

ECB Survey of Professional Forecasters (SPF)¹: description of SPF dataset

Dataset description and file structure

The purpose of this document is to explain the structure and the technical characteristics of the dataset including the individual forecasters' data series. This document serves as a manual to the files named:

- "xxxxQx.csv"

Individual spreadsheets are provided for each SPF forecast round. These files can be handled by standard desktop applications, such as Microsoft Excel. The files are stored in .csv format, a standard that is supported by most analytical software across various system platforms.

1 Variables

The ECB micro-data SPF contains forecasts for three main economic indicators and for the assumptions made by forecasters for underlying economic factors:

1) Inflation

Inflation is defined as the year on year percentage change of the Harmonised Index of Consumer Prices (HICP) published by Eurostat. **HICP/HICPX**²

2) GDP

Real gross domestic product growth is defined as the year on year percentage change of real GDP, based on standardised ESA definition. **RGDP**

3) Unemployment

The unemployment rate refers to Eurostat's definition and it is calculated as percentage of the labour force. **UNEM**

4) Assumptions (ASSU**)**

The forecasters are asked to provide their assumptions concerning the ECB's policy interest rates (**ECBIR**)³, oil prices (**OIL** - per barrel of Brent crude in USD), the USD/EUR exchange rate (**USD**) and labour costs (**LAB** - year-on-year rate of change in whole economy compensation per employee).

¹ If you have any questions concerning the SPF please contact Mr Bruno Fagandini, Mr Aidan Meyler and Mr Pablo Anaya Longaric at European Central Bank, Telephone 00 49 69 1344 0, email: ecb-spf@ecb.europa.eu.

² Since 2016 Q4 (2017 Q1), in addition to their forecasts for overall or headline HICP inflation, participants have also been asked to provide their point and probability density forecasts for the HICP excluding food and energy - HICPX.

³ Since 2024Q4 DFR - deposit facility rate, prior to this MRO - main refinancing operations rate)

2 Forecast horizons

The SPF dataset contains forecasts for up to six different forecast horizons for each of the main macroeconomic indicators:⁴

- 1) a forecast for the current calendar year
- 2) a forecast for the next calendar year
- 3) a forecast for the calendar year after next
- 4) a longer term forecast (four calendar years ahead in the Q1 and Q2 rounds and five calendar years ahead in the Q3 and Q4 rounds)
- 5) a “rolling horizon” forecast for the month (for HICP inflation and the unemployment rate) and quarter (for GDP growth) one year ahead of the latest available observation (at the time of the survey)
- 6) a “rolling horizon” forecast for the month (for HICP inflation and the unemployment rate) and quarter (for GDP growth) two years ahead of the latest available observation (at the time of the survey).

The rolling horizons are set 1- and 2-years ahead of the period (month or quarter) for which the latest official release of a given macroeconomic indicator is available, and therefore differ across the indicators. For example, in the survey conducted in the first quarter of 2025 (after the release of the December 2024 figure for HICP inflation) the participants were asked to report their expectations for the year-on-year rate of change in the euro area HICP in December 2025 and December 2026. By then, the latest available GDP data related to the third quarter of 2024 and the latest unemployment rate figure was for November 2024. Hence, respondents were asked for their expectations for GDP in the third quarter of 2025 and 2026 and the unemployment rate in November 2026 and November 2027. In the 2025 Q2 SPF (conducted after the release of the March 2025 HICP figure), participants were asked for their expectations for the inflation rate in March 2026 and March 2027, and so on.

The forecast horizon structure for all assumptions *except for labour costs* also comprises rolling horizons and calendar year horizons, according to the following scheme⁵:

⁴ This is the forecast horizon structure used since the 2001 Q2 SPF round. Before that the horizons in use were the following (see also Annex 1):

- 1) a forecast for the current calendar year
- 2) a forecast for the next calendar year
- 3) a forecast for the calendar year after next
- 4) a forecast for the calendar year five years ahead
- 5) a “rolling horizon” forecast for the month (for HICP inflation and the unemployment rate) and the quarter (for GDP growth) one year ahead of the latest available data, at the time the survey is conducted;
- 6) a “rolling horizon” forecast for the month (for HICP inflation and the unemployment rate) and the quarter (for GDP growth) two years ahead of the latest available data, at the time the survey is conducted;
- 7) a “rolling horizon” forecast for the month (for HICP inflation and the unemployment rate) and the quarter (for GDP growth) five years ahead of the latest available data, at the time the survey is conducted.

