Norges Bank

A Smarter way to forecast

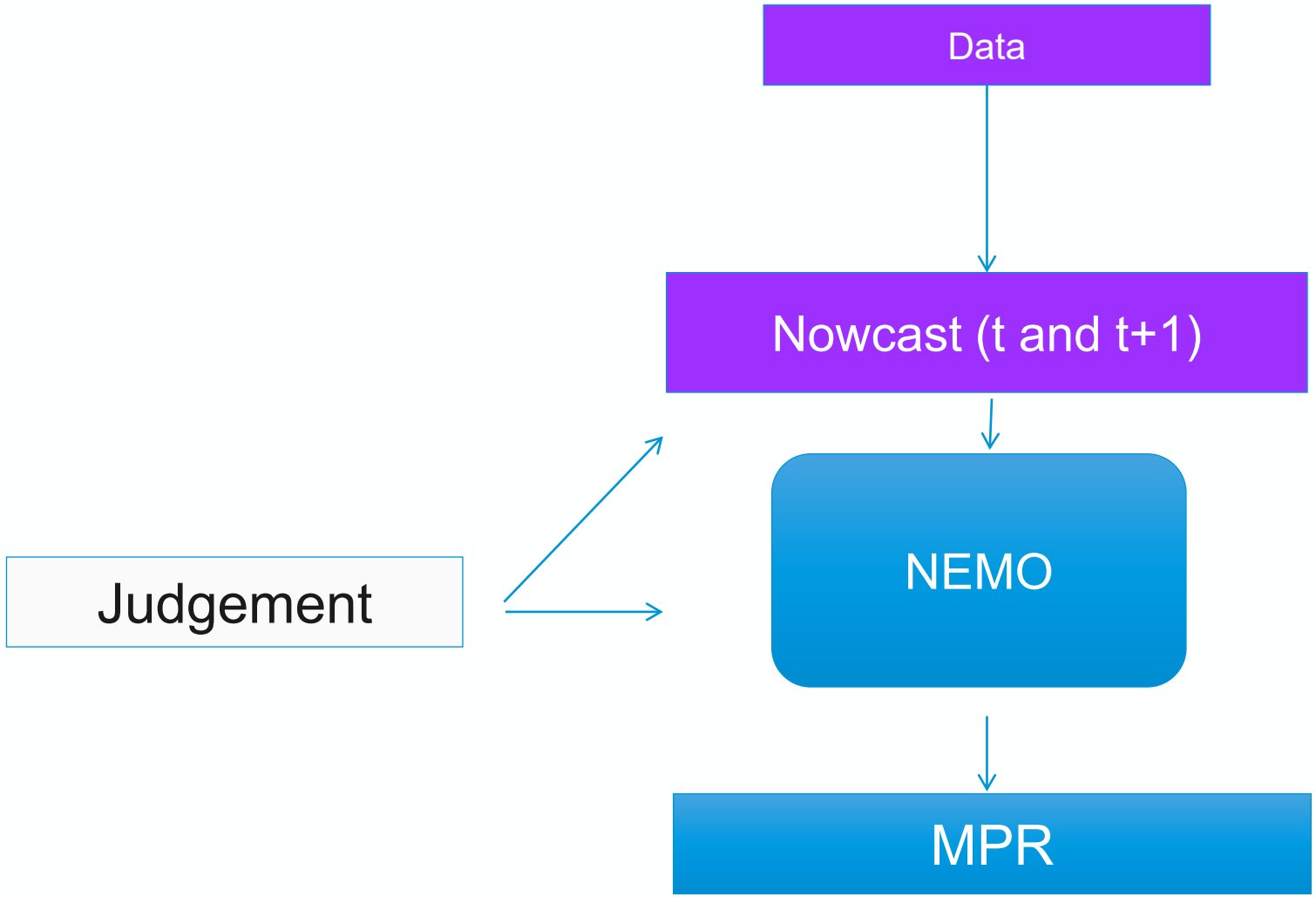
Ørjan Robstad

Norges Bank

Plan for the talk

- What is SMART
- SMART in practice
- Going forward

We follow a core model approach



Motivation for the SMART-project

- Improve forecasting process
  - Make sure we use «good» models
  - Easy to test and add new models
  - More - or less automized system (timesaving)

- Archive and availability
  - Models and data used in policy processes

What is SMART?

- Infrastructure for storing real-time data and model projections
  - For internal- and potentially external accessibility
  - Real-time data base

- Model system of the Bank's empirical models
  - Model averaging based on forecast performance
    - For all key macroeconomic variables
    - For the full forecast horizon

What is SMART?

Database

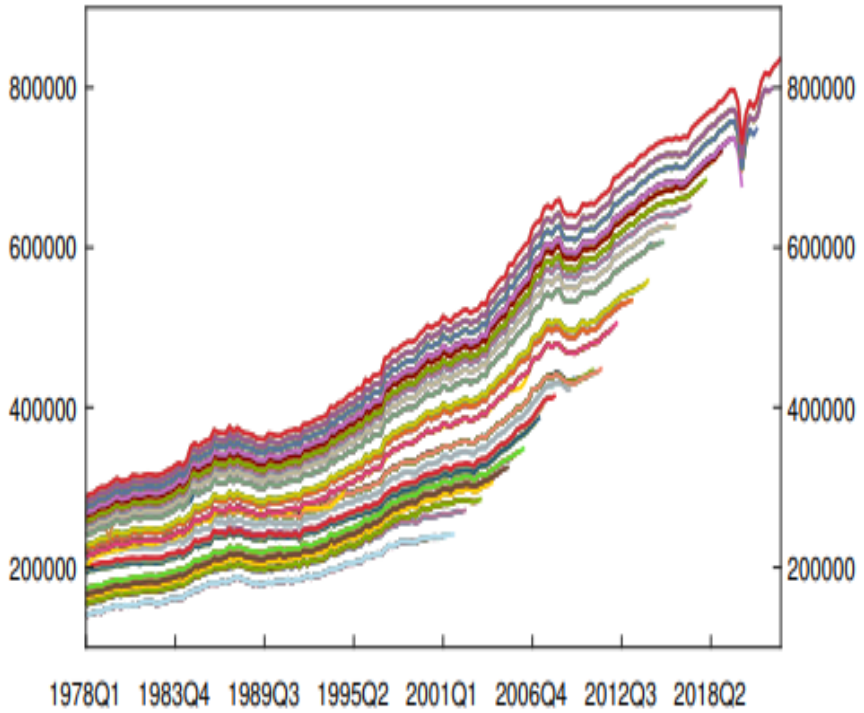
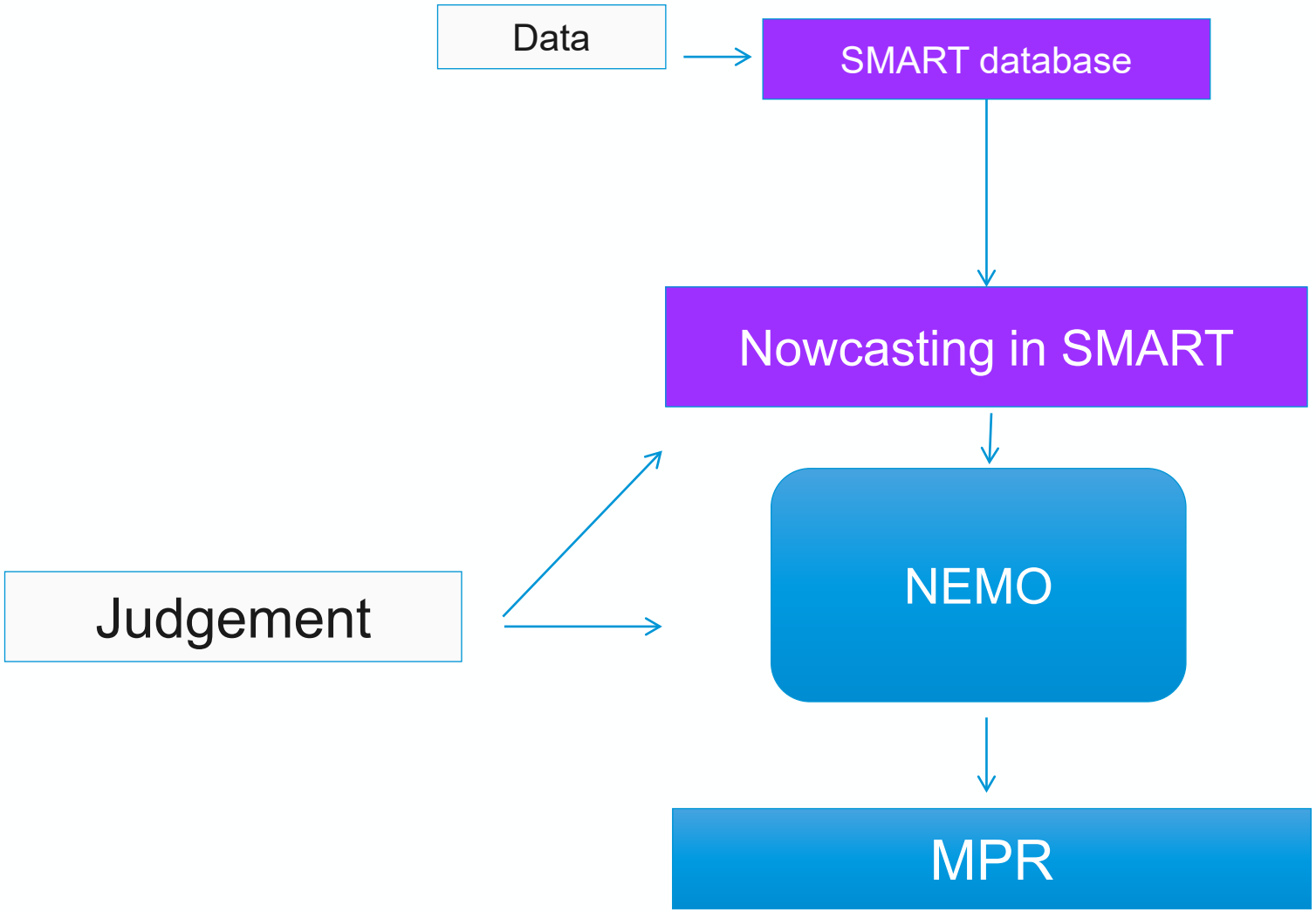


