



EUROPEAN CENTRAL BANK

EUROSYSTEM

The ECB Survey of Professional Forecasters

Fourth quarter of 2016

October 2016



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The results of the ECB Survey of Professional Forecasters (SPF) for the fourth quarter of 2016¹ show average inflation expectations of 0.2%, 1.2% and 1.4% for 2016, 2017 and 2018 respectively – revised slightly down for 2016 and 2018. The expected increase in inflation over time is initially due mainly to a strong pick-up forecast in energy prices and thereafter to a more gradual rise in underlying inflation. Average longer-term inflation expectations (for 2021) stand at 1.8% – unchanged with respect to the previous survey round. Real GDP growth expectations stand at 1.6% for 2016, 1.4% for 2017, 1.5% for 2018 and 1.6% in the longer-term (for 2021), i.e. revised up for 2016, unchanged for 2017 and revised down by 0.1 percentage point for 2018 and further ahead. Unemployment rate expectations were revised down for 2018 and further ahead and remained characterised by a clear downward trajectory.

Table

Results of the SPF in comparison with other forecasts and projections

(annual percentage changes, unless otherwise indicated)

	Survey horizon			
	2016	2017	2018	Longer-term ¹⁾
HICP inflation				
SPF Q4 2016	0.2	1.2	1.4	1.8
Previous SPF (Q3 2016)	0.3	1.2	1.5	1.8
ECB staff macroeconomic projections (Sep. 2016)	0.2	1.2	1.6	-
Consensus Economics (Sep. 2016)	0.2	1.3	1.6	2.0
Euro Zone Barometer (Sep. 2016)	0.3	1.3	1.6	1.8
Real GDP growth				
SPF Q4 2016	1.6	1.4	1.5	1.6
Previous SPF (Q3 2016)	1.5	1.4	1.6	1.7
ECB staff macroeconomic projections (Sep. 2016)	1.7	1.6	1.6	-
Consensus Economics (Sep. 2016)	1.5	1.3	1.6	1.4
Euro Zone Barometer (Sep. 2016)	1.5	1.3	1.6	1.5
Unemployment rate²⁾				
SPF Q4 2016	10.1	9.7	9.3	8.7
Previous SPF (Q3 2016)	10.1	9.7	9.5	8.8
ECB staff macroeconomic projections (Sep. 2016)	10.1	9.9	9.6	-
Consensus Economics (Sep. 2016)	10.1	9.8	-	-
Euro Zone Barometer (Sep. 2016)	10.1	9.8	9.4	8.5

1) Longer-term expectations refer to 2021 for the Q4 and Q3 2016 SPF rounds. For the Eurozone Barometer, expectations for the longer-term and for 2018 are taken from the July 2016 survey, while those for Consensus Economics are taken from the April 2016 survey.

2) As a percentage of the labour force.

¹ The survey was conducted between 30 September and 6 October 2016. The total number of responses was 47, which is below the historical average number of responses to the Q4 round (59). The survey requested information on expectations for the euro area HICP inflation rate, the real GDP growth rate and the unemployment rate for 2016, 2017, 2018 and 2021, as well as for each of these variables one year and two years ahead. Participants were provided with a common set of the latest available data for HICP inflation (September 2016 flash estimate, 0.4% year on year), GDP growth (Q2 2016, 1.6% year on year) and unemployment (August 2016, 10.1%). The cut-off date for data used in this report is 12 October 2016.

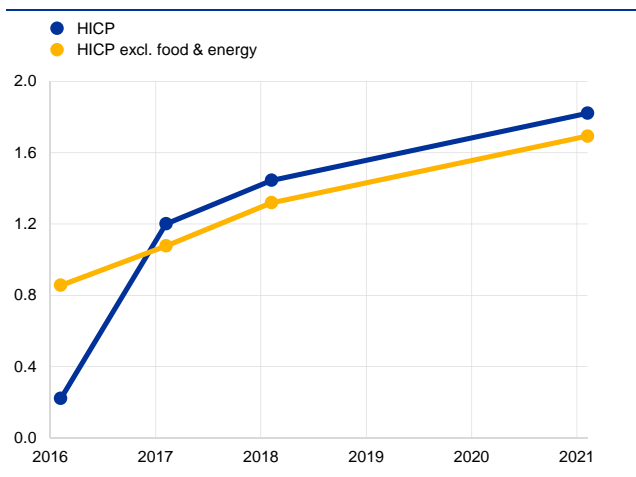
1 Inflation expectations for 2016-18 broadly unchanged

The Q4 2016 SPF average point forecasts for inflation in 2016, 2017 and 2018 stand at 0.2%, 1.2% and 1.4% respectively. This implies that forecasts for 2016 and for 2018 have been revised downwards by 0.1 percentage point while those for 2017 are unchanged compared with the survey round from the third quarter of 2016 (see the table).