In these earlier rounds the forecasts for the five years ahead calendar year and the five years ahead rolling horizon were asked only in the first round of each year (i.e. the Q1 SPF rounds).

The calendar year after next forecast horizon in the Q3 and Q4 rounds was introduced in 2000. It was extended to Q1 and Q2 rounds in 2013 Q1.

- 1) four consecutive quarters starting with the quarter when the survey is conducted;
- 2) a forecast for the next calendar year (annual average);
- 3) a forecast for the calendar year after next (annual average);
- 4) Since 2024 Q4, a longer term forecast (four calendar years ahead in the Q1 and Q2 rounds and five calendar years ahead in the Q3 and Q4 rounds).

The scheme for labour costs constitutes calendar year horizons *only*, in particular the following:

- 1) a forecast for the current calendar year (annual average);
- 2) a forecast for the next calendar year (annual average);
- 3) a forecast for the calendar year after next (annual average);
- 4) a longer term forecast (four calendar years ahead in the Q1 and Q2 rounds and five calendar years ahead in the Q3 and Q4 rounds).

The SPF horizon structure for each round in 2025 is shown in Annex 2.

3 Observation types

For each of the three macroeconomic indicators there are two classes of observation types in use in the ECB SPF:

1) Point forecasts

Forecasters are asked to provide a single value or a point forecast of the variable for each of the time horizons

2) Probability distribution forecasts

Forecasters are asked to provide also a probability distribution of forecasted outcomes for each time horizon. Forecasters are asked to report the probability distribution along a set of intervals provided by the ECB for each indicator. The set of intervals varies between macroeconomic indicators and is subject to revisions whenever deemed necessary to take account of economic developments. Annex 3 shows a graphical overview of the intervals used in the different SPF rounds so far.

3) Assumptions

As described in Section 1, assumptions make a special group of observation types, for which only point forecasts are asked. Annex 4 shows which assumptions were asked in which SPF rounds.

⁵ This is the forecast horizon structure used since the 2013 Q1 SPF round. From 2002 Q1 to 2010 Q1 the assumptions in each SPF round were asked for five consecutive quarters starting with the quarter the SPF survey is conducted. For example, in 2009 Q1 SPF round the assumptions were provided for 2009 Q1, 2009 Q2, 2009 Q3, 2009 Q4 and 2010 Q1. From 2010 Q2 to 2012 Q4 the forecast for the calendar year after next was only surveyed in Q3 and Q4 rounds.

4 Column and row structure of the SPF dataset

The ECB provides the full dataset of individual forecasters' SPF forecasts in 'csv' format. The "individual rounds' files" contain data for forecasts in the upper part of the spreadsheet and data for the assumptions in the lower part of the spreadsheet (except for early rounds when no assumptions were asked). The forecast data have the following column structure:

1) TARGET_PERIOD

This column stands for the point (or period) in time to which the forecast refers to. Depending on the macroeconomic variable, the target period is given either as year (format "yyyy"), quarter (format "yyyyQq") or month (format "yyyymmm"), where the month is a mixed-case three-character tag of calendar months in English. See section 2 on forecast horizons for details.

2) FCT_SOURCE

This column stands for forecast source or forecaster ID, is the code number assigned to an individual forecaster. This number remains the same for a specific forecaster over all forecast rounds (only the subset of forecasters that were actually responding in a particular round is reported).

3) POINT

Column contains the forecasters' point forecast for the macroeconomic variable.

4) The following columns

These columns contain the probability assigned to each of the intervals of the forecasted variable. The headers of the columns specify the intervals. The coding of the intervals is explained in Annex 5.

Each file contains four tables – two for inflation (HICP/HICPX) and one for GDP and unemployment. The tables are stored on the same worksheet one below the other, each separated by one blank row. The top table contains the inflation forecasts, the second one the core inflation forecasts, the next one the GDP forecasts and the fourth reports the unemployment forecasts. Data in the tables are ordered first by target period and then by forecaster ID.

