Peter Praet

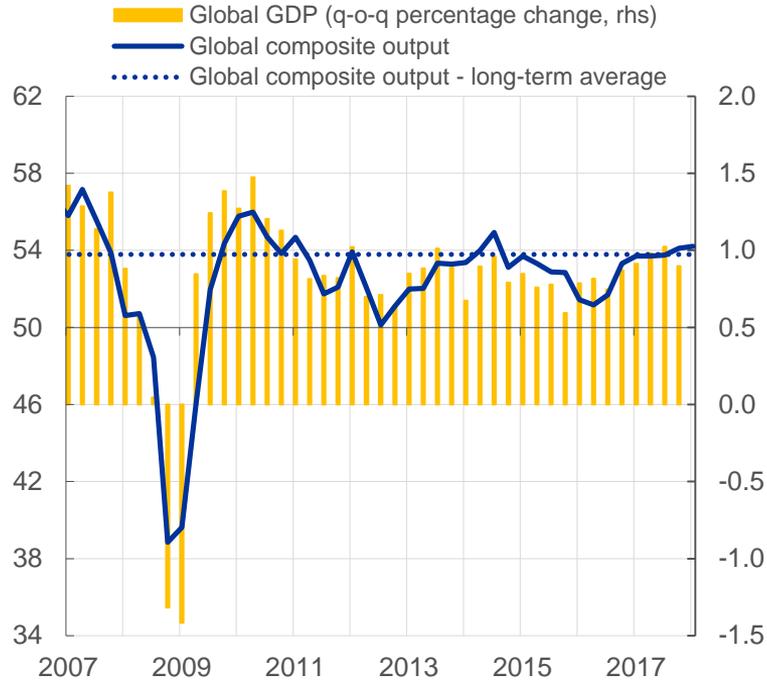Member of the Executive Board of
the European Central Bank

Economic developments in the euro area

Swiss Financial Analysts Association

Geneva, 7th May 2018

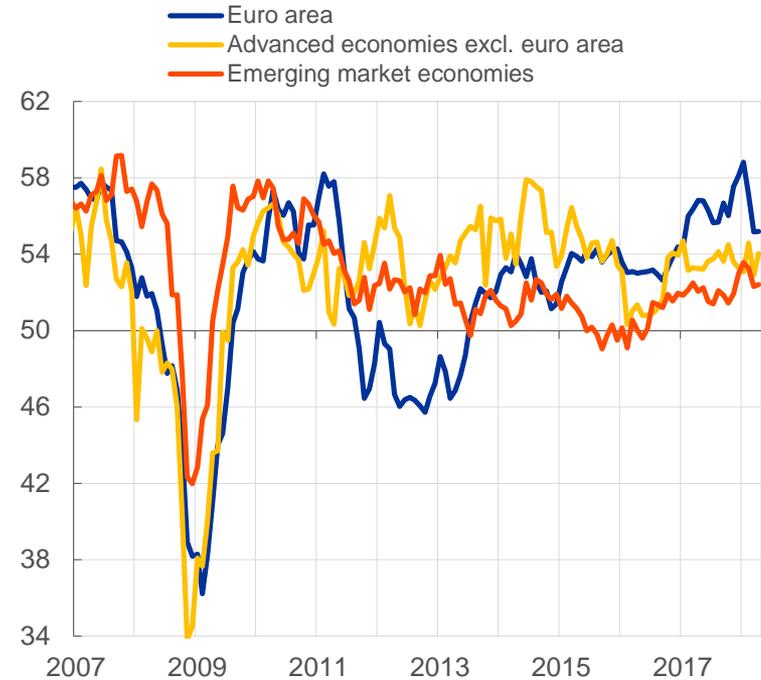## Global PMI composite output and global output

(diffusion index, lhs; q-o-q percentage change, rhs)

- Global GDP (q-o-q percentage change, rhs)
- Global composite output
- Global composite output - long-term average

Composite output PMIs

(diffusion index; SA; monthly data)