Figure 3: Real-time vintages of real GDP for mainland Norway. Seasonally adjusted. In billions of NOK. 1978Q1-2022Q4

- Database with models and data
  - Including vintages and release calendar
- Model Toolbox
  - Estimating
  - Forecasting
  - Evaluation in real time
  - Combining

Fully integrated into our forecasting routines



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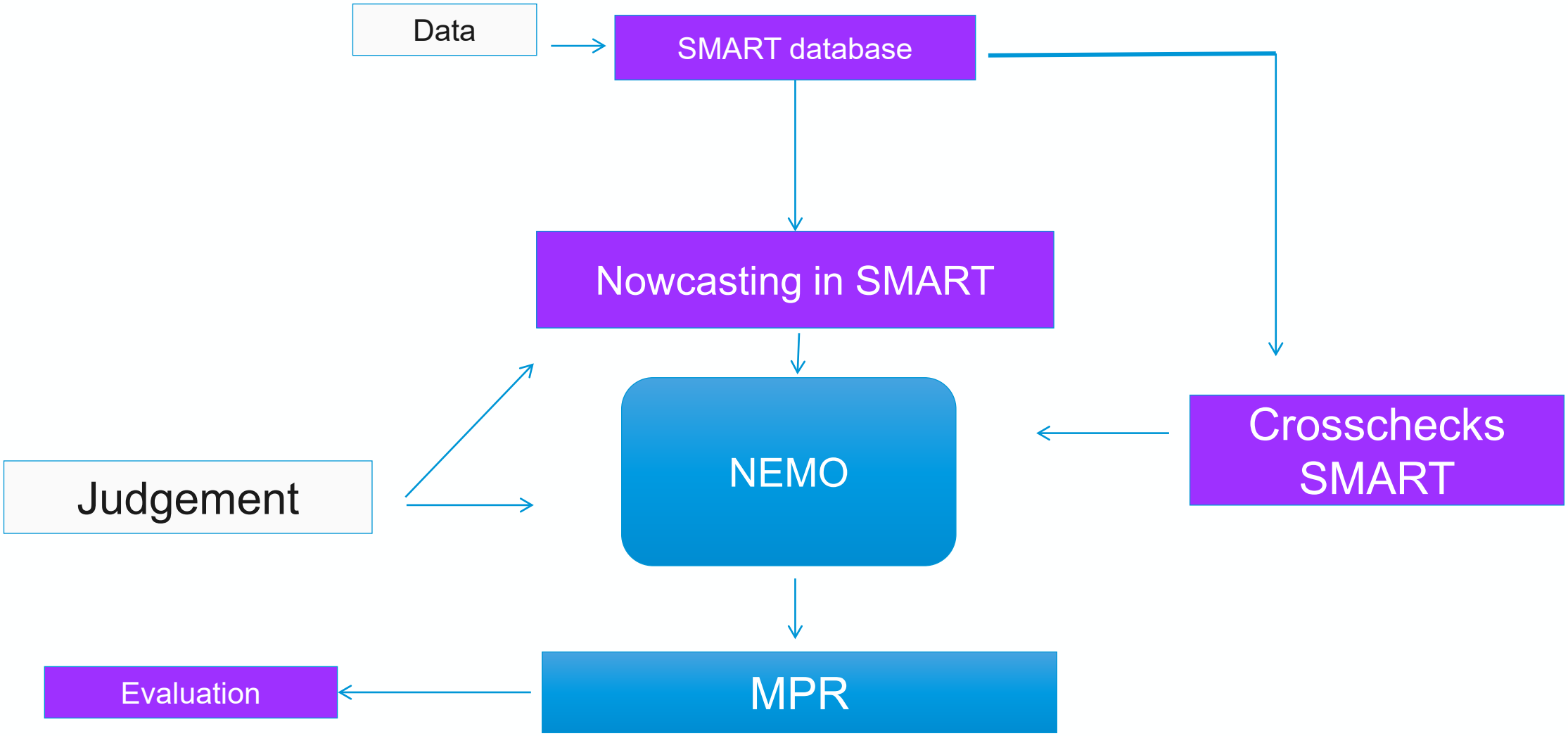
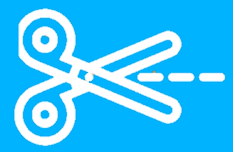


Types of models we use in SMART

- Univariate models
- (B)VAR models
- Factor models
- State space models
- Single equation models (ECM)