Below the forecast data, the assumptions data have the following column structure:

1) TARGET_PERIOD (as above)

2) FCT_SOURCE (as above)

3) IR

Assumptions concerning the ECB policy interest rate (since 2024 Q4 for deposit facility rate (DFR), prior to this, main refinancing operations (MRO) rate, in percent p.a.)

4) LAB

Assumptions concerning labour costs (year-on-year rate of change in whole economy compensation per employee)

5) OIL

Assumptions for the price of a barrel of Brent crude oil in US dollars

6) USD

Assumptions for the EUR/USD exchange rate.

5 Corrections of the dataset

Table 5.1 Corrections made in the ECB SPF dataset*

Date of the update in the SPF dataset	SPF round affected	Forecaster ID	Variable(s) affected	Old value	New value
03 July 2009	2008 Q2	92	All	Data	Missing values
09 December 2009	2009 Q4	59	All	Missing values	Data
11 November 2010	2010 Q3	10	Unemployment, probability for the interval F10_5T10_9 “	25	20

* Please note that aggregate data are updated simultaneously with the changes in the individual data.

Annex 1 Evolution of forecast horizon structure over time

FORECAST HORIZON	SPF ROUND																													
	1999Q1	1999Q2	1999Q3	1999Q4	2000Q1	2000Q2	2000Q3	2000Q4	2001Q1	2001Q2	2001Q3	2001Q4	2012Q1	2012Q2	2012Q3*	2012Q4	2013Q1	2013Q2	2013Q3	2013Q4	
Current calendar year																														
Next calendar year																														
Calendar year after next																														
Calendar year four/five years ahead																														
One year ahead rolling horizon																														
Two years ahead rolling horizon																														
Five years ahead rolling horizon																														

■ Forecast horizons surveyed in that particular round

* Current set of forecast horizons since 2012Q3.

