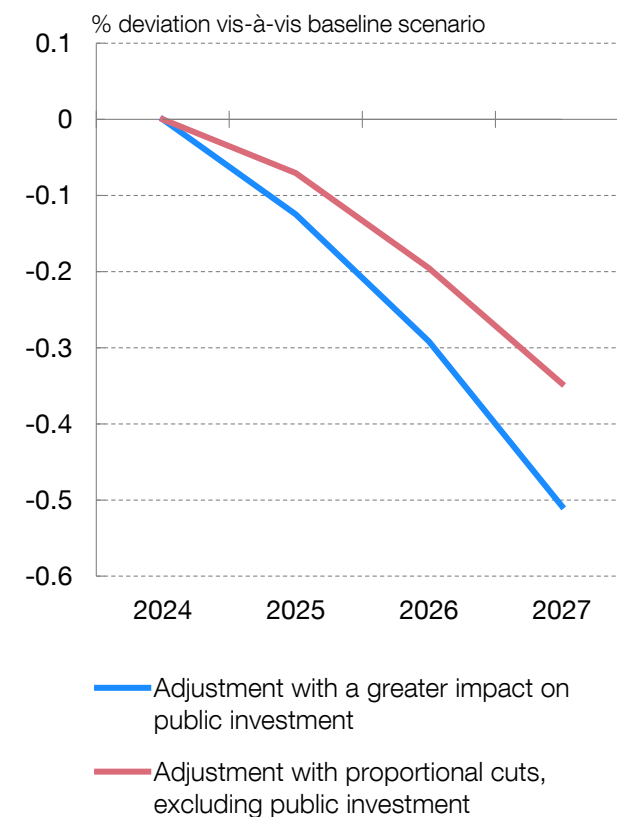
**SPAIN: GDP LEVEL ACROSS DIFFERENT SCENARIOS IN SEP-2020 PROYECTIONS**  
(2019=100)



**SPAIN: GDP LEVEL ACROSS DIFFERENT SCENARIOS IN DEC-2020 PROYECTIONS**  
(2019=100)



**SPAIN: IMPACT ON GDP OF ALTERNATIVE PATHS OF THE ADDITIONAL FISCAL ADJUSTMENT (Dec-2024)**



Source: Banco de España.

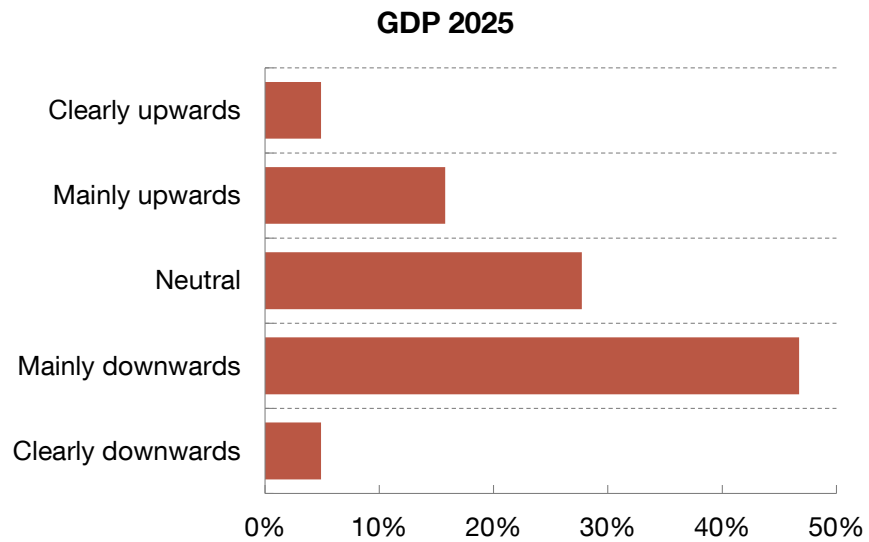
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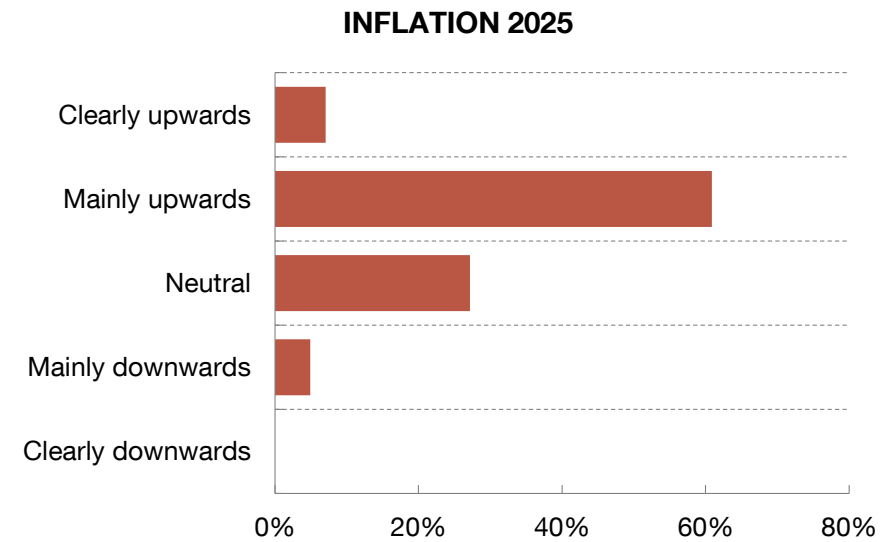
# THE HIGHER THE UNCERTAINTY, THE MORE IMPORTANT TO COMMUNICATE THE KNOWNs ... AND THE UNKNOWNs