- Euro area
- Advanced economies excl. euro area
- Emerging market economies

Price level
(1999m1=100, trend = year-on-year inflation at 2%)
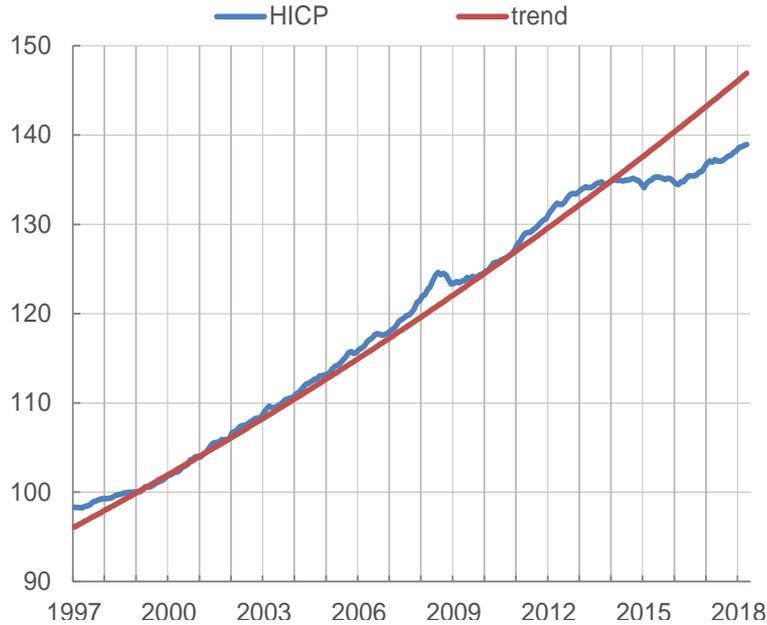
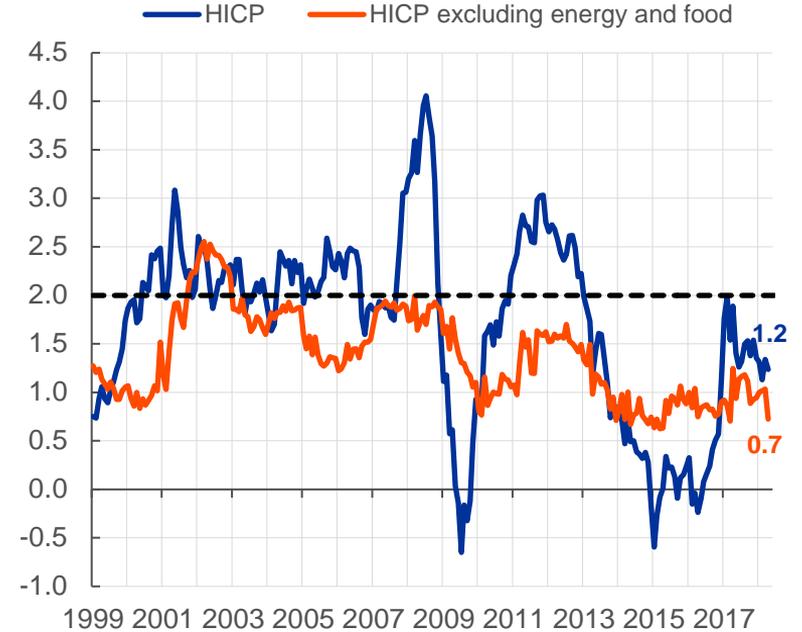Sources: Eurostat and ECB Calculations.
Latest observation: April 2018 (flash estimate).

HICP and HICP excluding energy and food
(annual percentage changes)

Source: Eurostat.
Latest observation: April 2018 (flash estimates).

Monetary policy stance determined by combination & interaction of:

- our **policy rates**,
- our **asset purchase programme**,
- and our **forward guidance** on each of these tools

… complemented by:

- the **TLTRO**s, which will remain outstanding for the next three years

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The ECB's forward guidance

Key ECB interest rates

- expected to remain at present levels for an extended period of time
- and well past horizon of **net asset purchases**

Asset Purchase Programme (APP)

- **net asset purchases** intended to continue at monthly pace of €30 billion, until end-Sep 2018
- or beyond, if necessary & in any case until GovC sees sustained adjustment in path of inflation (SAPI) consistent with inflation aim
- Eurosystem will reinvest principal payments from maturing securities for an extended period of time after end of net purchases, and in any case for as long as necessary

Criteria for sustained adjustment in the path of inflation (SAPI)