Weighting of models

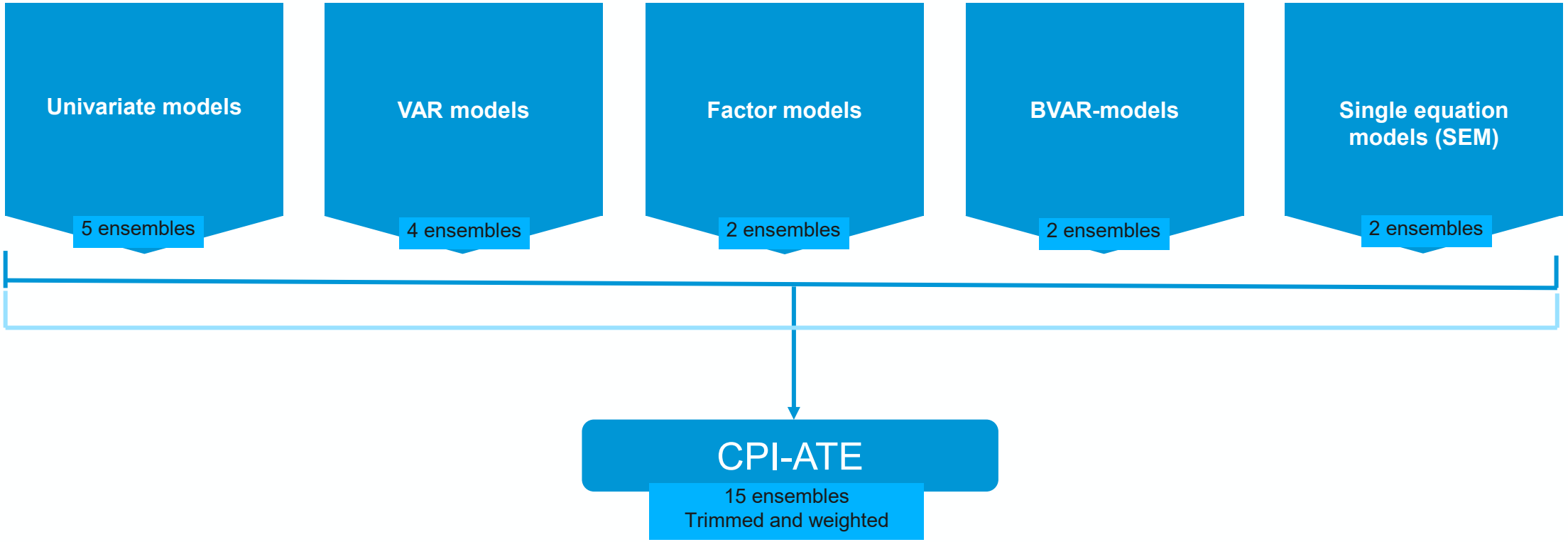


Trimming
Remove the worst models

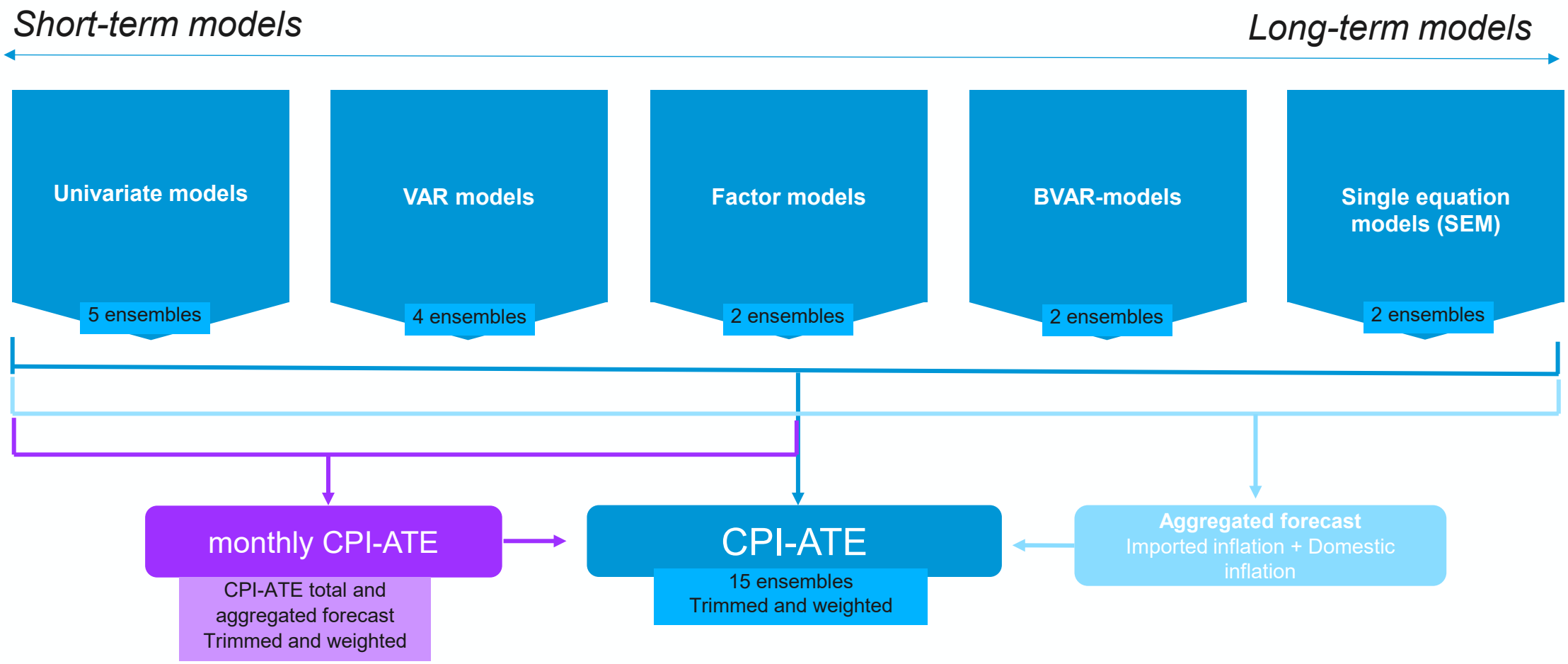
Weighting
Weight up the best models

Discounting
Models that did well lately get higher weights

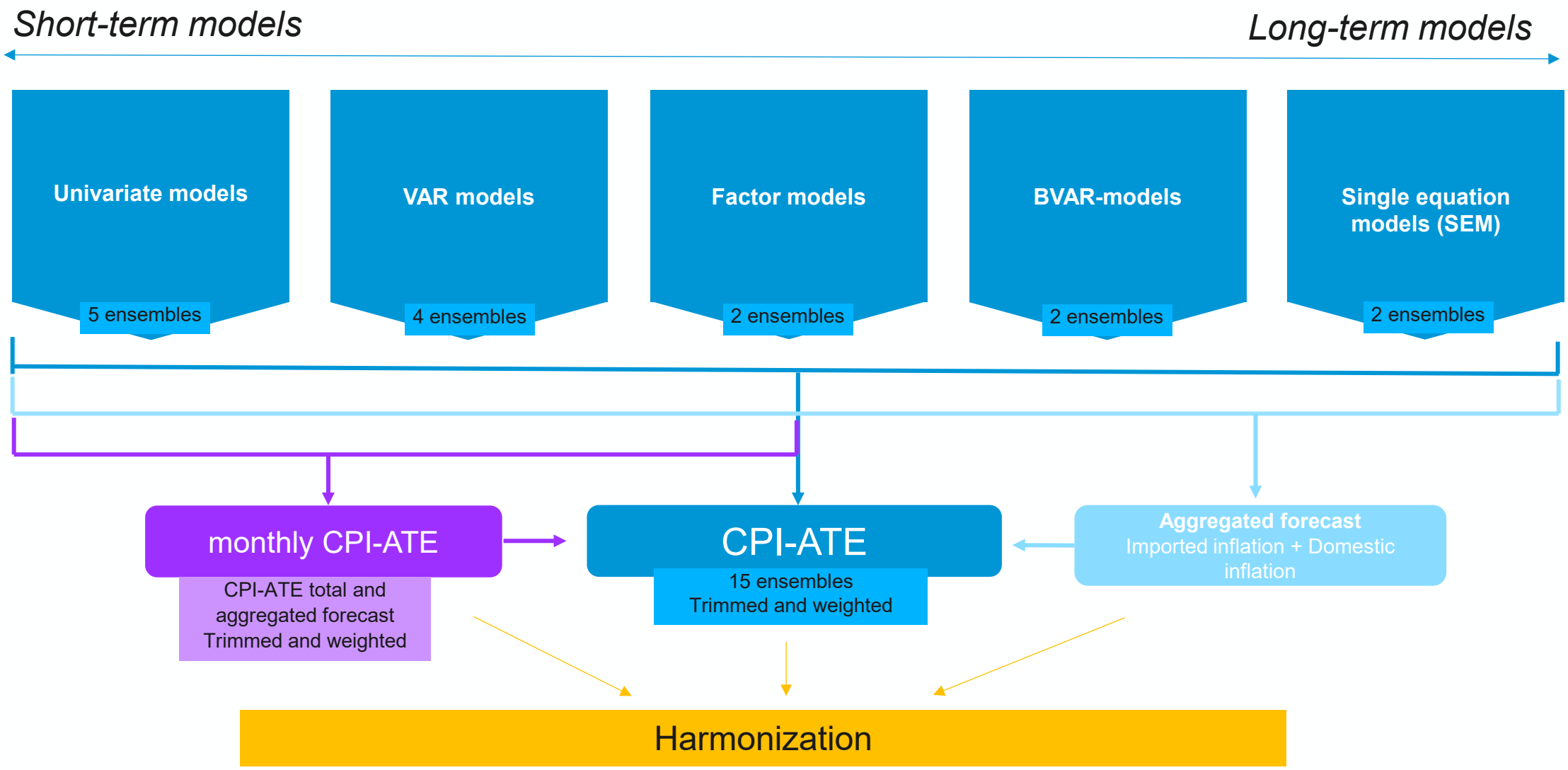
SMART inflation



SMART inflation



SMART inflation