## RISK ASSESSMENT SURVEY CONDUCTED AMONG BANCO DE ESPAÑA ECONOMISTS

### Downside risks in activity



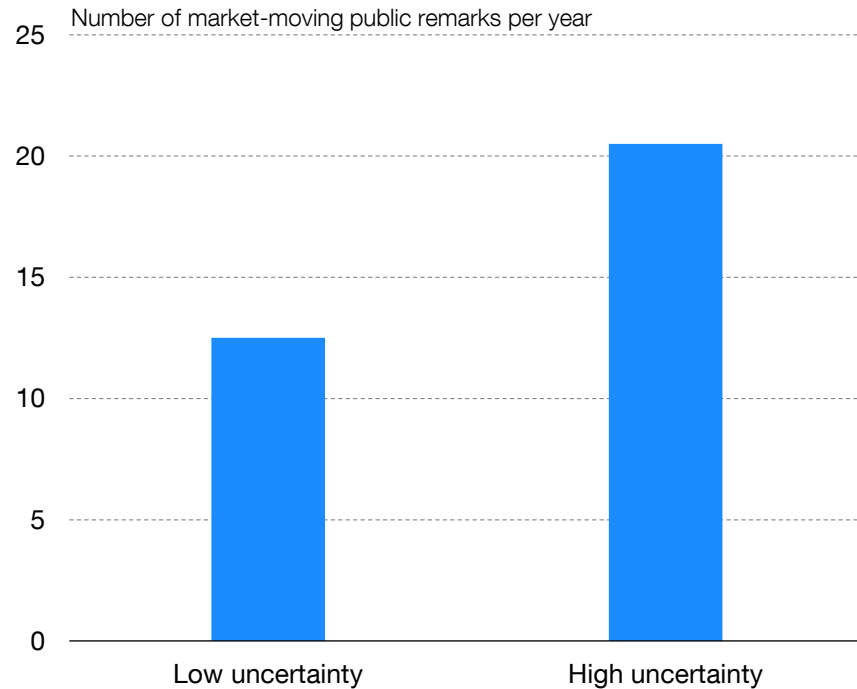
### Upside risks in inflation



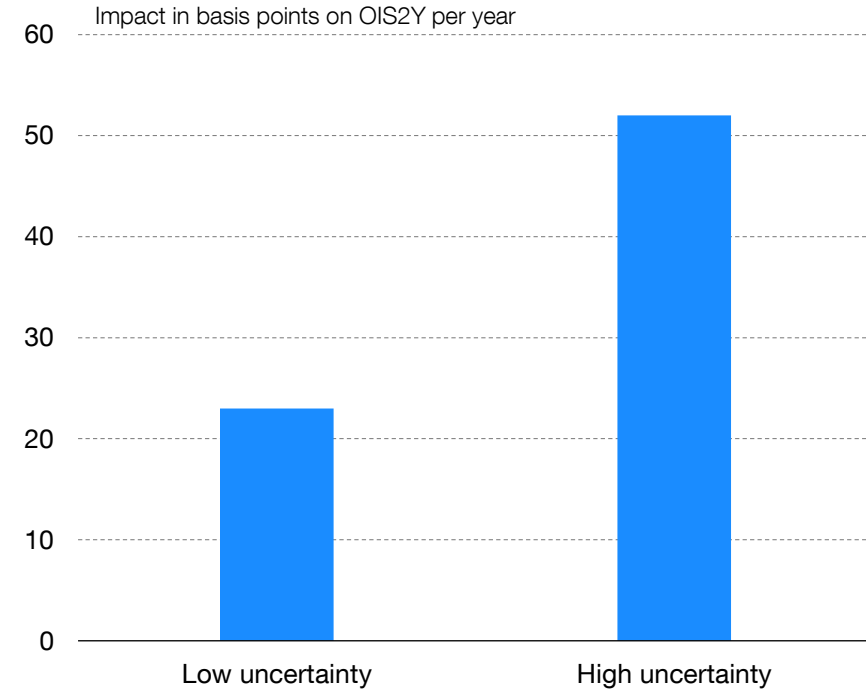
Source: Banco de España.

# CENTRAL BANK COMMUNICATION HAS A LARGE AND CONSIDERABLE IMPACT ON MARKETS, ESPECIALLY IN PERIODS OF HIGH UNCERTAINTY

## NUMBER OF MARKET MOVING PUBLIC REMARKS BY ECB GOVERNING MEMBERS (1999 to 2024)



## IMPACT OF MARKET MOVING PUBLIC REMARKS BY ECB GOVERNING MEMBERS (1999 to 2024)



Source: Istrefi, K., Odendahl, F. and Sestieri, G. (2024), [ECB communication and its impact on financial markets](#), Banco de España WP No. 2431.

Note: Years are classified as high uncertainty if the EPU (Bloom et al., 2016) is above its 75% percentile on average in that year. Years of high uncertainty are 2009-2012 and 2019-2023.

THANK YOU FOR YOUR ATTENTION