Convergence

- Headline inflation on course to reach levels below, but close to 2% in the medium term;
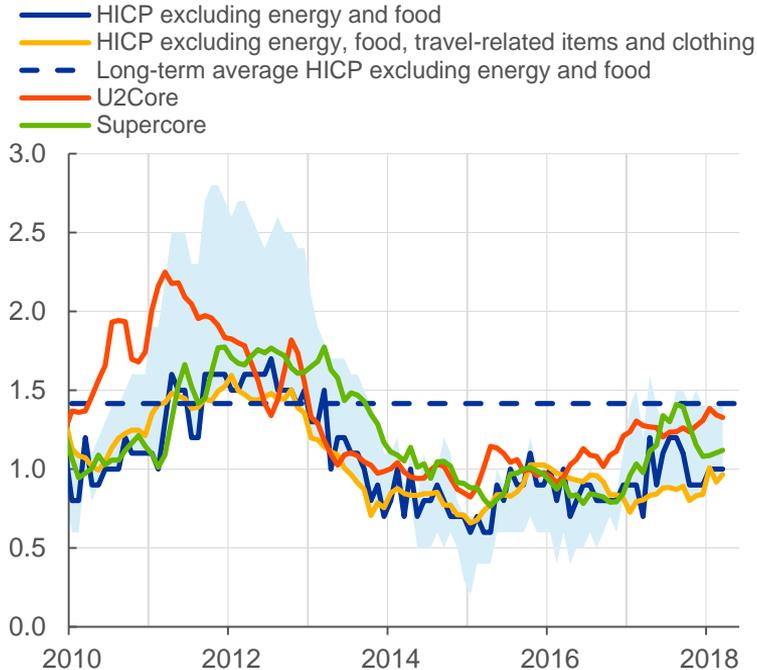
Confidence

- Sufficient confidence in durable stabilisation of inflation around these levels;

Resilience

- Resilience of inflation convergence even after the end of net asset purchases.

Measures of underlying inflation
(annual percentage changes)

- HICP excluding energy and food
- HICP excluding energy, food, travel-related items and clothing
- - - Long-term average HICP excluding energy and food
- U2Core
- Supercore

Sources: Eurostat, ECB calculations.
Note: The latest observations are March 2018. The dynamic factor model (U2core) is based on the full 93 HICP items from each of 12 countries. Supercore is based only on those items in HICP excluding food and energy that are sensitive to slack as measured by the output gap. The range includes exclusion-based measures, trimmed means and a weighted median.

Wage Phillips curve
(x-axis: percentage points; y-axis: annual percentage changes)