Annex 2 Scheme of the SPF horizon structure across survey rounds (2025 example)⁶

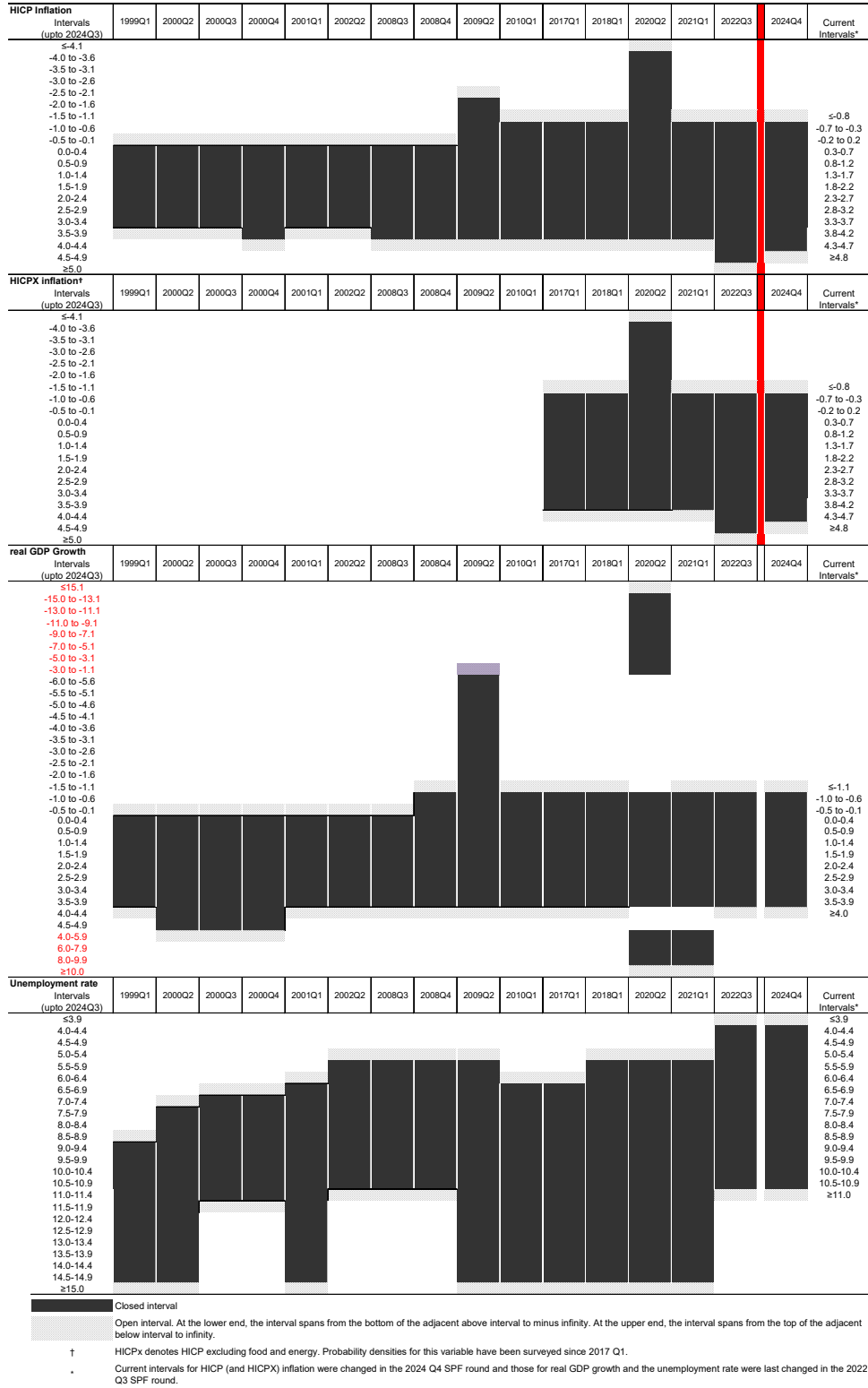
Round	Variables	Survey horizons					
2025 Q1							
Economic indicators	Inflation (overall HICP and HICPX)	Current calendar year	Next calendar year	Calendar year after next	One year ahead	Two years ahead	Longer term
	Unemployment rate	2025	2026	2027	December 2025	December 2026	
	GDP growth				November 2025 2025Q3	November 2026 2026Q3	2029
Underlying economic factors	Labour costs	2025	2026	2027			2029
		Quarter t	Quarter t+1	Quarter t+2	Quarter t+3	Next year	Calendar year after next
	ECB's policy interest rate (DFR/MRO)* Brent crude oil prices (US dollars) USD/EUR exchange rate	2025Q1	2025Q2	2025Q3	2025Q4	2026	2027
2025 Q2							
Economic indicators	Inflation (overall HICP and HICPX)	Current calendar year	Next calendar year	Calendar year after next	One year ahead	Two years ahead	Longer term
	Unemployment rate	2025	2026	2027	March 2026	March 2026	
	GDP growth				February 2026 2025Q4	February 2026 2025Q4	2029
Underlying economic factors	Labour costs	2025	2026	2027			2029
		Quarter t	Quarter t+1	Quarter t+2	Quarter t+3	Next year	Calendar year after next
	ECB's policy interest rate (DFR/MRO) Brent crude oil prices (US dollars) USD/EUR exchange rate	2025Q2	2025Q3	2025Q4	2026Q1	2026	2027
2025 Q3							
Economic indicators	Inflation (overall HICP and HICPX)	Current calendar year	Next calendar year	Calendar year after next	One year ahead	Two years ahead	Longer term
	Unemployment rate	2025	2026	2027	June 2026	June 2026	
	GDP growth				May 2026 2026Q1	May 2026 2026Q1	2030
Underlying economic factors	Labour costs	2025	2026	2027			2030
		Quarter t	Quarter t+1	Quarter t+2	Quarter t+3	Next year	Calendar year after next
	ECB's policy interest rate (DFR/MRO) Brent crude oil prices (US dollars) USD/EUR exchange rate	2025Q3	2025Q4	2026Q1	2026Q2	2026	2027
2025 Q4							
Economic indicators	Inflation (overall HICP and HICPX)	Current calendar year	Next calendar year	Calendar year after next	One year ahead	Two years ahead	Longer term
	Unemployment rate	2025	2026	2027	September 2026	September 2026	
	GDP growth				August 2026 2026Q2	August 2026 2026Q2	2030
Underlying economic factors	Labour costs	2025	2026	2027			2030
		Quarter t	Quarter t+1	Quarter t+2	Quarter t+3	Next year	Calendar year after next
	ECB's policy interest rate (DFR/MRO) Brent crude oil prices (US dollars) USD/EUR exchange rate	2025Q4	2026Q1	2026Q2	2026Q3	2026	2027