Norges Bank

SMART in practice

Forecasting process in Norges Bank

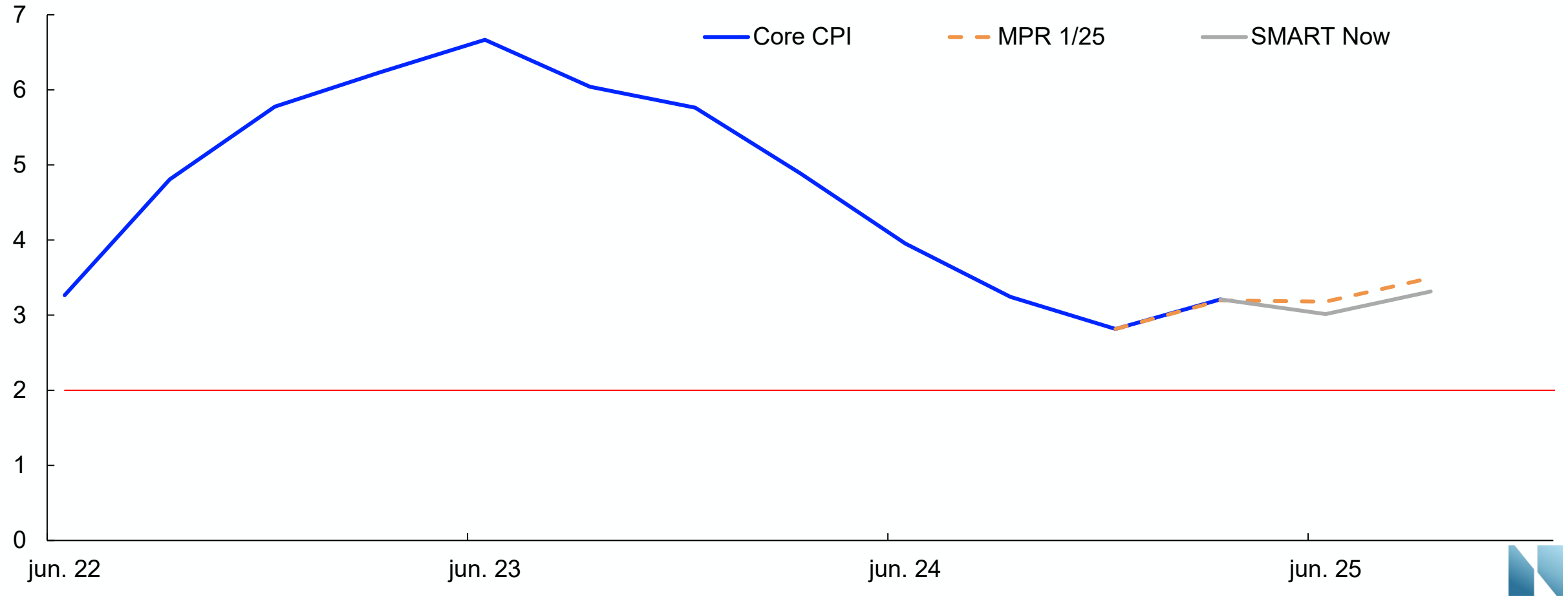
1. Staff workshops and seminars

2. Bringing the forecasts to the MPC

3. External communication

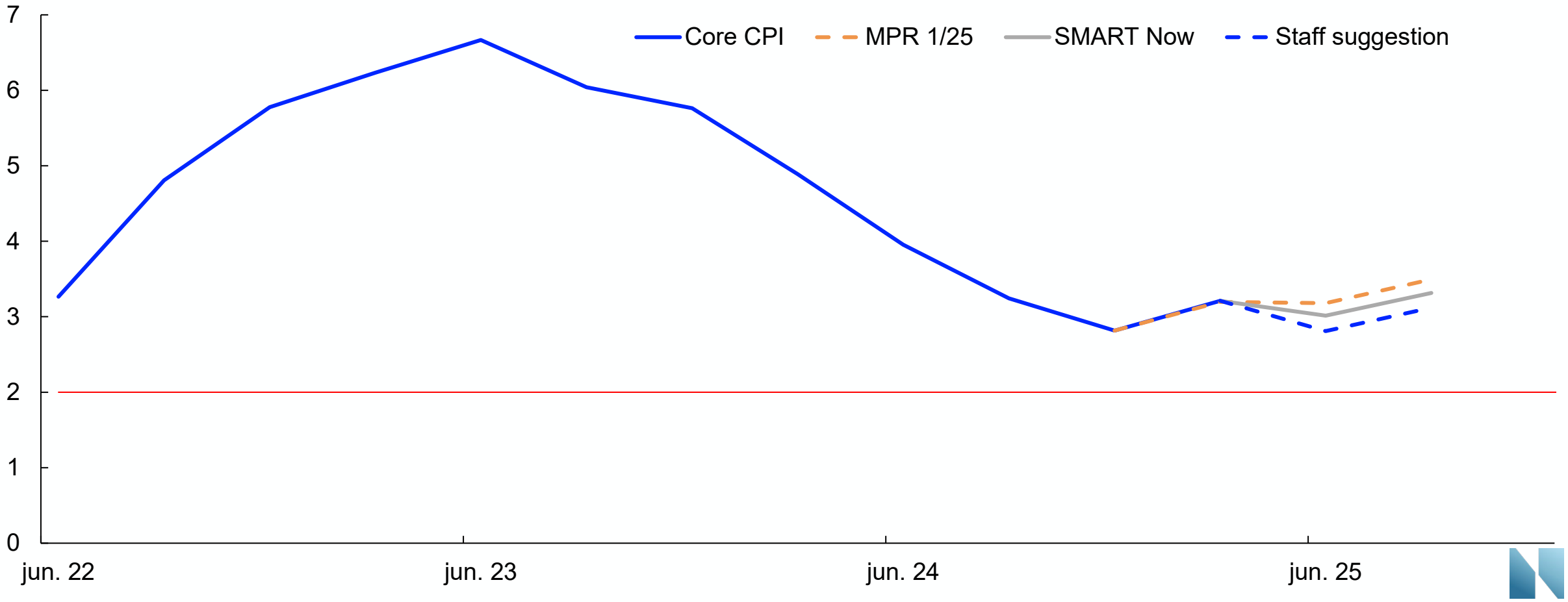
Sector expert judgment on SMART

Inflation



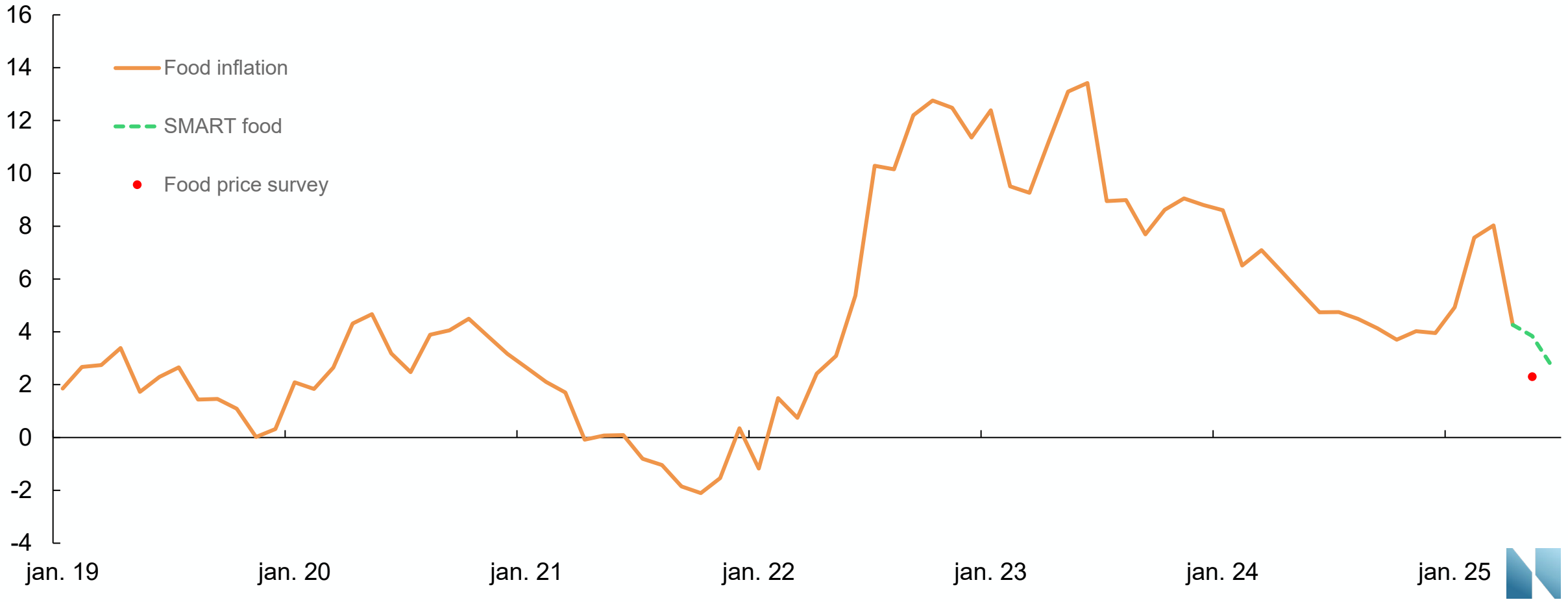