The expected strong pick-up in headline inflation between 2016 and 2017 reflects to a large extent the expected profile of oil price dynamics. SPF respondents expect that upward base effects, stemming from the falling-out of past declines in oil prices from annual rates of change, will be augmented by the recent increases observed in oil prices.

Chart 1

Inflation expectations:
overall HICP and HICP excl. food and energy



Underlying inflation is also expected to pick up, albeit at a more gradual pace – see Chart 1. In this round, SPF respondents were asked explicitly to provide their quantitative expectations for HICP inflation excluding food and energy. Approximately 70% of respondents who reported expectations for headline inflation also provided this information.² On average, SPF respondents expect underlying inflation to increase by about 0.2 percentage point per annum in both 2017 and 2018, implying a rise from 0.9% in 2016 to 1.3% in 2018. The gradual rate of increase is in line with expectations of relatively stable economic growth (and the implied slow closing of the output gap) and expectations of subdued wage dynamics.

Compared with the previous SPF round, the aggregate probability distributions for expected inflation in 2016-18 are more concentrated around

the mode (see Charts 2-4). While for 2016 the modal (most likely) outcome is still in the 0.0% to 0.4% range (70%), for 2017 and 2018 it is in the 1.0% to 1.4% and 1.5% to 1.9% ranges respectively with higher probabilities than in the previous round. According to survey participants, the probability of inflation remaining below 1.0% in 2017 is around 30% and the probability is around 20% for 2018. Respondents report very low probabilities of negative inflation in 2017 and 2018, at 3% and 2% respectively.

² The expectations for overall inflation of the 30% of respondents who did not provide information on their expectations for underlying inflation were almost identical on average to those of the other 70%. This being so, the relative profiles of headline and underlying inflation expectations are most likely not affected by composition effects.

