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Forecasting with the help of survey information

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Non-technical Research Seminar

Federica Brenna (joint work with Žymantas Budrys)

Importance of forecasting (well)

- Forecasting macroeconomic aggregates is **an important task** of Bank of Lithuania and of the Eurosystem.
- Here: we focus on the **euro area** aggregate data (and forecast), more about possible extensions for Lithuania at the end of the presentation.
- Issue: it is often hard to forecast well, and wrong forecasts may lead to wrong policy decisions.
- How can surveys contribute to solve this issue?

Importance of survey information

*"Today, expectations surveys are an **important** part of the toolkit available to central banks for their policy analysis. These surveys reveal **insights** about the economy that would otherwise remain **hidden** from view. As a result, they can contribute to **more robust** policy decisions and better policy assessments."*

L. De Guindos, ECB Vice President ,1 October 2024

How can we exploit the information content of surveys?

- We look at the **Survey of Professional Forecasters by the European Central Bank:** experts with thorough knowledge of the economy and deep understanding of economic relations.
- Professionals use **models** to produce forecasts. In addition to that, they use their **judgement** to adjust the model forecast and include a **forward-looking** component to it → they are, on average, very good at forecasting.
- *How can a policymaker exploit this information in order to better forecast macroeconomic variables?*
- Here: use the additional information from the survey to **improve model forecasts during the forecasting process**.

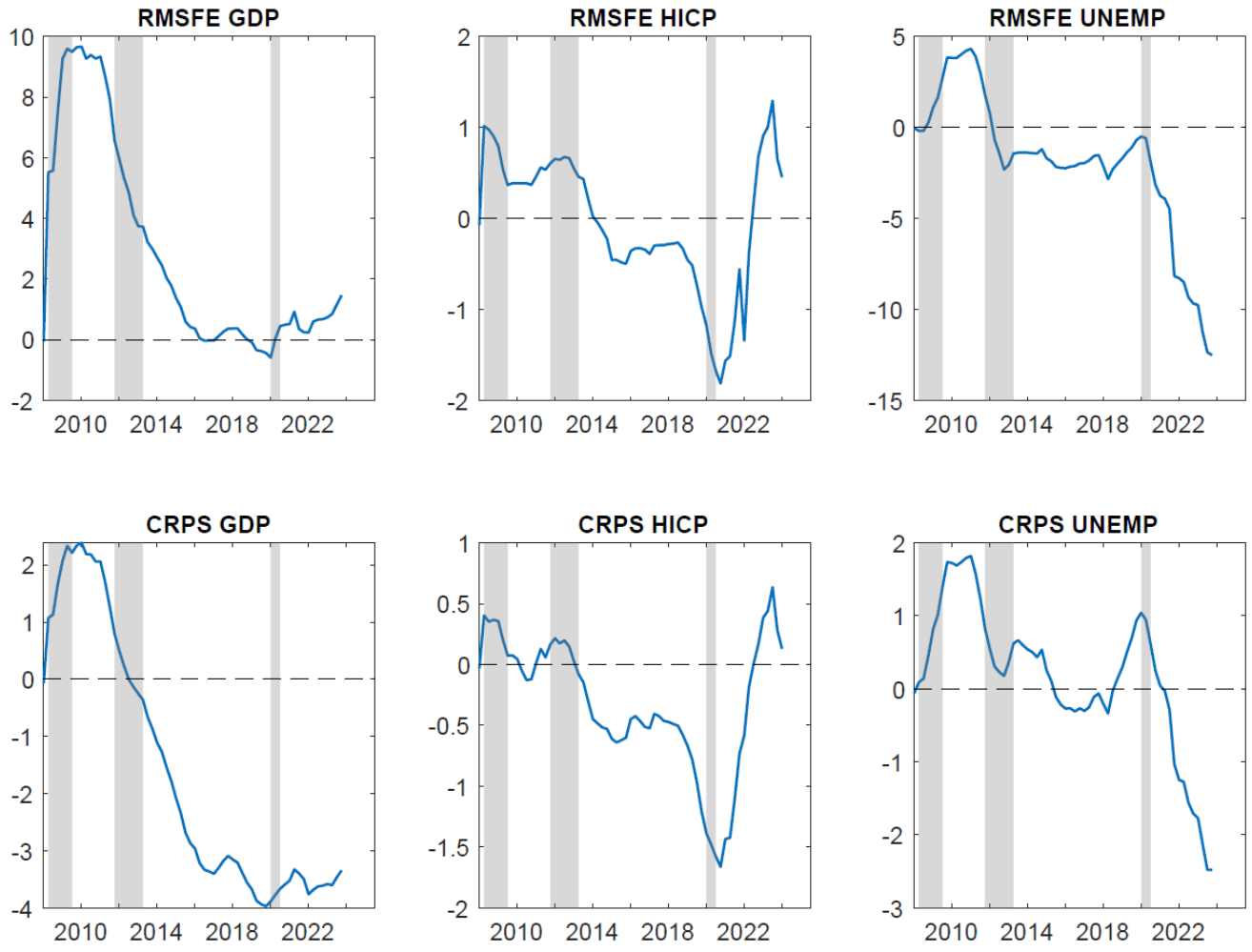
Project features

- Start from simple and flexible empirical model and **augment it** with survey forecasts.
- Run a **forecasting exercise** with unrevised data, for the model with and without survey
- Use forecasts for EA real GDP growth and HICP inflation done between 1999 and 2024.
- Evaluate **forecasts performance** between 2007 and 2024, for three variables: real GDP, HICP inflation and unemployment.
- We look at the size of the **forecast error**, and at a measure of **probability accuracy**: how often our forecast assigns a high probability to the correct outcome?