Sector expert judgment on SMART

Inflation



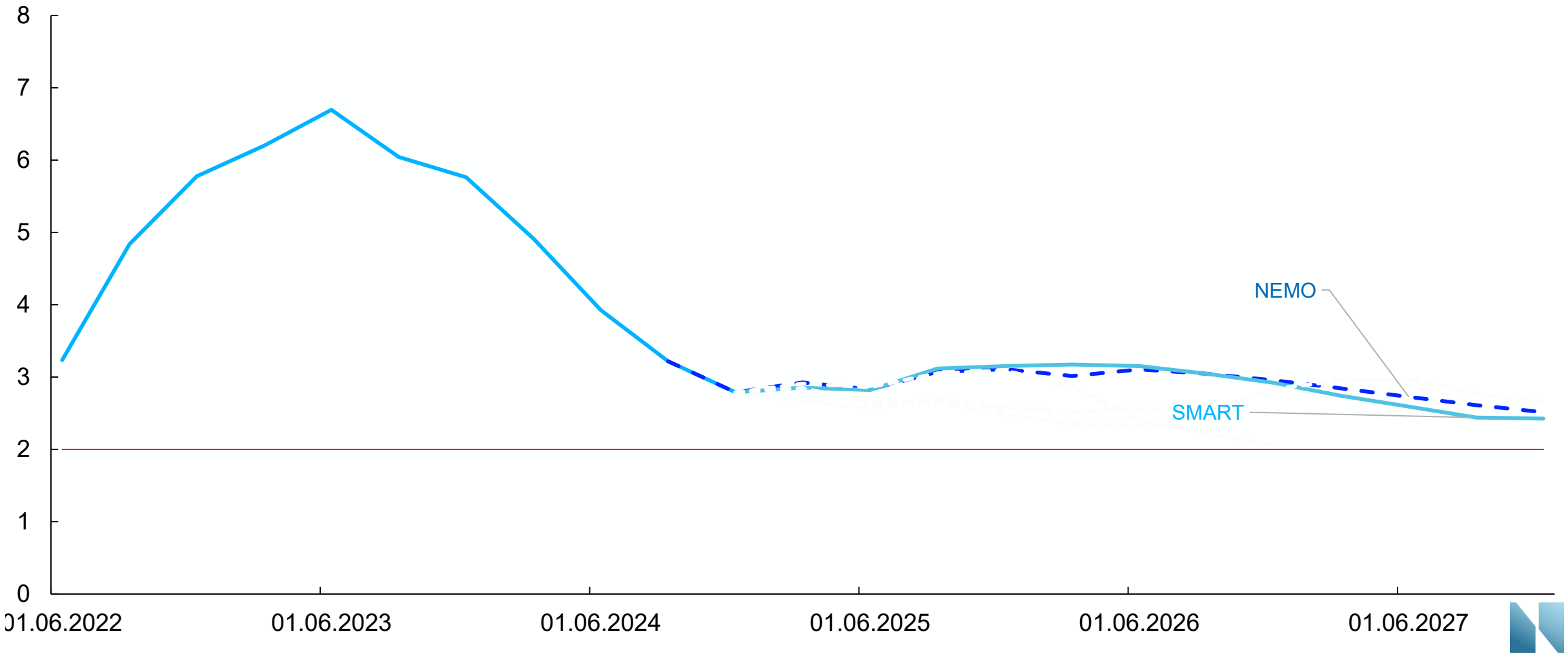
Sector expert judgment on SMART

Food inflation



Crosscheck of NEMO forecasts

Inflation



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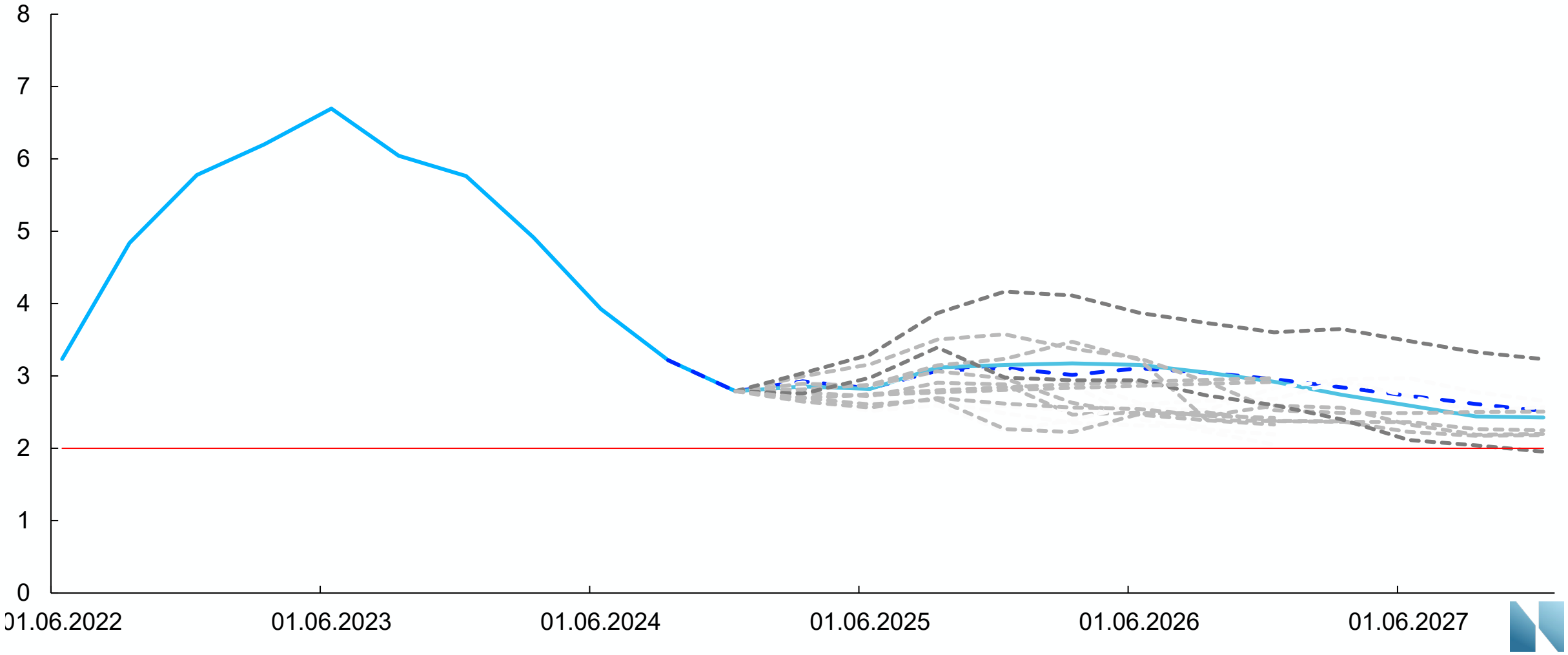
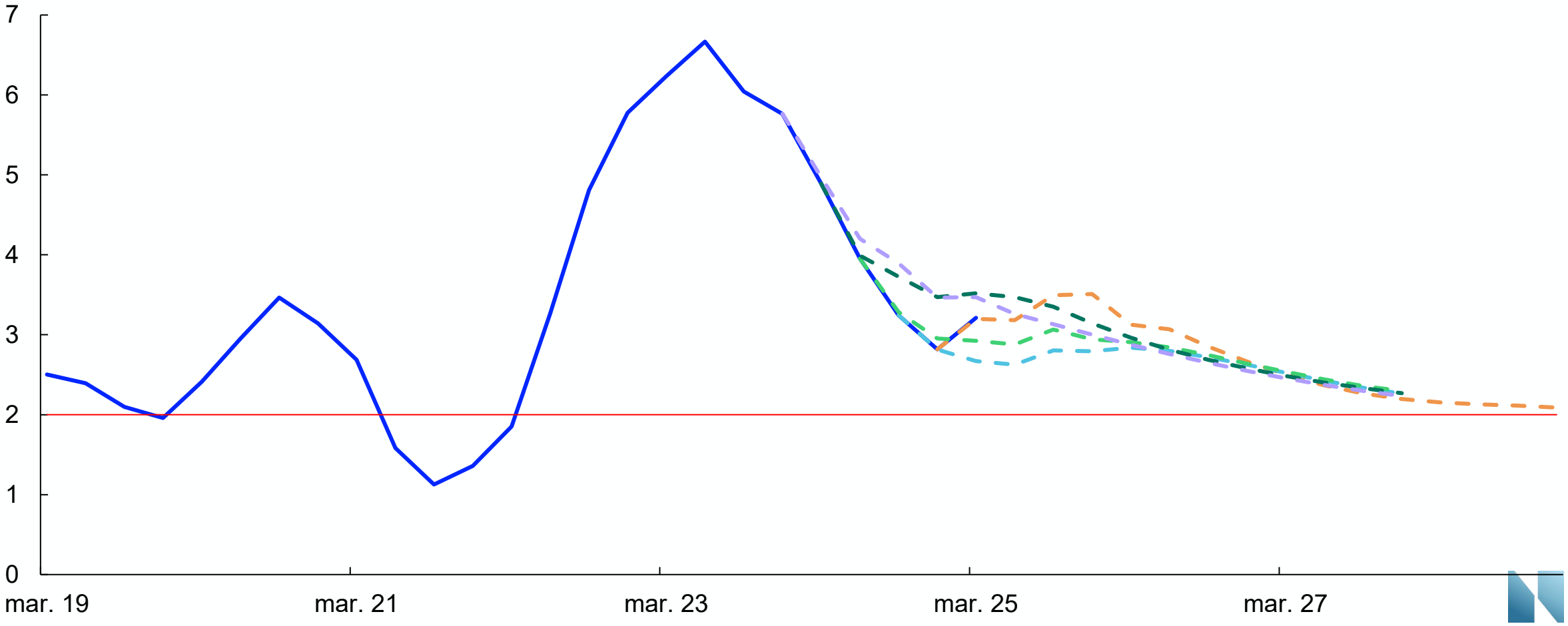