- → 2006Q1-2008Q1
- → 2008Q2-2014Q3
- → 2014Q4-2017Q4
- → 2018Q1-2020Q4
- — Simple fitted Phillips curve
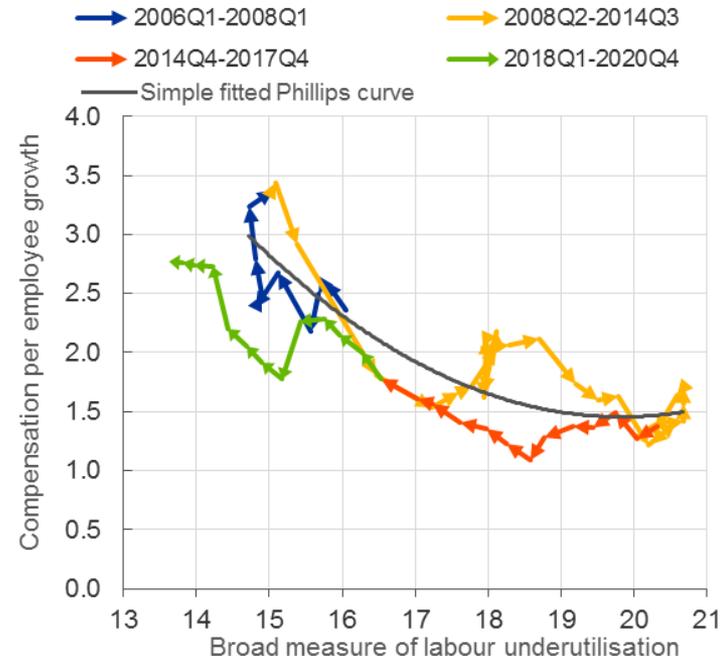
Sources: Eurostat, ECB calculations.
Note: Broad unemployment rate is the ratio of the (i) total unemployed, (ii) underemployed part-time workers who currently have jobs, although not at the optimal weekly hours they would like, and (iii) inactive persons who are marginally attached to the labour market plus all marginally attached workers. From 2018Q1 on: March 2018 MPE. The broad unemployment rate forecast assumes that the difference between the unemployment rate and the broad unemployment rate declines at the same pace as observed in the past 4 quarters. The black line represents a simple fitted Phillips curve. The fitted curve is based on data for 2006Q1 to 2017Q4. Latest observations: 2017Q4.
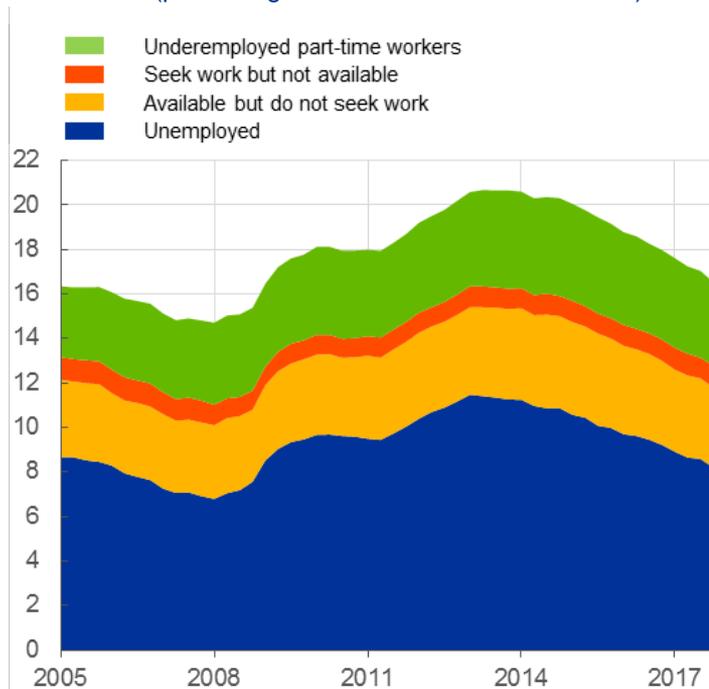
Euro area real GDP level
(1999 =100)
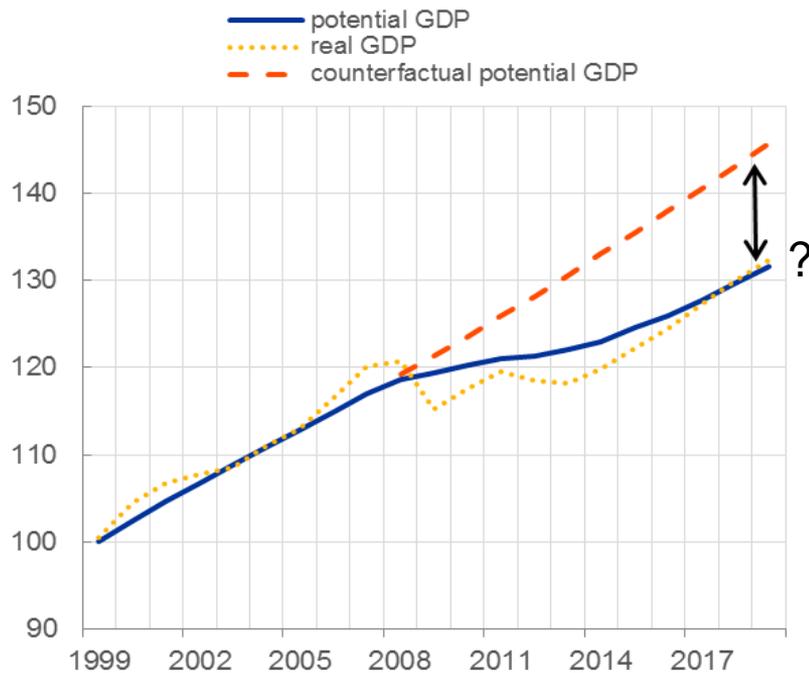
Sources: Commission autumn 2017 forecast, ECB calculations.

The broad unemployment rate and its components

(percentage of the extended labour force)

Legend:
- Underemployed part-time workers
- Seek work but not available
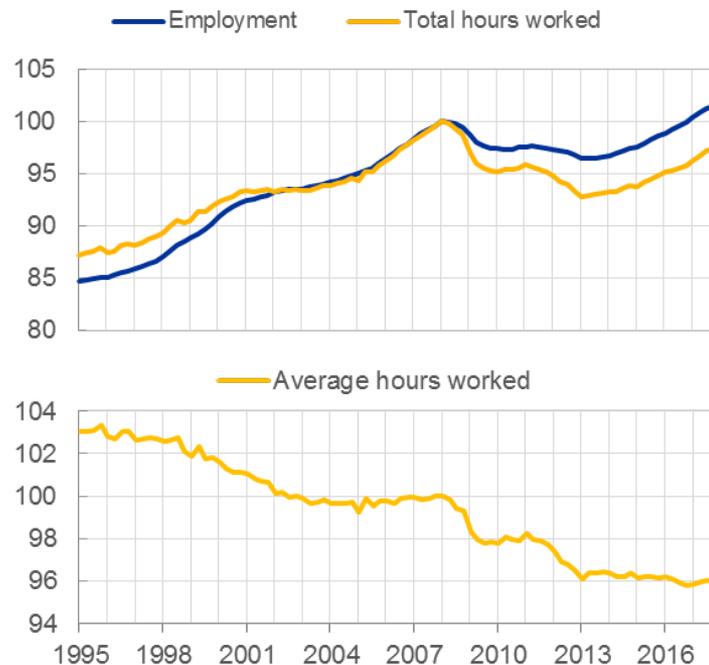- Available but do not seek work
- Unemployed