Chart 2

Aggregate probability distribution of inflation expectations for 2016

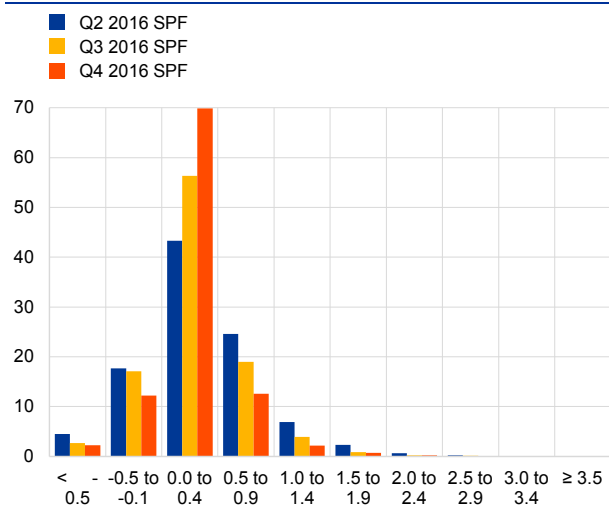


Chart 3

Aggregate probability distribution of inflation expectations for 2017

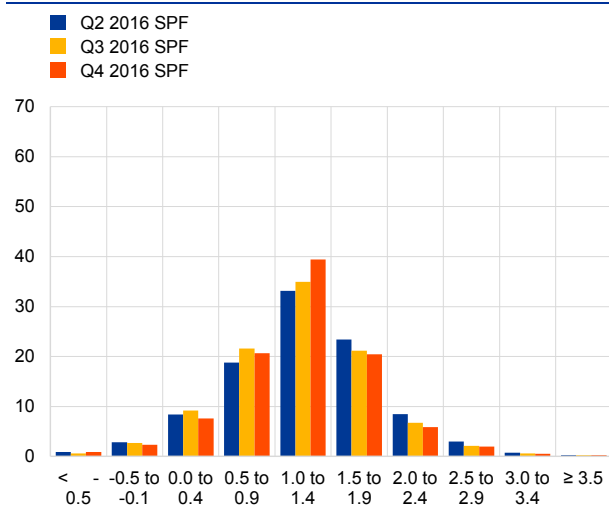
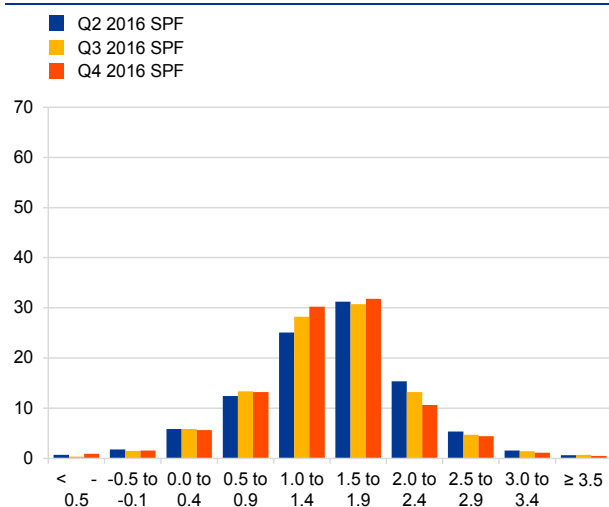


Chart 4

Aggregate probability distribution of inflation expectations for 2018



The SPF results imply that the risks to the baseline inflation outlook are perceived as being broadly balanced for 2016 but slightly to the downside further ahead. However, the downside risks, implied by a quantitative comparison of the estimated means of the aggregate probability distribution with the average point forecasts, have moderated somewhat compared with previous rounds and are overall relatively limited for the horizon 2016-18. Political developments in Europe and the result of the UK referendum on EU membership were relatively frequently cited as a downside risk, mainly via an impact on expected growth.

2 Longer-term inflation expectations unchanged at 1.8%

The average point forecast for longer-term inflation expectations (for 2021) remains unchanged at 1.8% (increasing marginally to 1.83% from 1.80% when shown to two decimal places). The median is unchanged at 1.80% and the distribution of the point forecasts is more strongly bi-modal, with the two modes

being 1.8% and 2.0% (see Chart 5). Almost 85% of the respondents who provided longer-term expectations expect inflation to be in the range 1.7-2.0% (see Chart 6).³

Chart 5
Longer-term inflation expectations

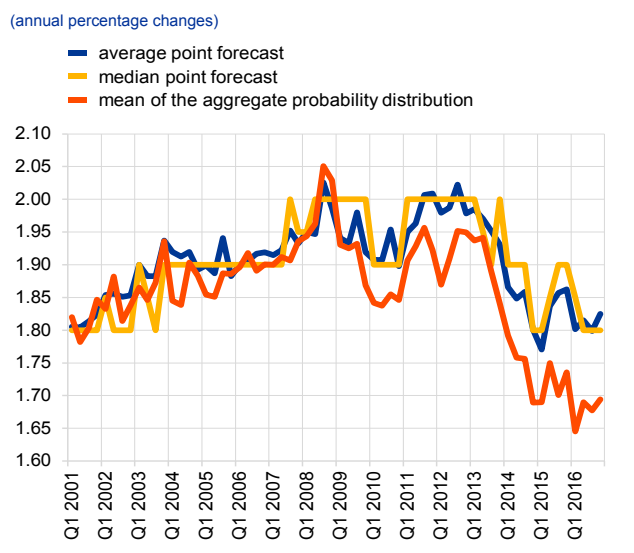
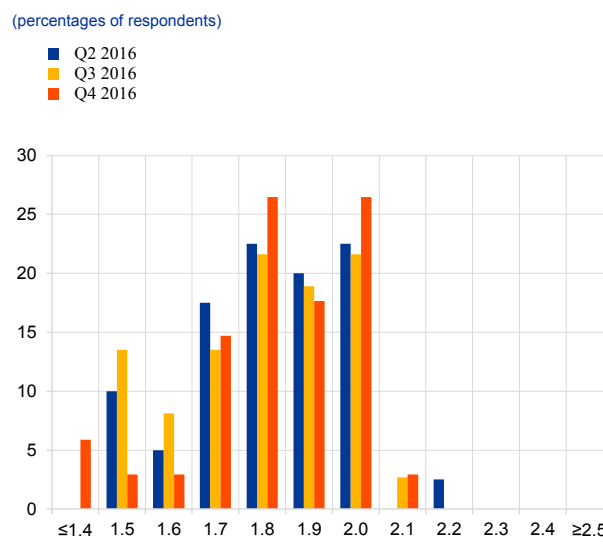