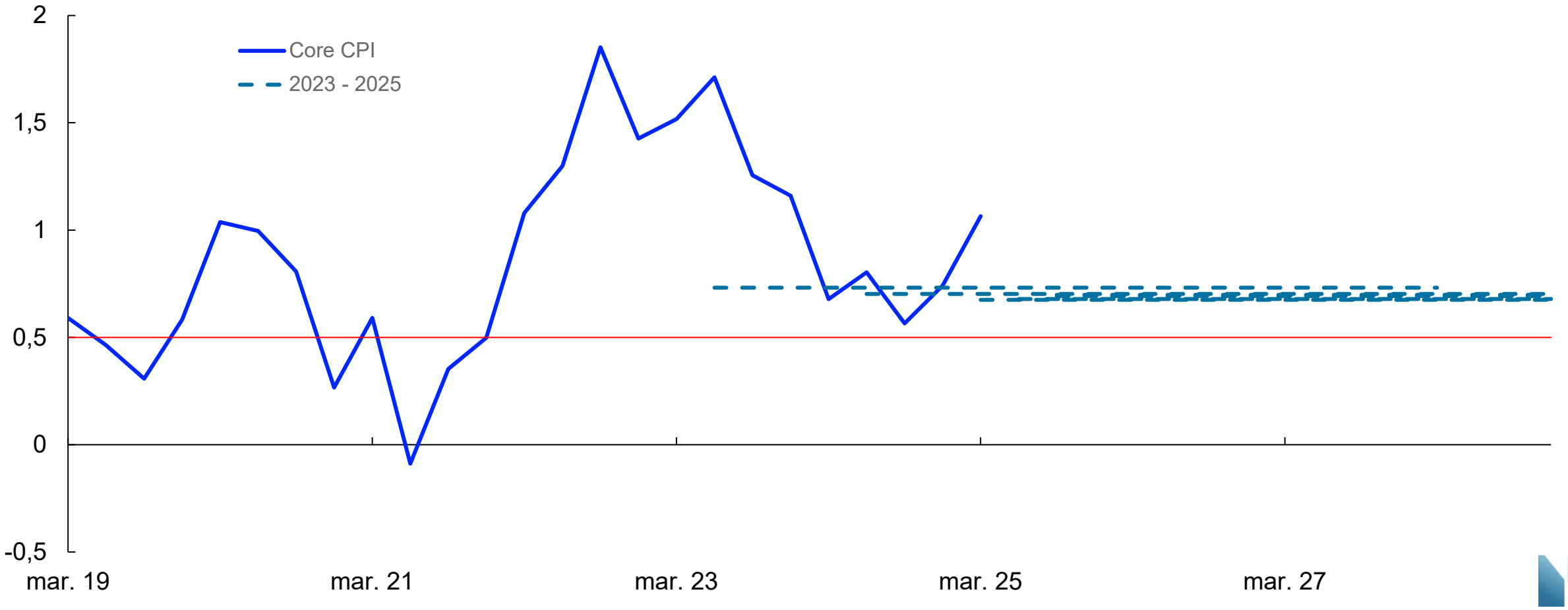
Large misses in the short run, but same forecast in the medium run

Inflation



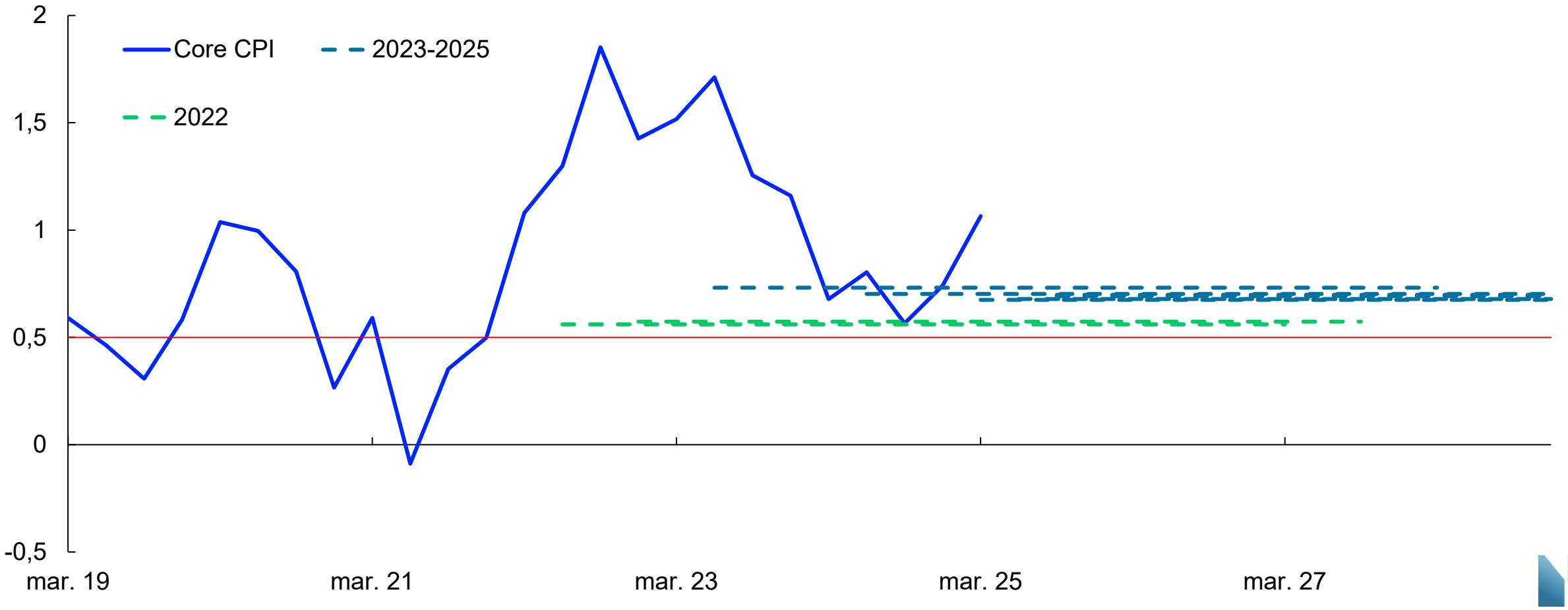
Momentum from SMART stable and above target

Average quarterly inflation rate over the forecast horizon



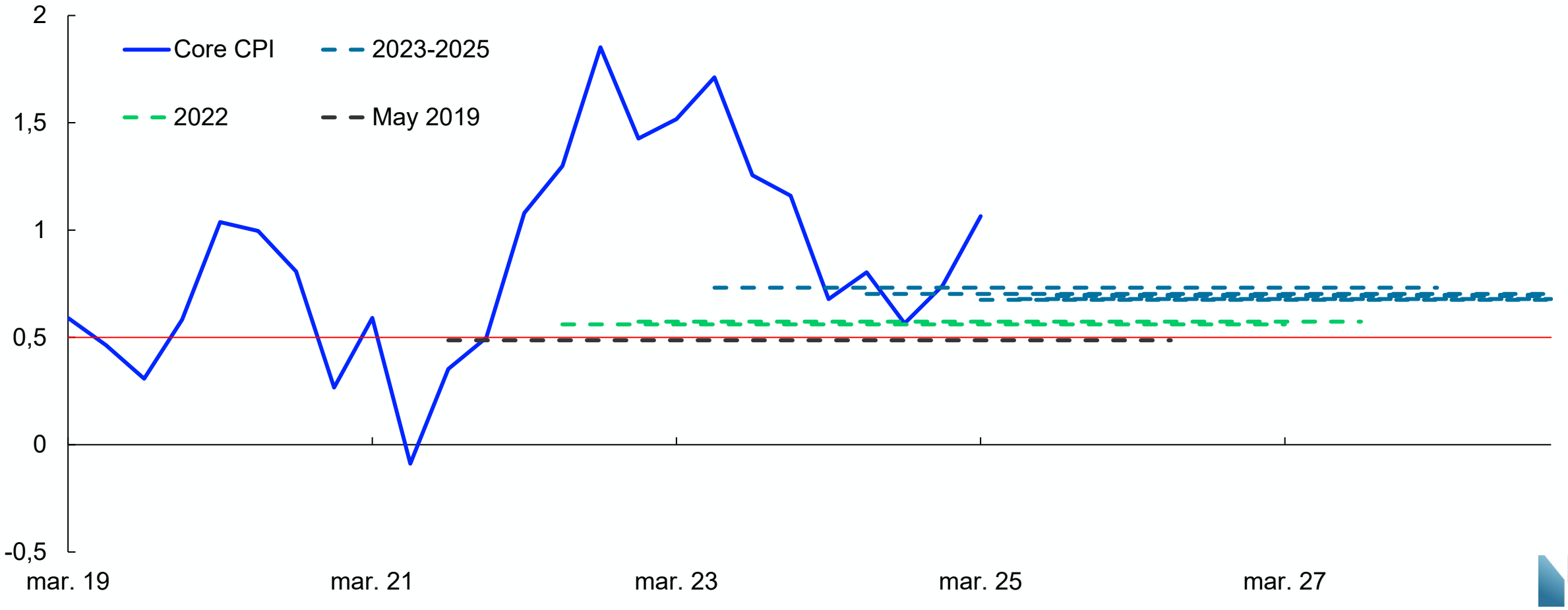
Higher than in 2022

Average quarterly inflation rate over the forecast horizon

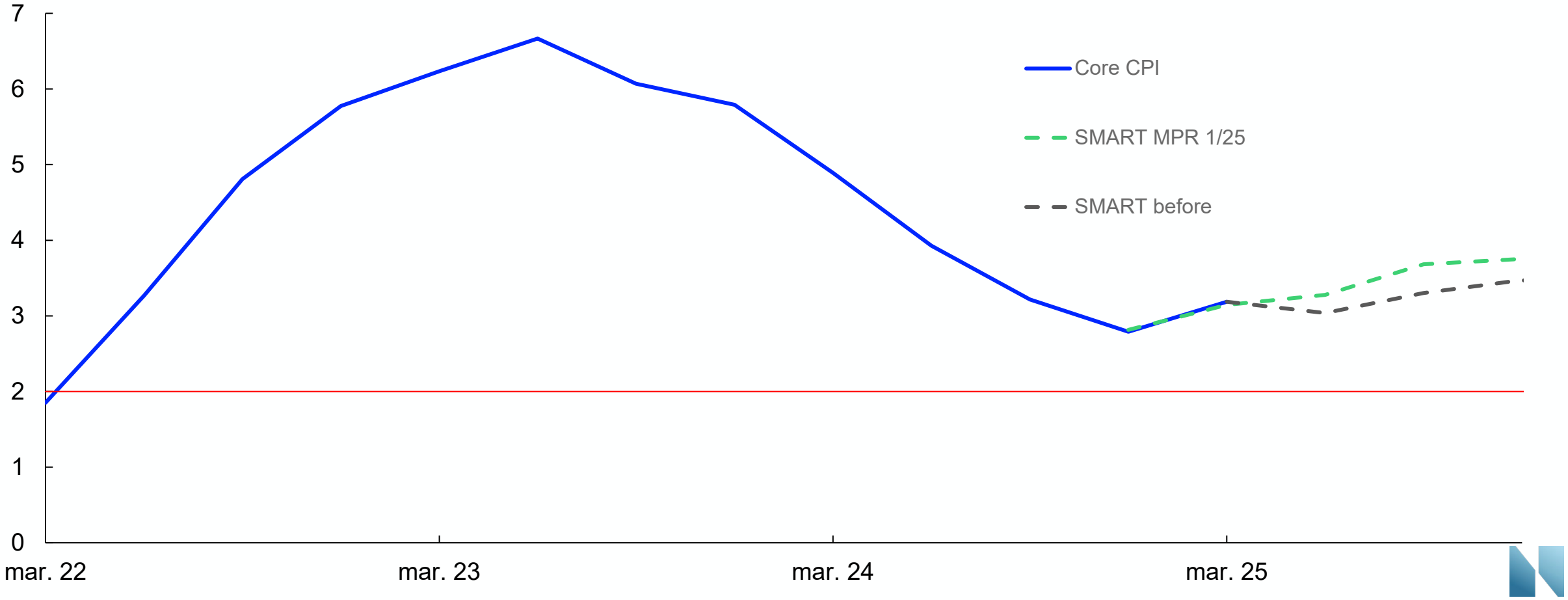


And close to target before the pandemic

Average quarterly inflation rate over the forecast horizon



New inflation data during the MPR-process



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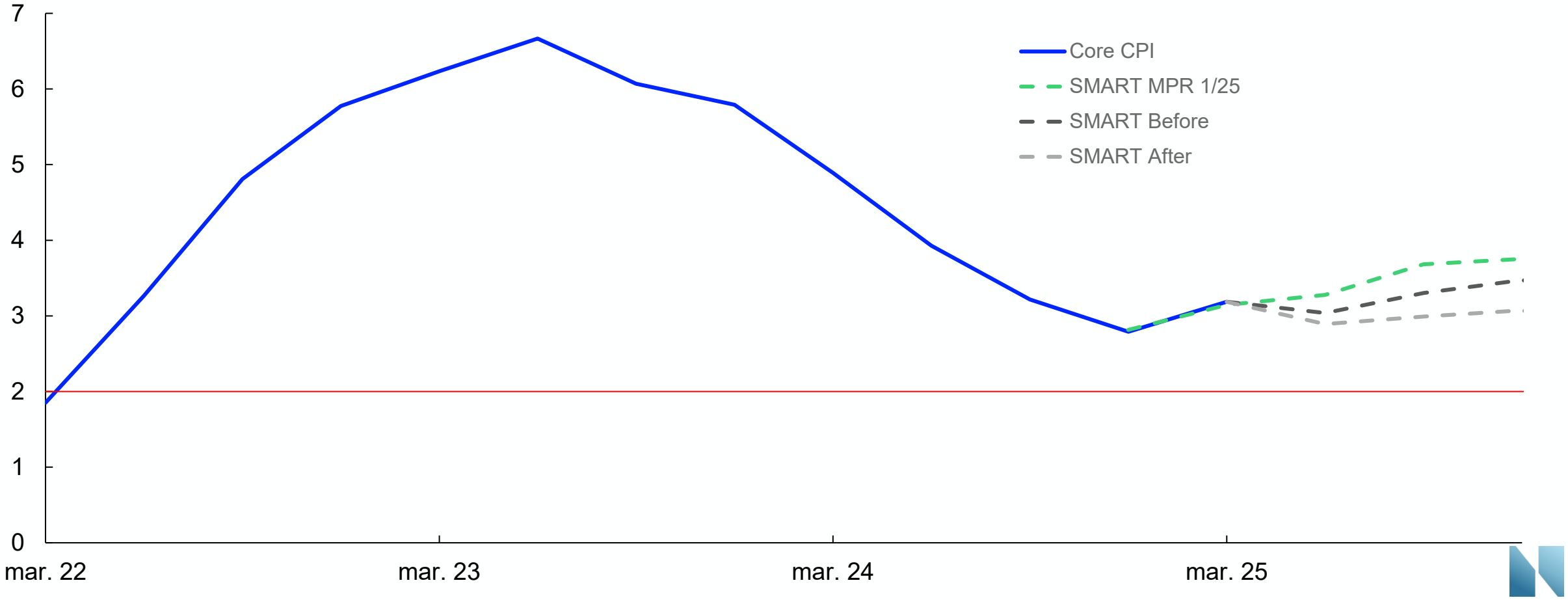

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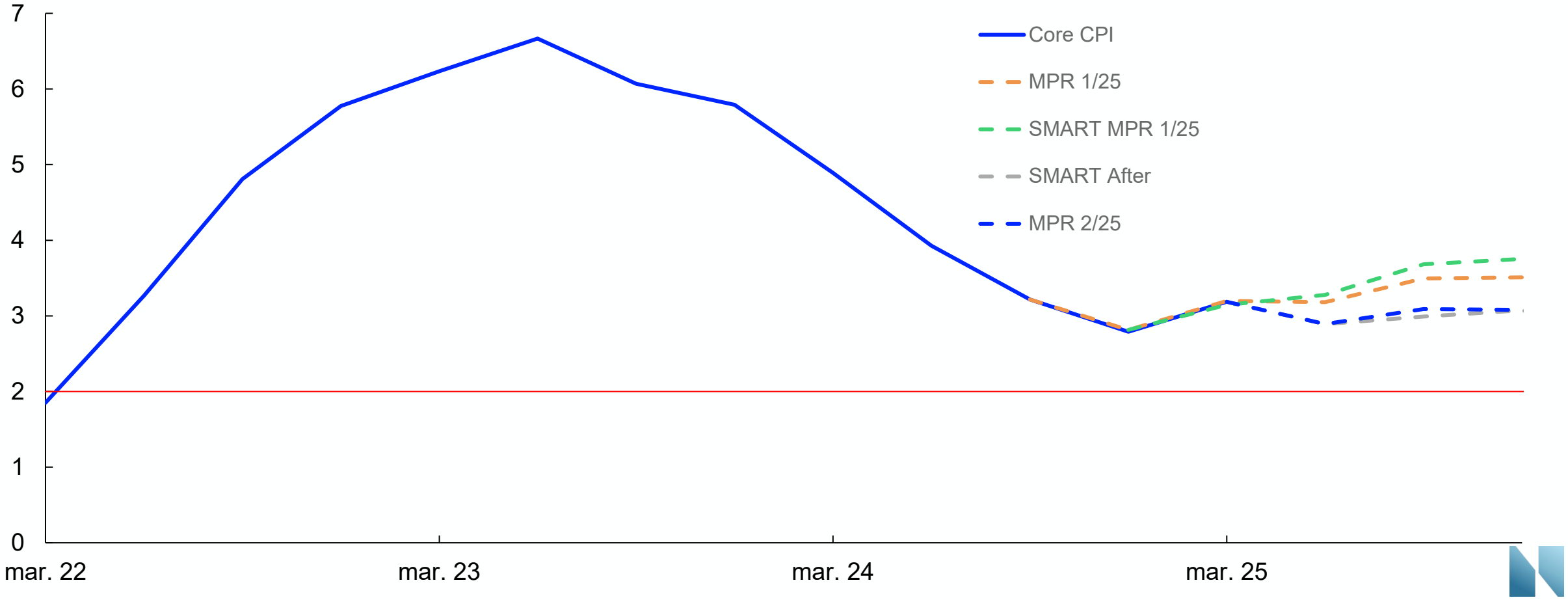