Sources: Eurostat, ECB calculations.
Notes: Corrected for the impact of methodological changes.
Latest observation: 2017Q4.

Employment, total hours worked and average hours worked
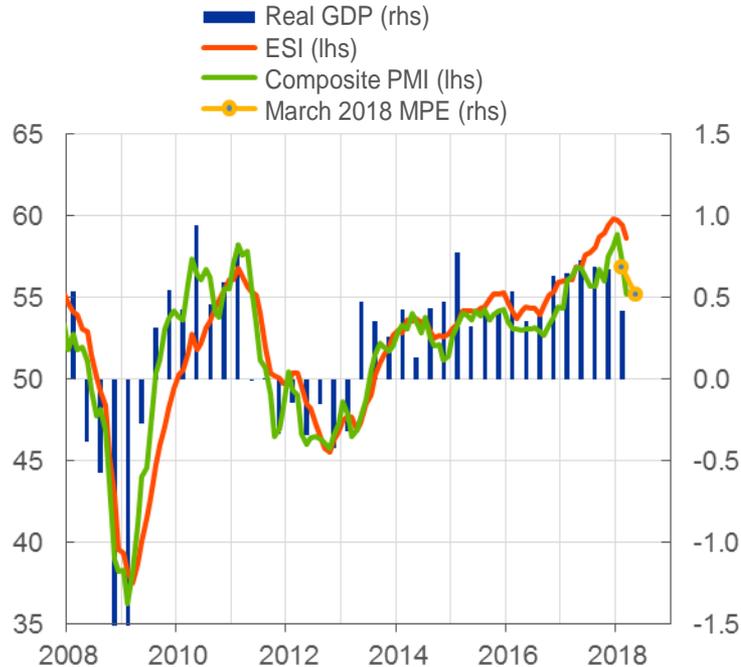
(index, 2008Q1=100)

Employment — Total hours worked

Average hours worked

Source: Eurostat.
Latest observation: 2017Q4.

Real GDP growth – survey indicators
(lhs: diffusion index; rhs: q-o-q % change)

Legend:
- Real GDP (rhs)
- ESI (lhs)
- Composite PMI (lhs)
- March 2018 MPE (rhs)

Sources: Eurostat, Markit, European Commission, ECB calculations.
Latest observations: 2018Q1 for GDP, March 2018 for ESI, April 2018 for PMI.

## Citigroup Economic Surprise index

Legend:
- Real Variables
- Nominal Variables
- Markit PMI
- Confidence
- Previous round (25 Apr)
- EA CESI
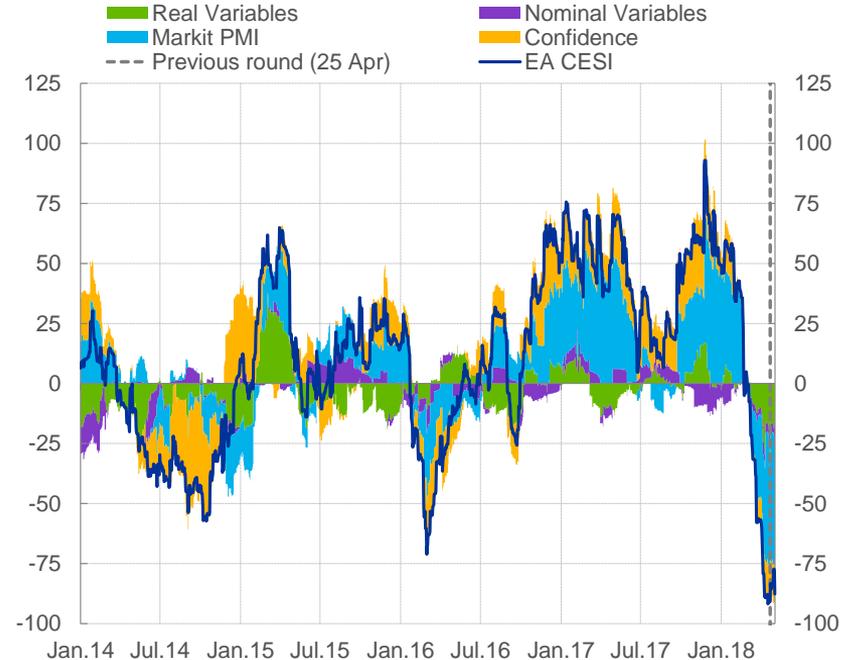
Sources: Bloomberg, ECB calculations
Note: The Citi Economic Surprise Index (CESI) measures data surprises for 54 series (over a rolling 90-days window with exponentially declining weights), defined as the normalised deviation of releases relative to forecasts. Latest observation: 3 May 2018.