Results

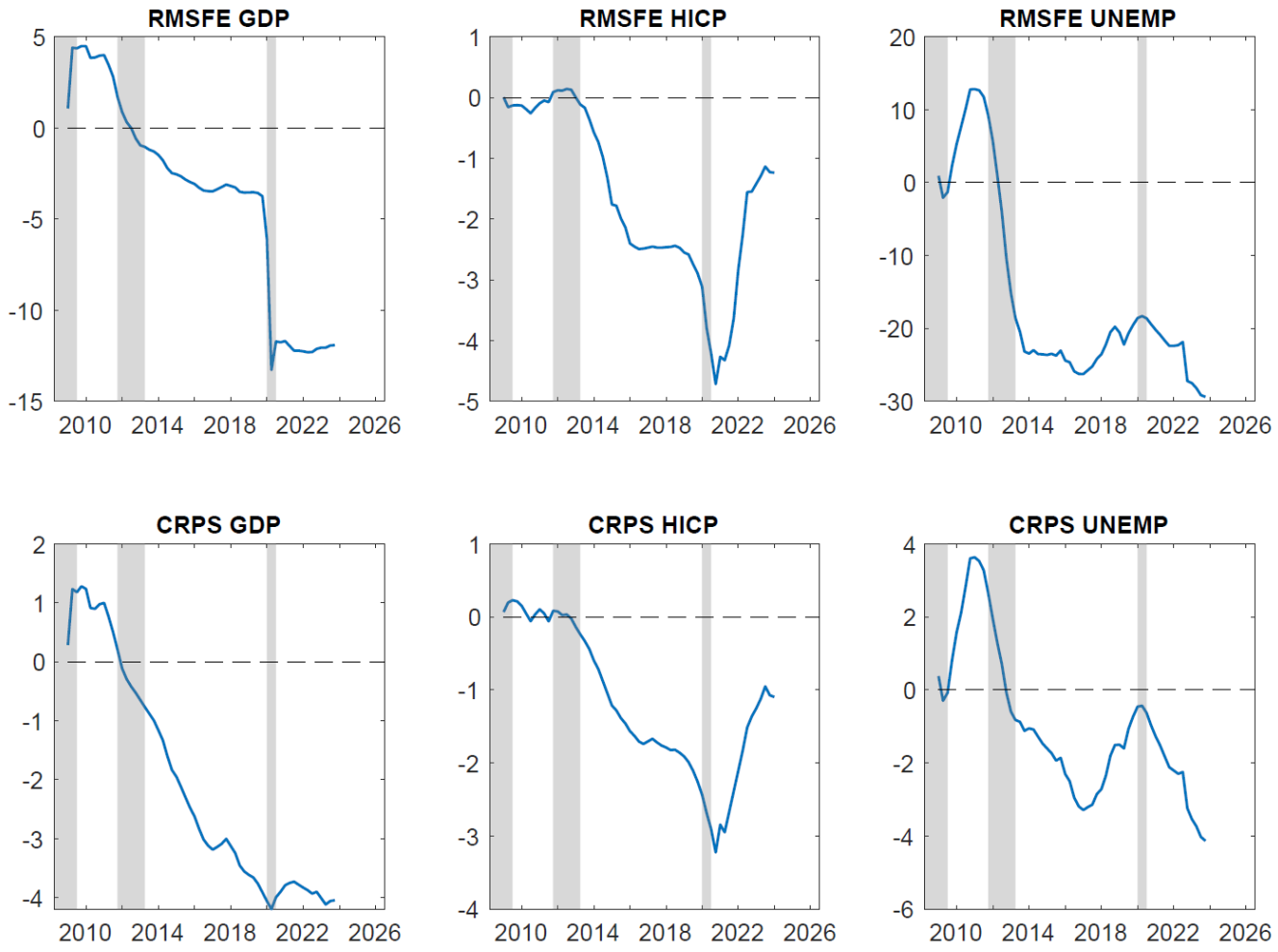
- We find that the value added of the survey **varies** and depends on **several factors**:
  - the forecast horizon (survey helps more in the medium term)
  - the period (more or less turbulent times)
  - the target variable
- In particular, survey information about GDP and HICP **improves** the forecasting performance of both GDP and unemployment, and to a lesser extent of HICP.
- Adding survey information particularly helps the density forecasts (high likelihood assigned to the realized value), and particularly at horizons 4 quarters to 8 quarters ahead.

Survey information improves performance of both GDP and unemployment forecasts



Note: Relative scores for one-year ahead forecasts. A decreasing line indicates an improvement in the performance of the survey-augmented model with respect to the baseline model.

Survey information improves performance of both GDP and unemployment forecasts



Note: Relative scores for two-year ahead forecasts. A decreasing line indicates an improvement in the performance of the survey-augmented model with respect to the baseline model.

Conclusions and extensions

- The forecasts resulting from this model can be used to **improve the benchmark forecast,** or be included in the **forecasting toolkit** of the central bank.
- Possible extensions for Lithuania:
  - **Consensus Economics** is available for Lithuania
  - Other surveys of households or firms
  - Add euro area information to model with LT data
- Consider **inflation-linked financial instruments** as potential forward-looking variable to aid inflation forecasting (these financial instruments incorporate a measure of inflation expectations).

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Ačiū!