Chart 6
Cross-sectional distribution of longer-term inflation forecasts



The aggregate probability distribution is broadly unchanged compared with the previous SPF round (see Chart 7). On average, the balance of risks around the point forecast is assessed as remaining on the downside (as has been the case since 2009), with the estimated mean of the aggregate probability distribution standing at around 1.69% (unchanged from the previous round) compared with the mean point estimate of 1.83%. The probability of inflation being at or above 2.0% is 33%, compared with 31% in the third quarter of 2016, while the probability of it being below 1% is 12%, down from 13% in the previous round. The probability of negative inflation rates remains low at 2%.

Disagreement over longer-term inflation expectations, as measured by the standard deviation of the point forecasts, is unchanged from the previous round and thus remains below the average levels observed since 2009. The quasi-standard deviation – a measure which can be more robust to outliers – has declined, reflecting the increased concentration of point estimates in the range 1.7-2.0%.⁴ The aggregate uncertainty surrounding longer-term inflation expectations, as measured by the standard deviation of the aggregate probability distribution (see Chart 8), is essentially unchanged, as both disagreement and average individual

³ The 75th percentile of the distribution of the point forecasts has increased to 2.0% (from 1.91%), while the 25th percentile of the distribution of the point forecasts is unchanged at 1.7%.

⁴ The quasi-standard deviation is calculated as half of the difference between the 16th and 84th percentiles of the sample of point forecasts, which – with “normally” distributed data – delivers the standard deviation.

uncertainty (the average standard deviation of the individual probability distributions) have remained largely stable.⁵

Chart 7

Aggregate probability distribution of longer-term inflation expectations (five years ahead)

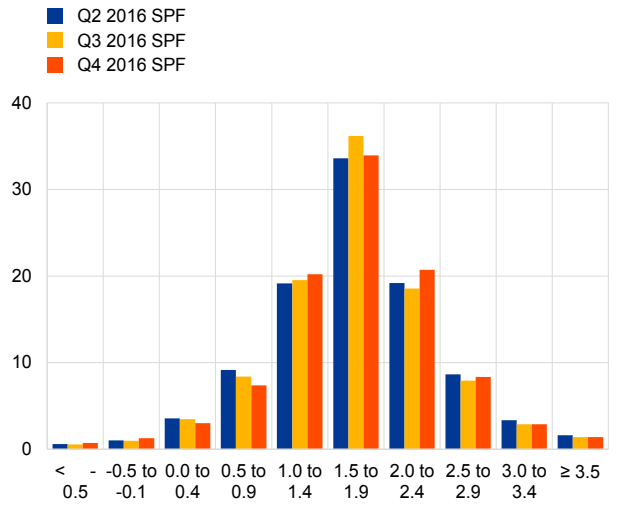
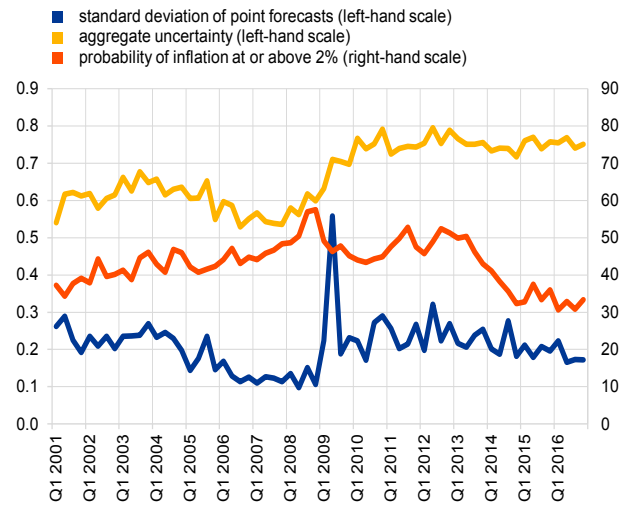


Chart 8

Disagreement and uncertainty regarding longer-term inflation expectations



3

Real GDP growth expectations revised up for 2016, but downwards for 2018 and further ahead