Factors limiting production in industry
(percentage of firms)
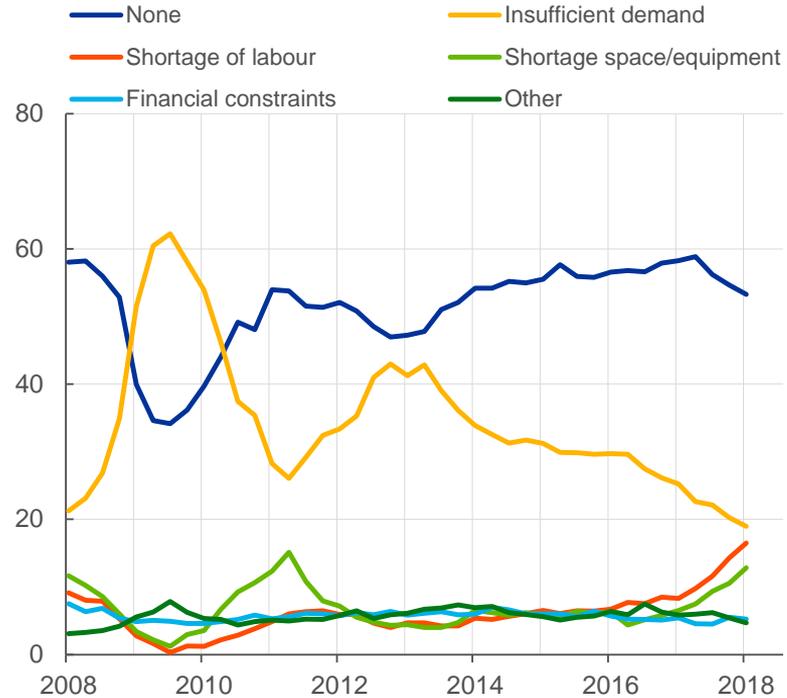
Sources: DG-ECFIN, Eurostat , ECB calculations.
Latest observation: March 2018.

Capacity utilisation
(capital goods sector, percent)

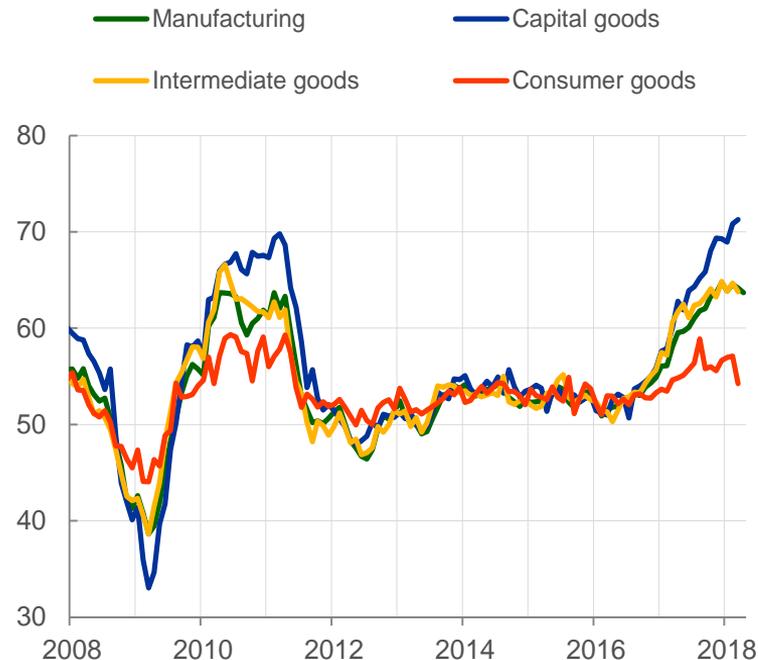Legend: ■ Long-term max and min ● Long-term average ● 2018Q1

Sources: DG-ECFIN, ECB calculations.
Note: Long-term average refers to the period since 1987.
Latest observation: 2018Q1

Manufacturing PMI suppliers' delivery times
(100 – Index)

Legend: — Manufacturing — Capital goods — Intermediate goods — Consumer goods

Source: Markit.
Note: A movement of the plotted index above 50 means delivery times have lengthened on average, which means suppliers have become busier due to demand.
Latest observations: March 2018, April 2018 for Manufacturing.

Prices charged and backlogs of work in the manufacturing sector
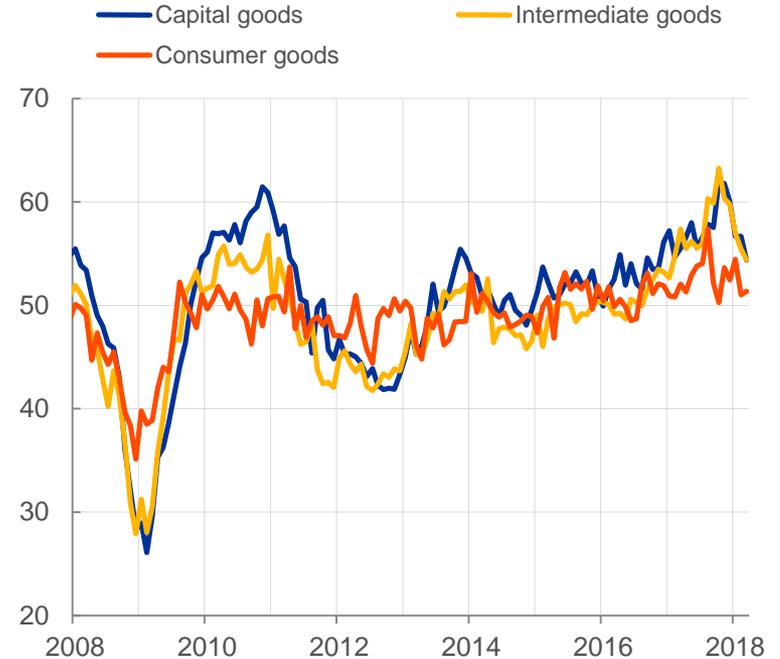
PMI data on prices charged
(diffusion index, deviation from long-term average index value)

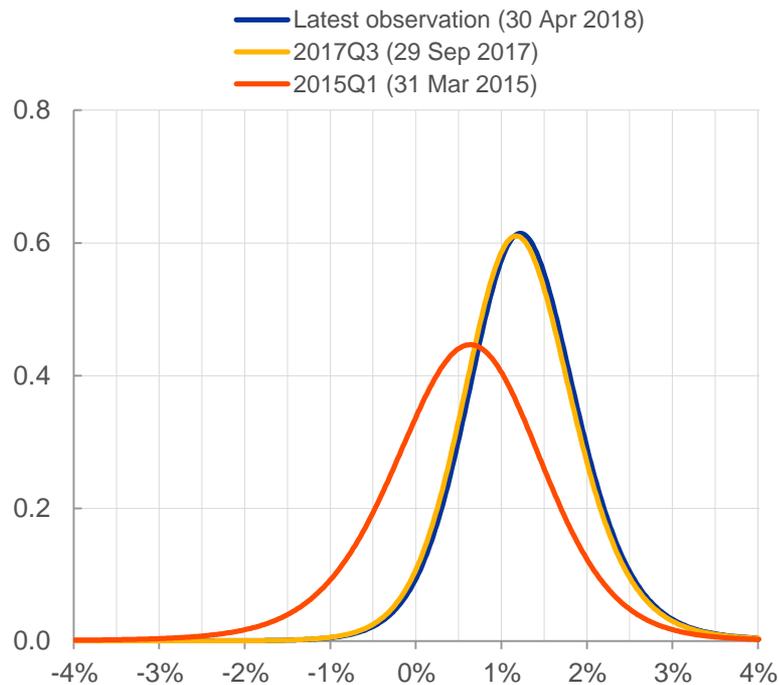## Backlogs of work across sectors
(index 50=no change)
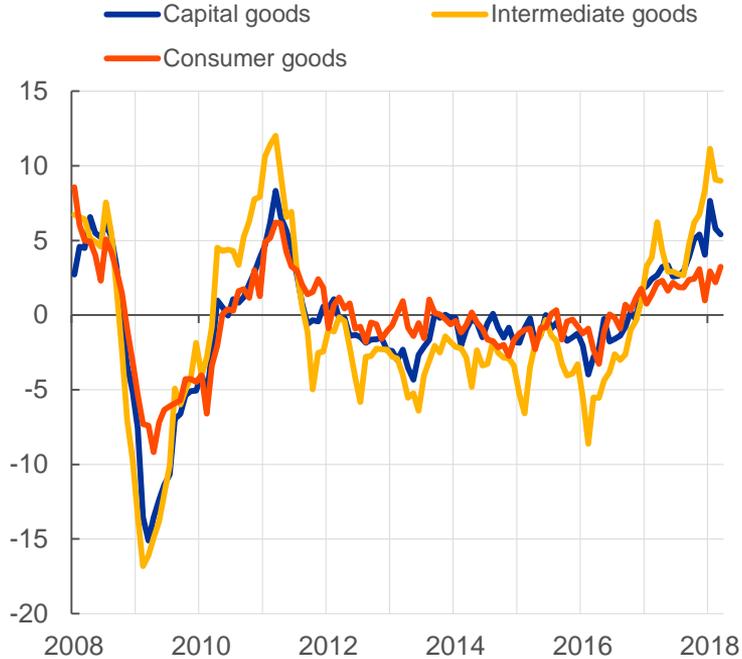
Sources: IHS Markit, ECB calculations.
Latest observation: March 2018.

Sources: Markit, ECB calculations.
Latest observation: March 2018.

Option-implied probability density function of euro area inflation over the next two years

Legend:
- Latest observation (30 Apr 2018)
- 2017Q3 (29 Sep 2017)
- 2015Q1 (31 Mar 2015)

Sources: Bloomberg, Reuters, ECB calculations.
Notes: This chart shows the risk-neutral probability distribution function implied by two-year zero-coupon inflation options. These risk-neutral probabilities may differ significantly from physical, or true, probabilities. They are estimated on the basis of call ("caplets") and put options ("floorlets") with different strike rates on the (three-month lagged) euro area HICPxT (ex tobacco) index, assuming Black-Scholes option pricing and implied volatilities that vary across strike rates ("volatility smile").

Survey-implied probability density function of euro area inflation in two years time

Legend:
- Latest SPF (2018Q2)
- 2017Q3
- 2015Q1
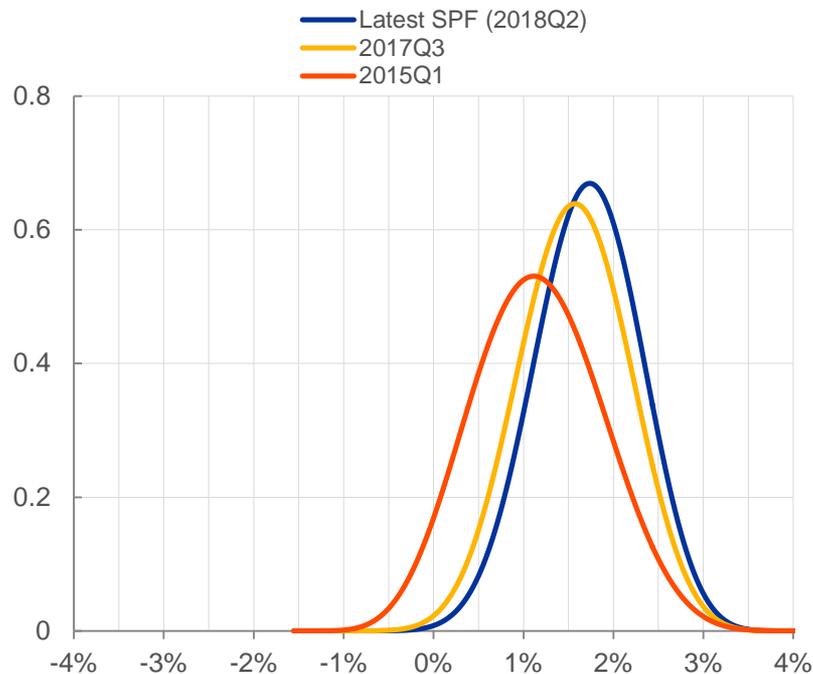
Source: ECB Survey of Professional Forecasters.