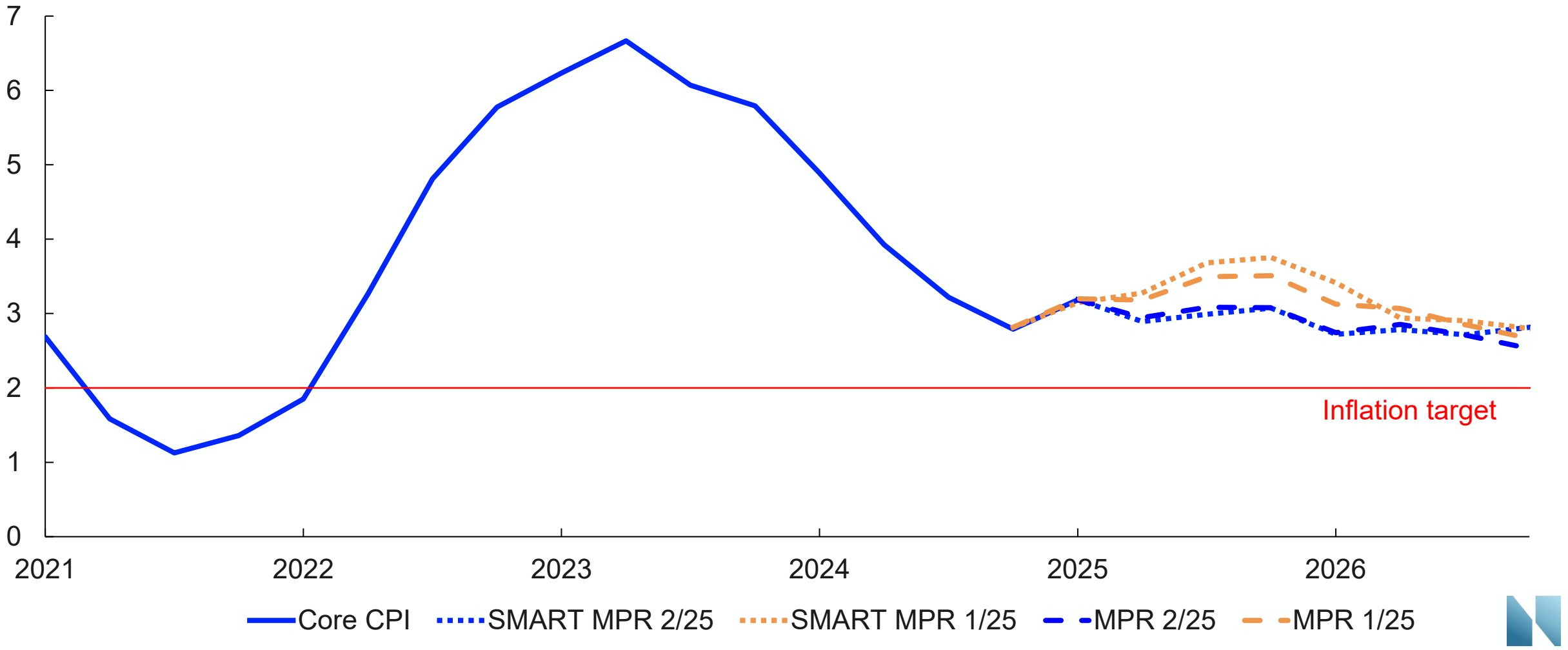


External communication

Core cpi-inflation. Four-quarter change. Percent



What are we working on now?

- Building more SMART - systems
  - Inflation and GDP well established
  - Labor market, house prices, consumption ++ under development
- Exploring new data and methods
  - Microdata on consumption, prices and the labor market
  - Applying new machine learning techniques
    - Model combination
- Visualization and dashboards