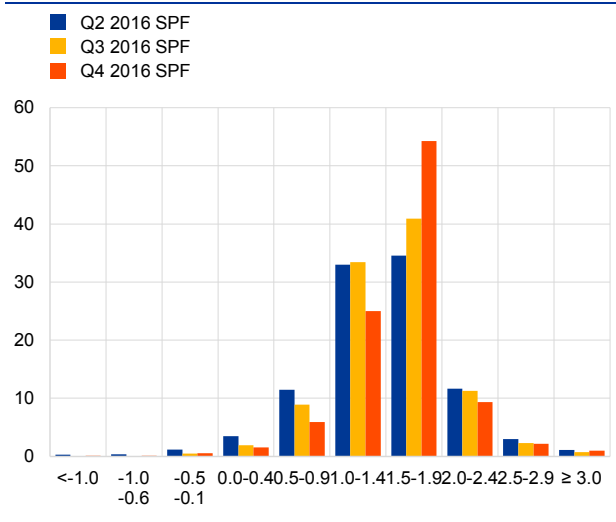
GDP growth expectations were revised upwards in the short term but revised downwards further ahead. The average point forecast for real GDP growth in 2016 increased by 0.1 percentage point to 1.6%. For 2017 the average point forecast remained unchanged at 1.4%, while for 2018 it was revised down by 0.1 percentage point to 1.5% – see the table.

Respondents continue to see domestic demand as the main driver of growth in their baseline scenarios. Private consumption is expected to benefit from rising disposable income owing to low inflation. Some respondents also mentioned a strengthening of investment developments as a result of the accommodative monetary policy. Contributions from foreign demand are expected to be neutral as global growth is expected to remain sluggish. The United Kingdom’s departure from the EU is expected to have a negative impact, but most respondents see the moderate recovery in the euro area as being robust enough to absorb this impact.

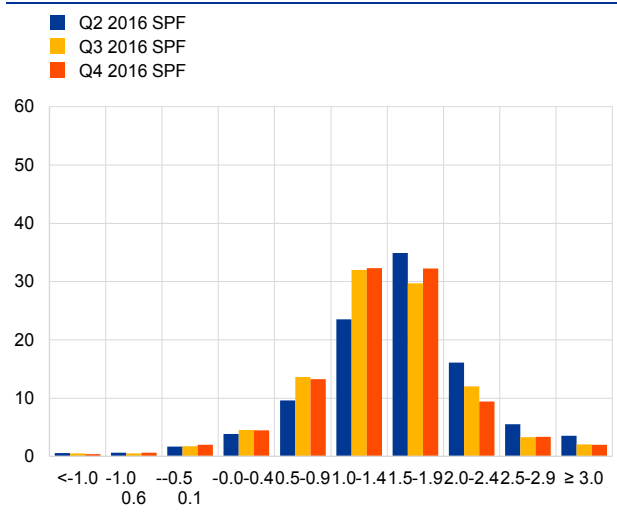
⁵ The dispersion of the aggregate probability distribution (“aggregate uncertainty”) can be decomposed into two factors: “disagreement” and average “individual uncertainty”. Disagreement is measured by the dispersion of the individual forecasts, while average individual uncertainty is measured by the average dispersion of the individual probability distributions.

Chart 8

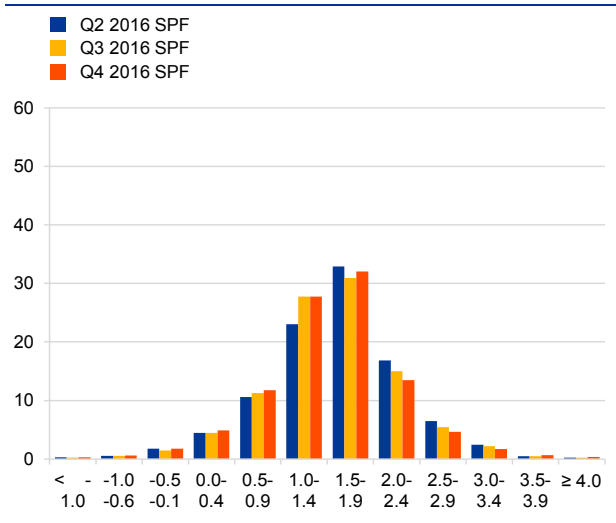
Aggregate probability distribution of 2016 GDP growth expectations

**Chart 9**

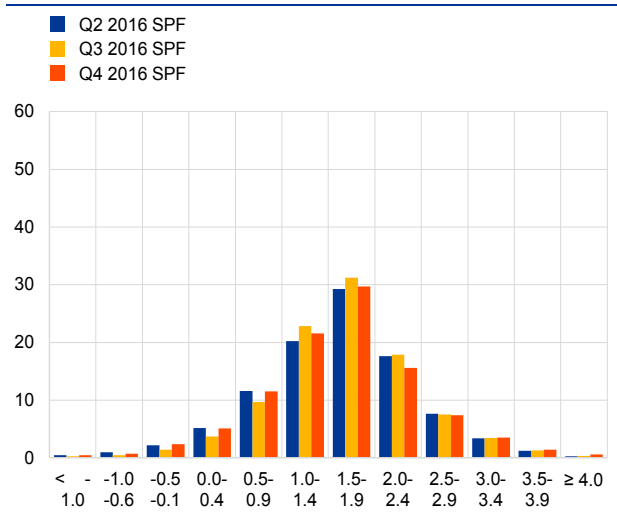
Aggregate probability distribution of 2017 GDP growth expectations

**Chart 10**

Aggregate probability distribution of 2018 GDP growth expectations

**Chart 11**

Aggregate probability distribution of longer-term GDP growth expectations (five years ahead)



The aggregate probability distribution for 2016 has become more concentrated in the modal range (1.5-1.9%), while those for 2017 and 2018 remain broadly unchanged (see Charts 8-10). For both 2017 and 2018 respondents perceive outcomes between 1.5% and 1.9% as being more likely than before, but higher outcomes being less likely.

The balance of risks to GDP growth remains somewhat tilted to the downside for all three years. The quantitative measure (the difference between the mean of the aggregate probability distribution and the average point forecast) remains broadly unchanged compared with the previous round. Qualitative comments

mention downside risks related mainly to the future relationship between the United Kingdom and the EU and its negative impact on euro area foreign demand.

Longer-term growth expectations (for 2021) were revised down to 1.6%. The aggregate probability distribution of the SPF longer-term growth expectations has widened a bit towards outcomes lower than 1.0%. Its mean continues to be lower than the average point forecast, which suggests that respondents perceive risks to be slightly on the downside (see Chart 11).

4 Unemployment rate expectations revised down for longer horizons

The average point forecasts for the unemployment rate continue to imply a clear downward trajectory, from 10.1% in 2016 to 9.3% in 2018. This implies no revisions for 2016 and 2017 (9.7%), but a 0.2 percentage point downward revision for 2018.

The quantitative measure of the balance of risks suggests a slight upside risk to unemployment rate expectations for all the horizons (see Charts 12-14).

These upside risks mirror the downside risks to expected real GDP growth and tend to increase over longer horizons. Qualitative comments suggest that the risks to the unemployment outlook are perceived to be affected by the timid implementation of labour market reforms across the euro area countries, which might result in a delay in job creation. In contrast, the majority of respondents foresee an increase in the flexibility of the labour market, potentially allowing for sharper decreases in the unemployment rate over the long run.

Chart 12

Aggregate probability distribution of the unemployment rate for 2016

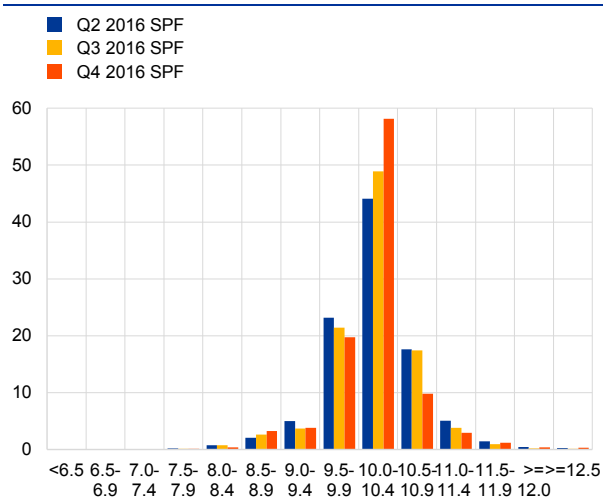


Chart 13

Aggregate probability distribution of the unemployment rate for 2017

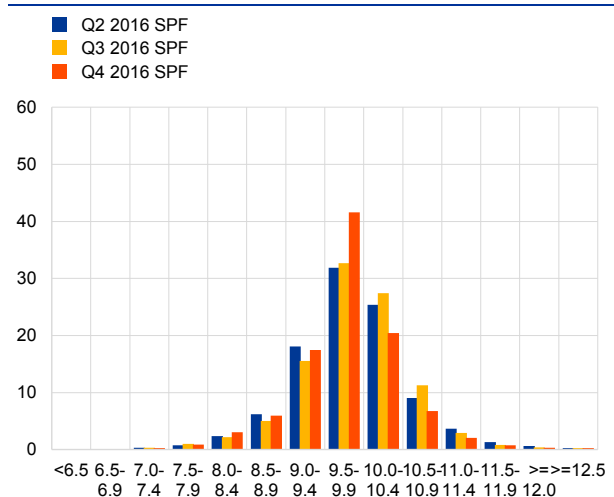
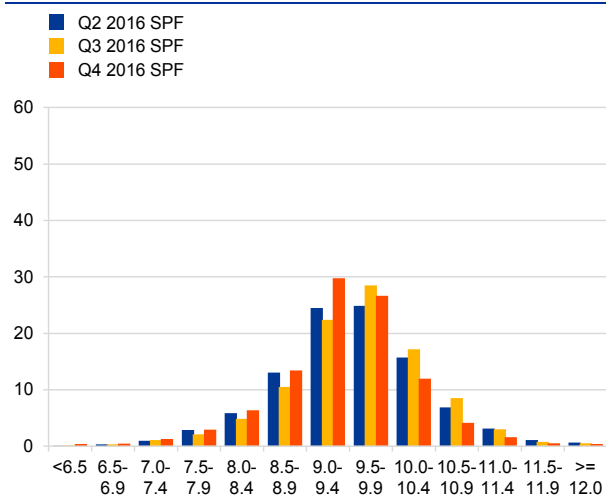
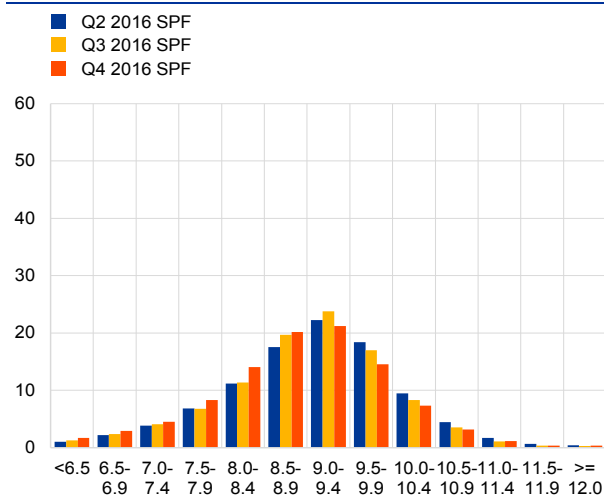


Chart 14

Aggregate probability distribution of the unemployment rate for 2018

**Chart 15**

Aggregate probability distribution of longer-term unemployment rate expectations



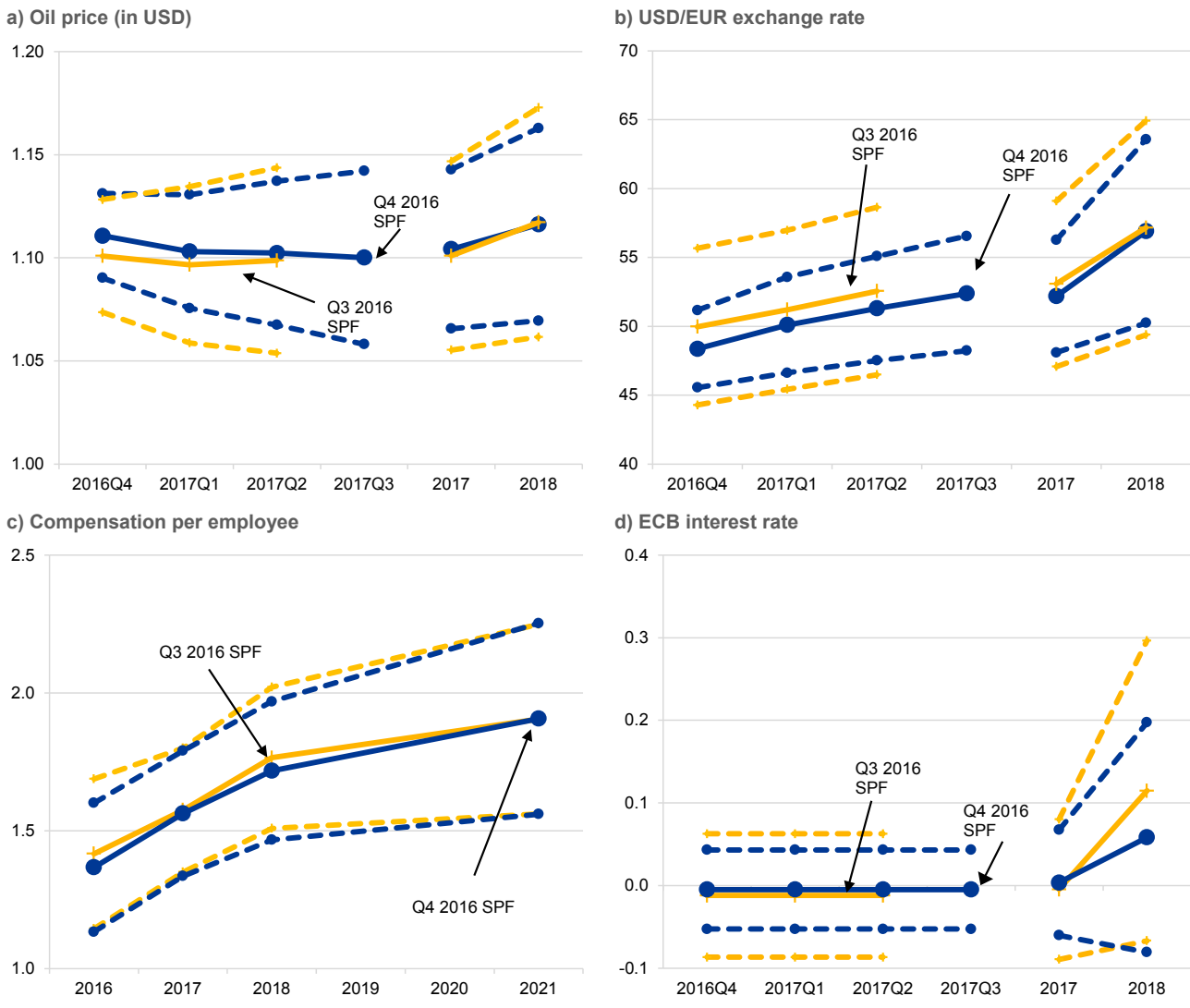
The average point forecast for the longer-term unemployment rate (in 2021) has been revised down to 8.7%, which is 0.1 percentage point lower compared with the previous round, but it remains characterised by upward risks. The point forecast is at the lowest level seen since 2012, although it is still above average pre-crisis expectations (of around 7%). However, the aggregate probability distribution has shifted toward higher levels compared with the previous SPF round (see Chart 15). As the mean of the distribution is higher than the average point forecast, forecasters see upside risks. This is consistent with the downside risks recorded for longer-term real GDP developments.

5 Other variables and conditioning assumptions

Other information provided by respondents suggests that they continue to expect oil prices to rise gradually, the USD/EUR exchange rate to remain broadly unchanged, monetary policy to stay accommodative and labour cost growth to increase slowly. Oil prices are expected to record an average of USD 48 per barrel in the fourth quarter of 2016 and to increase to USD 52 by the third quarter of 2017 and to levels around USD 57 in 2018. Compared with the previous survey round, oil price assumptions are fractionally lower, by 3% initially, although, as the profile is marginally steeper, this small gap closes by 2018 (see Chart 16a). The mean assumption for the expected path of the *USD/EUR exchange rate* is a fluctuation around 1.11 – largely unchanged from the previous SPF round albeit slightly higher initially (see Chart 16b). The combination of the assumptions regarding oil prices in US dollars and the USD/EUR exchange rate imply that *oil prices in euro* terms are also largely unchanged. On average, the profile of annual growth in *compensation per employee* remains unchanged, with a gradual upward evolution to stand at 1.4% in 2016, 1.6% in 2017, 1.7% in 2018 and 1.9% in 2021 (see Chart 16c). The mean assumption for the rate on the *Eurosystem's main*

refinancing operations is a level slightly below 0% until the third quarter of 2017, only edging upwards to 0.05% in 2018 (see Chart 16d). Compared with the previous survey round, the mean expectation is essentially unchanged for 2016 and 2017 and 0.05 percentage point lower for 2018.

Chart 16
Underlying assumptions



Notes: The dashed lines proxy the uncertainty surrounding average assumptions (plus/minus one standard deviation of the point estimates).

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