* From 2024Q4 round onwards, the question regarding the ECB's main policy interest rate refers to the deposit facility rate (prior to this it was the main refinancing operation rate)

⁶ Note, there was a slight variation to the normal pattern in 2019. In the Q2 round, owing to the timing of Easter, the survey was carried out earlier than normal. Consequently, data for HICP inflation were only available until February 2019, until 2018 Q4 for real GDP growth and until January 2019 for the unemployment rate. The one-year and two-year ahead horizons were changed accordingly.

Annex 3 Changes in intervals for probability distribution forecasts

Overview of Intervals for Probability Distributions in the SPF Survey over Time



Note: A probability assigned to an open interval stands for the probability that the variable's outcome will be larger (or smaller) than the lower (upper) interval boundary.

Annex 4 Assumptions and SPF rounds when they were asked in the questionnaire

ASSUMPTION VARIABLE	SPF ROUND																								
	1999Q1	1999Q2	1999Q3	1999Q4	2000Q1	2000Q2	2000Q3	2000Q4	2001Q1	2001Q2	2001Q3	2001Q4	2002Q1	2002Q2	2002Q3	2002Q4	2003Q1	2003Q2	2003Q3	2003Q4	2004Q1	2004Q2	2004Q3*	2004Q4	
ECB main policy interest rate**																									
Oil price																									
USD/EUR exchange rate																									
Labour costs																									

■ Assumption asked in particular round SPF questionnaire.

* Current set of variables asked since 2004Q3 SPF round.

From 2024Q4 round onwards, the question regarding the ECB's interest rate refers to the deposit facility rate DFR

** (prior to this it was the main refinancing operation MRO rate)

Annex 5 Description of the observation type code

The following list explains the observation type codes. For the intervals, each forecaster assigns a probability for the forecasted variable to fall within the given interval. The sum of these probabilities is required to sum up to 100 (deviations occur in some cases at the 5th decimal place or lower).

FCT_TOPIC	FCT_BREAKDOWN	DESCRIPTION
HICP/ HICPX ⁷ RGDP/ UNEM	POINT	point forecast
	TNx_y (Tx_y)	probability for interval $< -x.y\%$ ($< x.y\%$) (e.g. TN4_0 denotes $< -4.0\%$ and T4_0 denotes $< 4.0\%$)
	T0_0	probability for interval $< 0.0\%$
	FNa_bTNx_y	probability for interval from $-a.b$ to $-x.y\%$ (e.g. FN0_5TN0_1 denotes from -0.5 to -0.1%)
	Fa_bTx_y	probability for interval from $a.b$ to $x.y\%$ (e.g. F0_0T0_4 denotes from 0.0 to 0.4%)
	Fx_y	probability for interval $\geq x.y\%$ (e.g. F3_5 denotes $\geq 3.5\%$)
ASSU	IR	Assumption for ECB's policy interest rate (since 2024Q4 DFR - deposit facility rate, prior to this MRO - main refinancing operations rate)
	OIL	Assumption for oil prices (USD)
	USD	Assumption for USD/EUR exchange rate
	LAB	Assumption for labour costs; annual rate of change in whole economy compensation per employee

* Note, bins referring to negative values not applicable for the unemployment rate (which is strictly positive)

⁷ Point (probability density) forecasts are also available for HICP excluding food and energy – HICPX – since 2016 Q4 (2017 Q1).

Annex 6 Calendar year forecasts in SDW

Example for 2016 data.

The expectations for the calendar year averages are stored in multiple time series, which are coded depending on how many months after the survey cycle the end of the forecast horizon will be reached. In this example, the observations refer to 2016:

