



EUROPEAN CENTRAL BANK

EUROSYSTEM

# ECB Monetary Policy and challenges

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Universidad Carlos III  
Madrid

23-24/10/2023



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# Overview

## 1. The ECB

- Organization
- Monetary Policy

## 2. Monetary Policy

- The situation before the pandemic
- The ECB's monetary policy response to the crisis
- The outlook today

## 3. Monetary Policy strategy review

*Any opinions expressed are only the presenter's own and should not be regarded as opinions of the European Central Bank or the Eurosystem.*

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# 1.

## The ECB

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Organisation and tasks

# The European Central Bank

We are an EU institution

We conduct monetary policy for the euro area

We supervise banks in the euro area (+HR and BG)



Around 3.500 staff in 3 buildings in Frankfurt

Employees come from all EU countries

Stable prices and safe banks benefit 340+ million Europeans

# Most EU countries have adopted the euro

 EU Member States which have adopted the euro

 EU Member States that have not yet adopted the euro

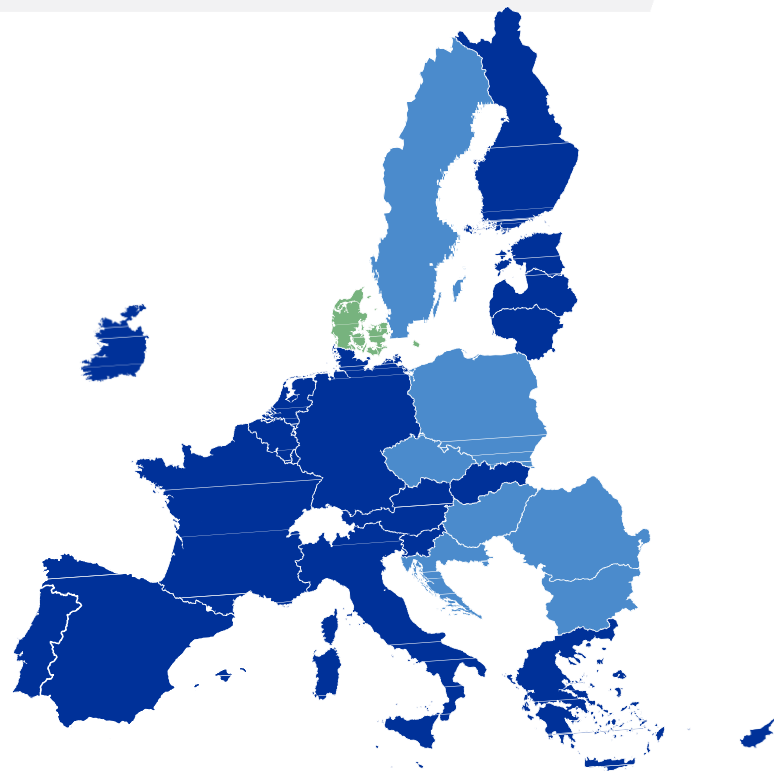
 EU Member States with an exemption



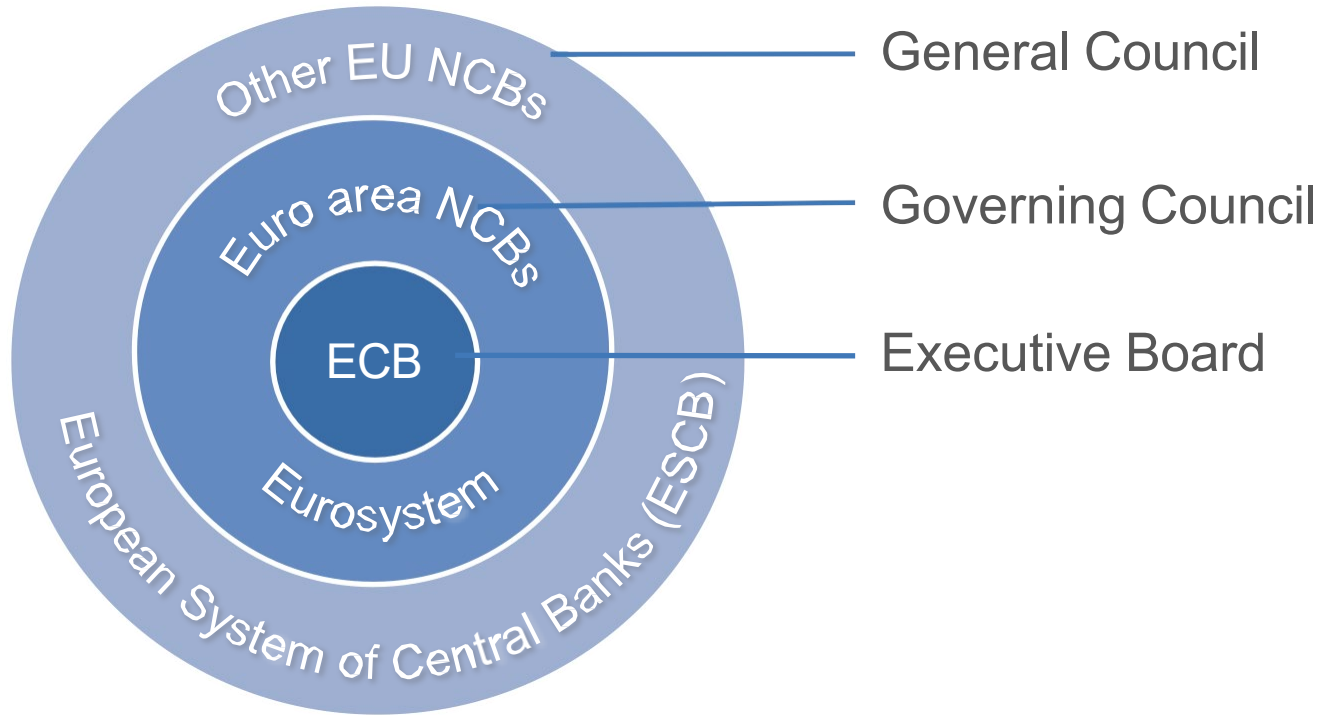
**Monetary policy** is centralised at supranational level



**Fiscal, economic** and **financial policies** are partly formulated at the national level



# The ECB is part of the European System of Central Banks



# The European Council appoints the ECB's Executive Board



**Christine Lagarde**  
President  
of the ECB

- Chief Services Officer
- DG-Secretariat
- DG-Communications
- ESRB Secretariat
- Directorate Internal Audit
- Counsel to the Executive Board



**Philip Lane**

- DG-Economics
- DG-Monetary Policy



**Isabel Schnabel**

- DG-Market Operations
- DG-Research
- DG-Statistics



**Luis de Guindos  
Jurado**  
Vice-President  
of the ECB

- Macprudential Policy and Financial Stability
- Directorate Risk Management



**Fabio Panetta**

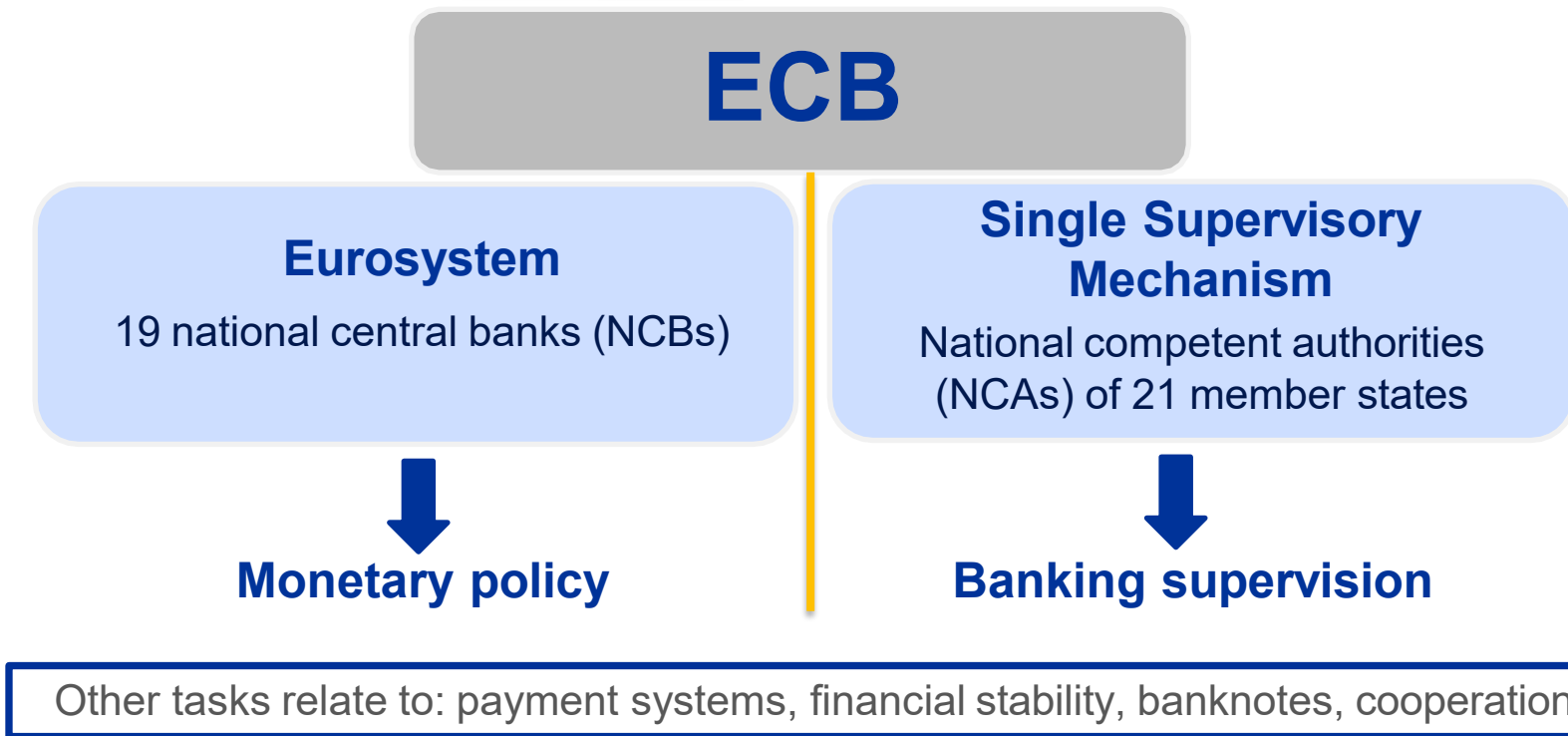
- DG-International and European Relations
- DG-Market Infrastructure and Payments
- Directorate Banknotes
- Division Oversight of Payment Systems



**Frank Elderson**

- DG-Legal Services
- SSM

# The ECB's monetary and supervisory functions are separated





# The ECB's strategy review in a nutshell:

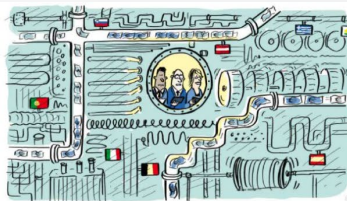
## *Content of the review*



1 Inflation measurement



2 Price stability objective



3 Analytical framework



4 Monetary policy and financial stability



5 Productivity, innovation and technological progress



6 Climate change



7 Monetary policy communication



8 Monetary policy instruments



9 Digitalisation



10 Globalisation



11 Inflation expectations



12 Shadow banking



13 Fiscal and monetary policy in a monetary union

# Price stability is the ECB's primary objective

**Article 127** of the Treaty on the Functioning of the European Union:

*“1. The primary objective of the ESCB [Eurosystem] shall be to maintain price stability.*

*Without prejudice to the objective of price stability, the ESCB [Eurosystem] shall support the general economic policies in the Union [...].”*

The ECB's Governing Council has defined price stability as annual **inflation below, but close to, 2% over the medium term.**

Breaking News:

ECB's Strategy has  
been updated

See next slide

# The ECB's strategy review in a nutshell: *Outcome of the review*



The screenshot shows the ECB website header with the logo and navigation menu. The main content area is titled 'An overview of the ECB's monetary policy strategy' and includes a search bar and a table of contents. The first item in the table of contents is '1 Introduction', which is highlighted. The text of the introduction is visible on the left side of the page.

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LANGUAGE: EN

Home > Homepage

## An overview of the ECB's monetary policy strategy

Search in this publication

Publications 1 Introduction

### 1 Introduction

The new [monetary policy strategy](#) of the European Central Bank (ECB) was published on 8 July 2021. While the mandate is conferred upon the ECB by the Treaties, the ECB has to devise its monetary policy strategy. This strategy sets out how to achieve the primary objective of maintaining price stability in the euro area, referring to an appropriate set of monetary policy instruments, indicators and intermediate targets, as well as how to take into account other considerations without prejudice to price stability. A monetary policy strategy serves two main purposes: first, it provides policymakers with a coherent analytical framework that maps actual or expected economic developments into policy decisions; second, it serves as a vehicle for communicating with the public. The ECB's monetary policy strategy was last reviewed in 2003 and the changes that have since occurred to the economic and financial backdrop as well as to the predominant policy challenges warranted an update. This overview details the rationale and thinking behind the strategy and its main elements.

- 1 Introduction
- 2 The economic backdrop and the past inflation narrative
- 3 The new ECB monetary policy strategy
- 4 The ECB's integrated analytical framework
- 5 The communication of the ECB's monetary policy decisions
- 6 A regular review cycle

## Core elements of the new strategy:

- ✓ Updated price stability definition (symmetric 2%-target)
- ✓ Roadmap to update HICP
- ✓ Take further relevant considerations within the ECB's price stability mandate into account, including climate change considerations.

# The ECB's strategy review in a nutshell:

## *Outcome of the review*

### Aim:

- monetary policy strategy → fit for purpose

### Content:

- All aspects related to price stability mandate
- One of them: measurement of inflation ([Occasional Paper](#))  
→ review of HICP including **Owner-Occupied Housing Price Index (OOHPI)**

### Stakeholders:

- Governing Council = ECB Board Members + Governors of National Central Banks

# Main messages on Owner-Occupied Housing

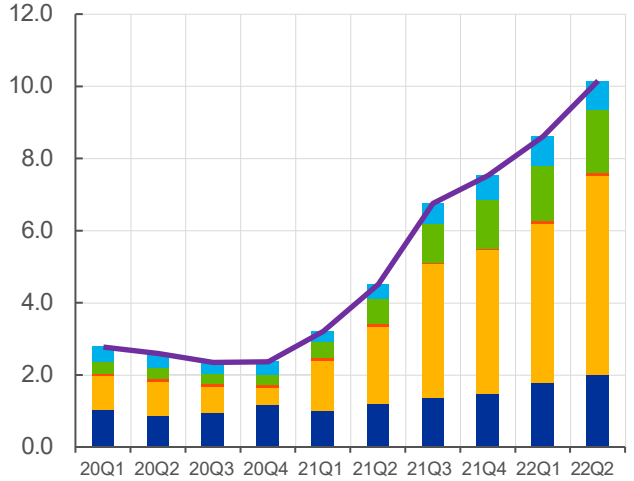
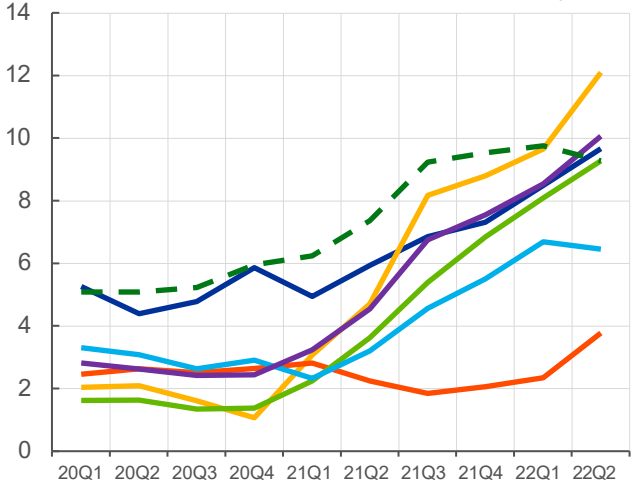
- **Inclusion of OOH in HICP: most pressing in inflation measurement**
- **Importance attached by citizens (["ECB Listens"](#))**
- **GovC welcomes good progress made by European Statistical System**
- **Steps:**
  - (i) **Quarterly HICP + OOHPI: experimental, by 2023**
  - (ii) **Amending the legal basis**
  - (iii) **HICP + monthly & timely OOHPI: important target**
- **Investment (asset component) vs. consumption: requires further research**

# Residential property and owner-occupied housing prices

## Residential property prices and components of owner-occupied housing price index (OOHPI)

(annual percentage change and pp contributions)

- Purchases of new dwellings (21%)
- Self-build dwellings and major renovations (44%)
- Insurance connected with dwellings (3%)
- Major repairs and maintenance (19%)
- Other services related to the acquisition of dwellings (13%)
- Owner-occupied housing price index (OOHPI)
- - Residential property prices

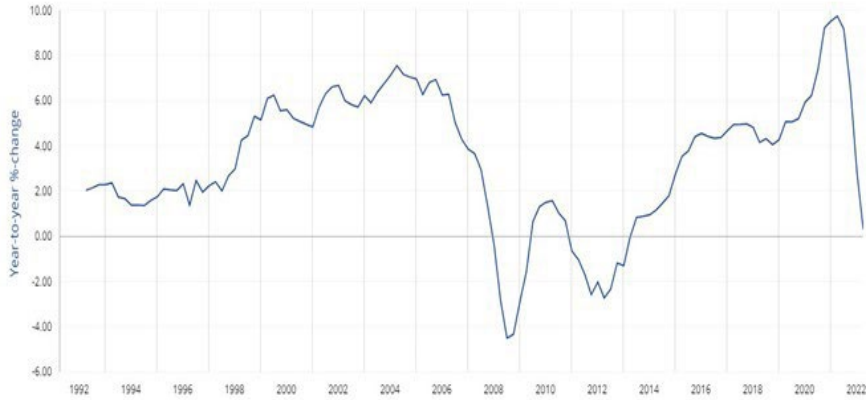


Sources: Eurostat and ECB staff calculations.  
Latest observations: 2022 Q2.

# Residential property prices

ECB Data Portal, 29 September 2023, 12:31 CET

Residential property prices, Euro area 19, Quarterly

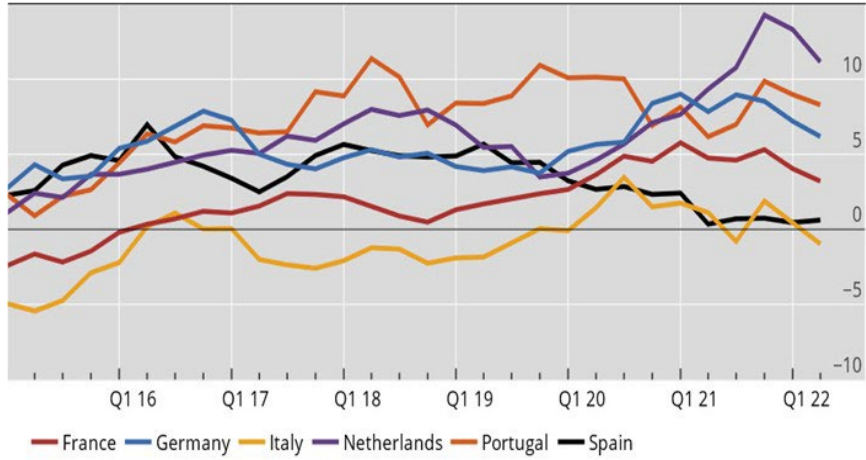


Source: ESCB

## Real residential property prices in selected euro area member states<sup>1</sup>

Year-on-year changes, in per cent

Graph 5



<sup>1</sup> Based on quarterly averages; CPI-deflated.

Source: BIS selected residential property price series.

# Price stability supports income and employment



## How? By contributing to:

Recognizing changes in relative prices

Avoiding “inflation risk premium”

The productive use of resources

Reducing the distortionary impact of tax and social security systems

Maintaining social cohesion and stability

Financial stability



# Single Supervisory Mechanism (SSM)



ECB

Key pillar of the banking union. Ensures:

- safety and soundness of the banking system
- financial integration and stability
- consistency

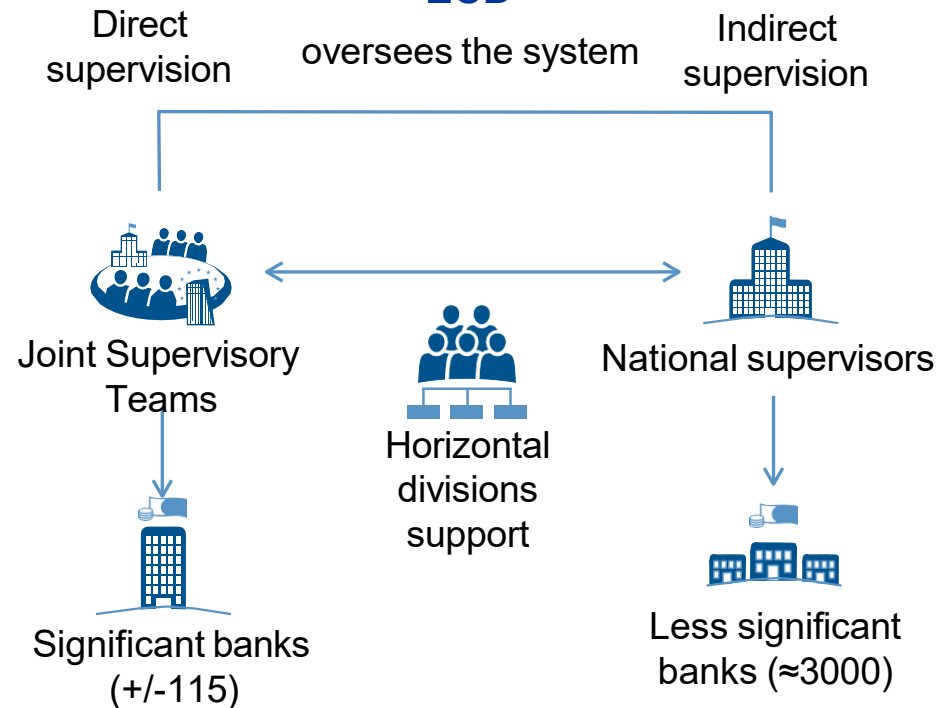
Based on common rulebook

Micro- and macro-prudential powers

Separation from monetary policy

Open to non-EA EU countries (BG, HR joined)

ECB 'call back right' for non-significant banks





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# 2.

## Monetary Policy

- 
- The situation before the pandemic
  - The ECB's monetary policy response to the pandemic crisis
  - The situation today

# The situation before the pandemic

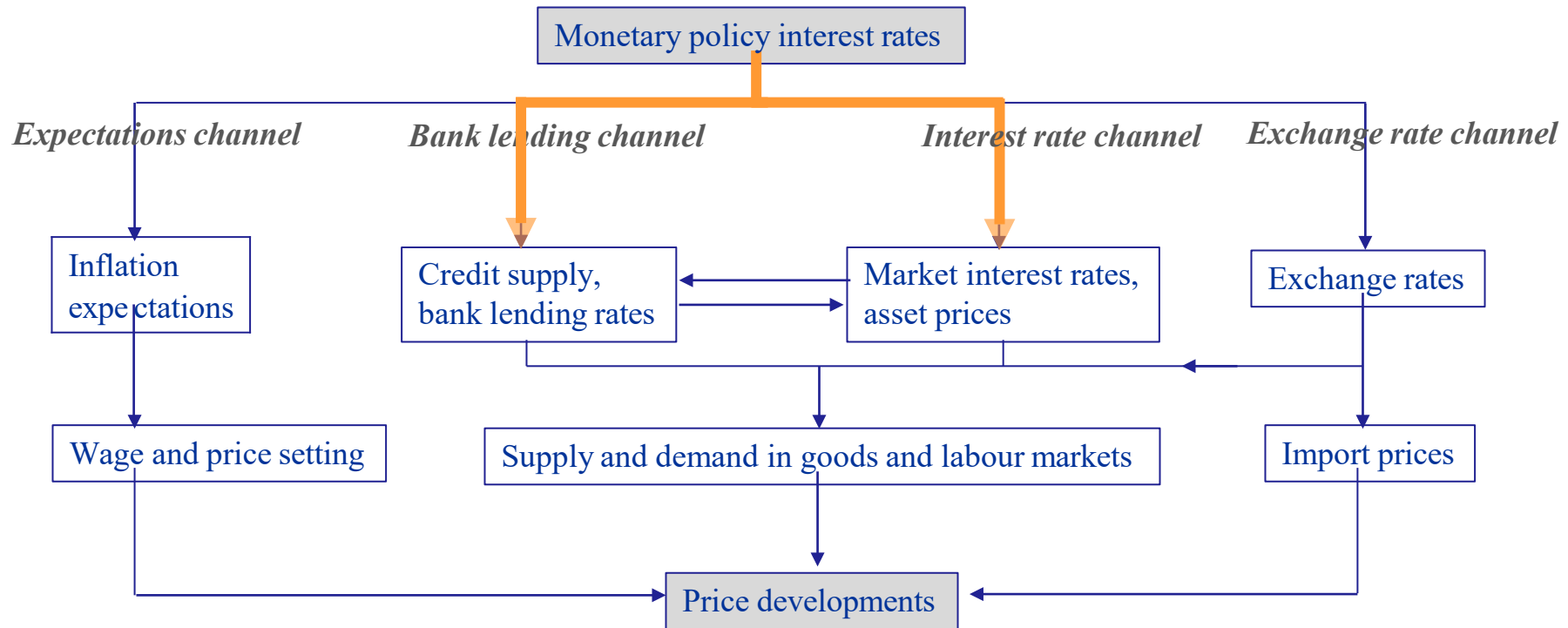


# Monetary policy in a nutshell

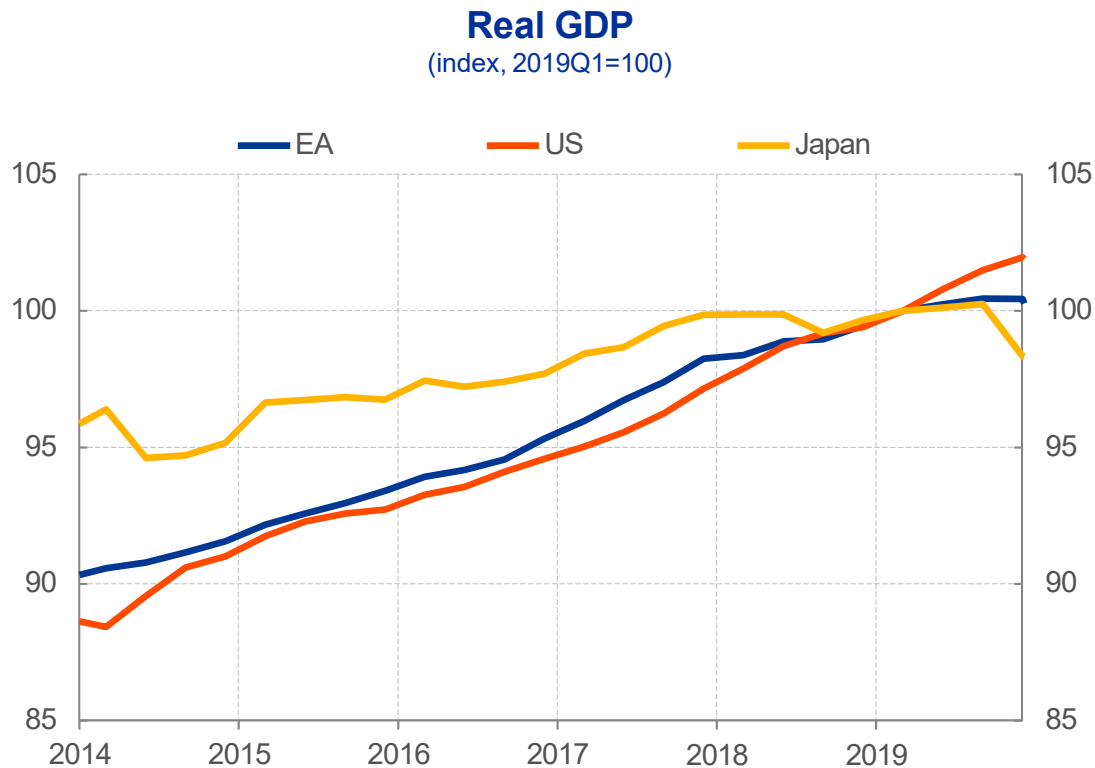
- The ECB tries to steer financial market interest rates by setting the price of short-term credit to commercial banks (**official interest rates**) and determining the amount of that credit (**liquidity**) to ultimately influence price developments
- In crisis situations and when official interest rates are no longer effective (**zero lower bound**), the ECB has to use alternative instruments to influence financial market conditions (**non-standard instruments**)



# Transmission channels of monetary policy decisions

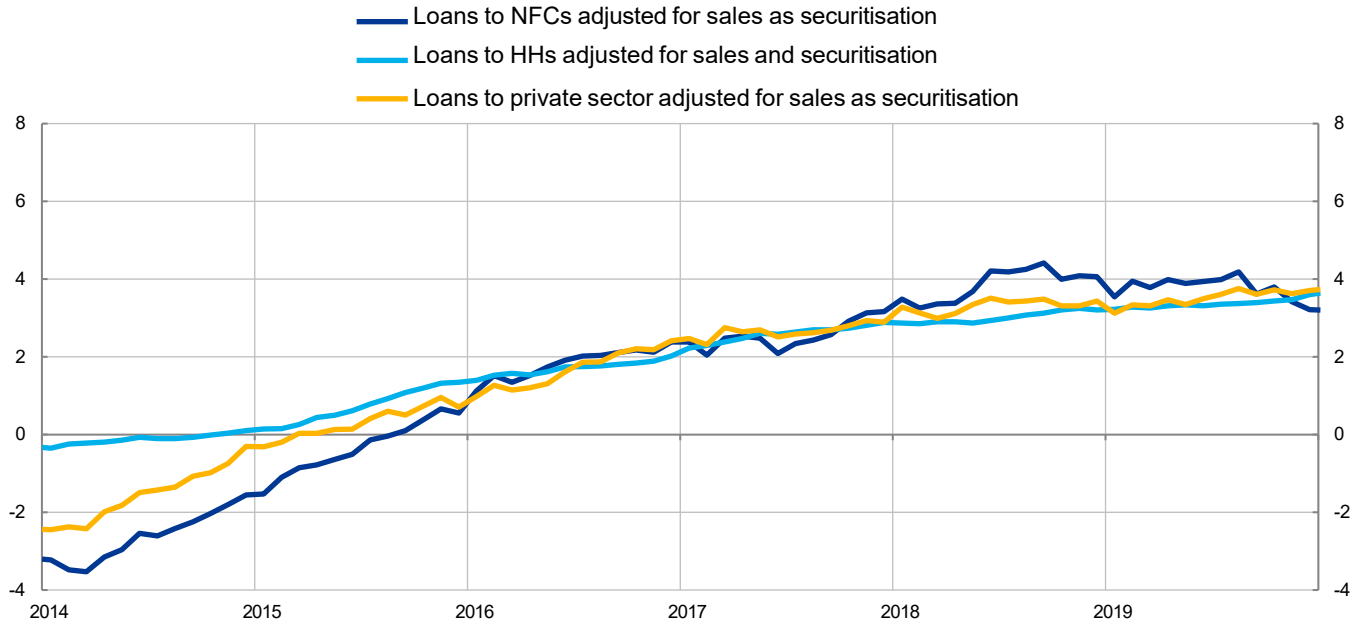


# Economic dynamics weakening in Europe already before the pandemic...



Sources: Eurostat, BEA, Cabinet Office, ECB calculations.  
Latest observation: 2019Q4 for the euro area, the US, and Japan.

## MFI loans to the private sector (annual growth rates)



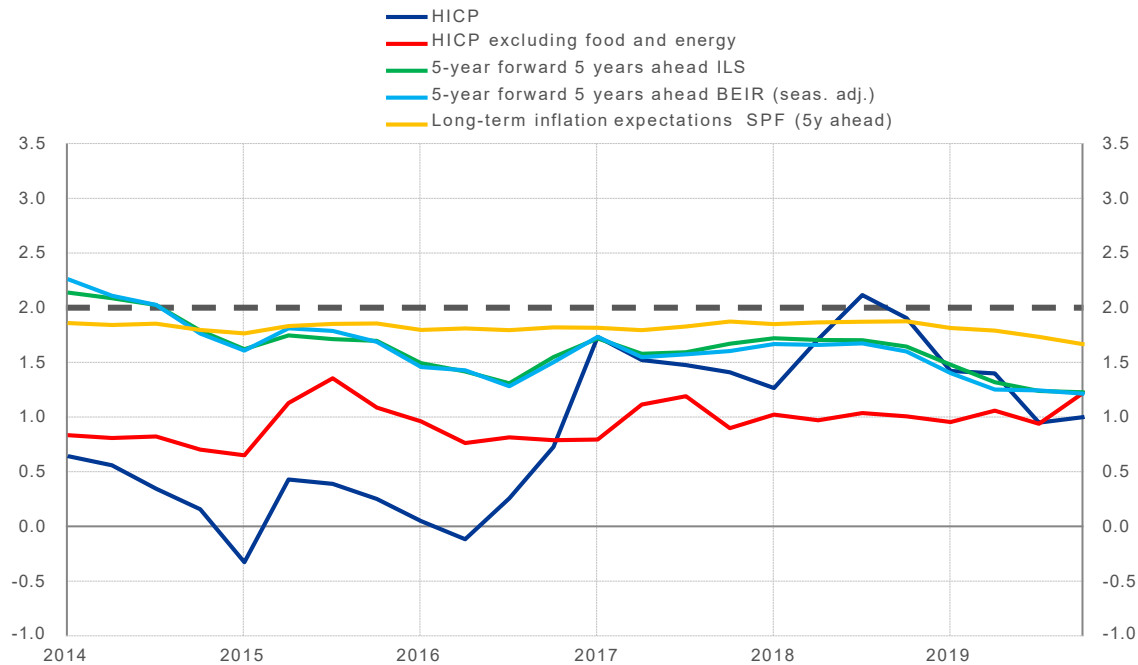
Source: ECB.

Notes: Monthly data. "NFCs" stands for non-financial corporations and "HHs" stands for households.

Latest observation: December 2019.

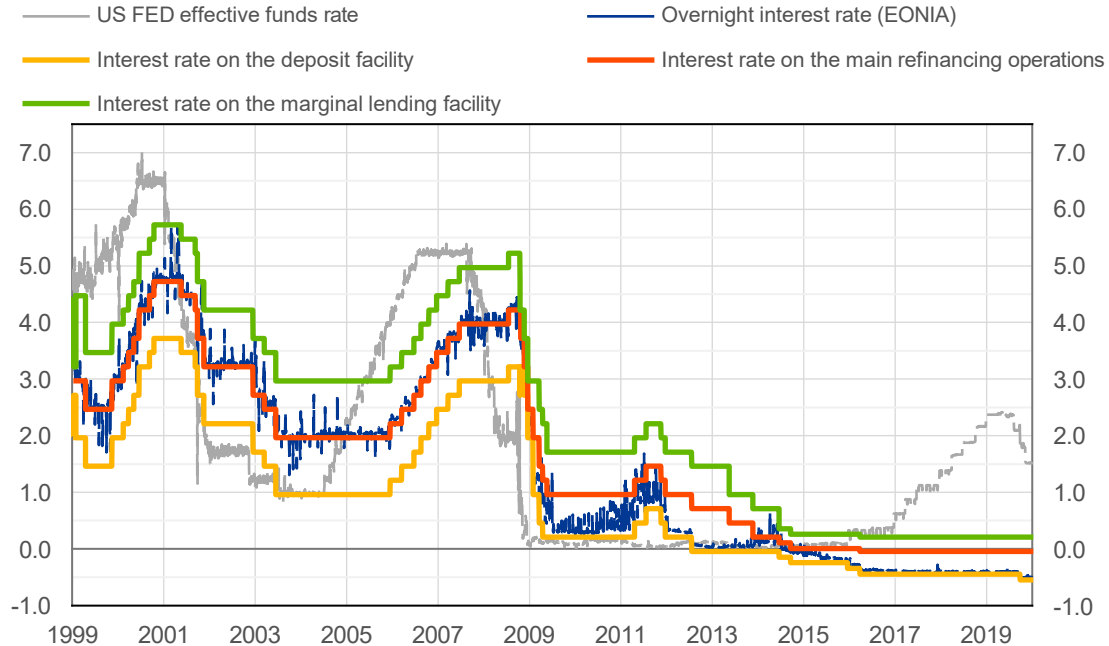


## HICP inflation and inflation expectations (percent)



Source: ECB.  
Latest observation: 2019Q4.

## Key interest rates (percent per annum)



Source: ECB and Federal Reserve Bank of New York.

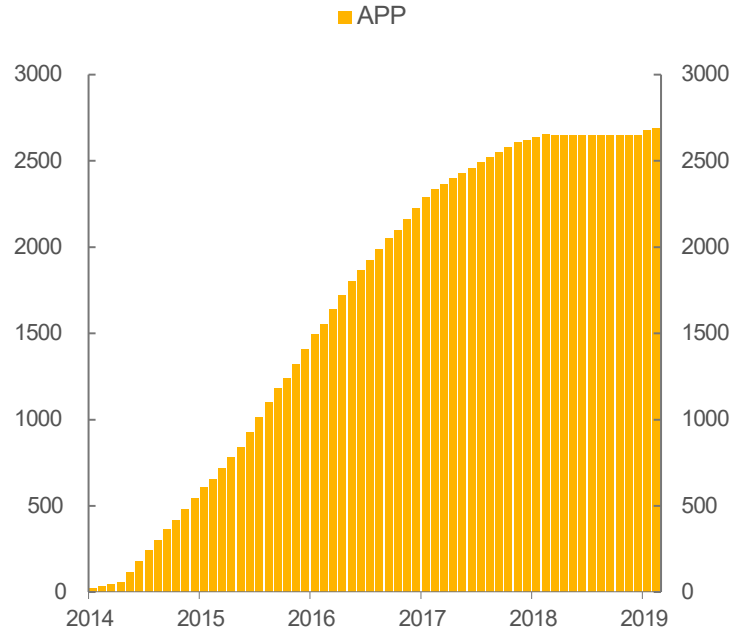
Latest observation: in the chart December 2019.

## ... recourse to other monetary policy instruments instead

- 1 Negative interest rates (on deposit facility)
- 2 Forward guidance
- 3 Asset Purchase Programme (APP)
- 4 Targeted Longer-Term Refinancing Operations (TLTRO)

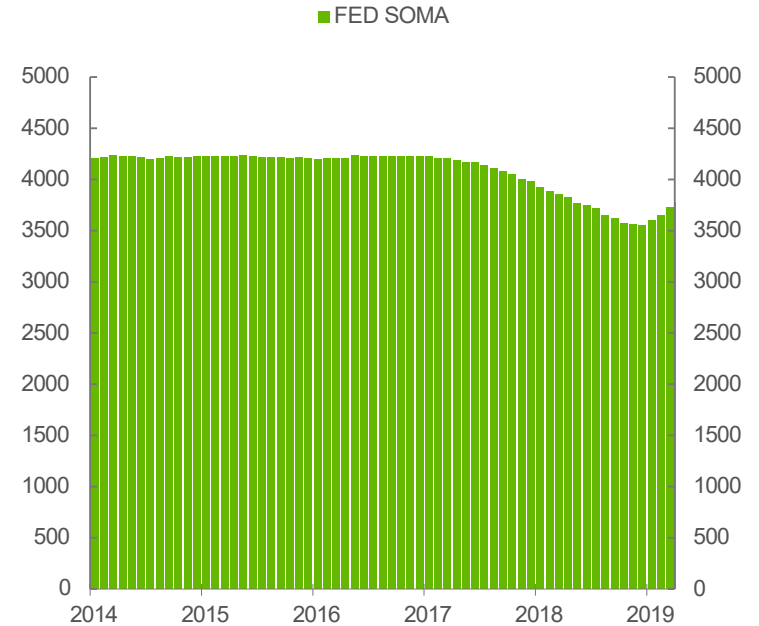
# Asset purchase programme (APP)

**Cumulative net purchases under the APP**  
(EUR billion, book value)



Source: ECB.  
Latest observation: December 2019.

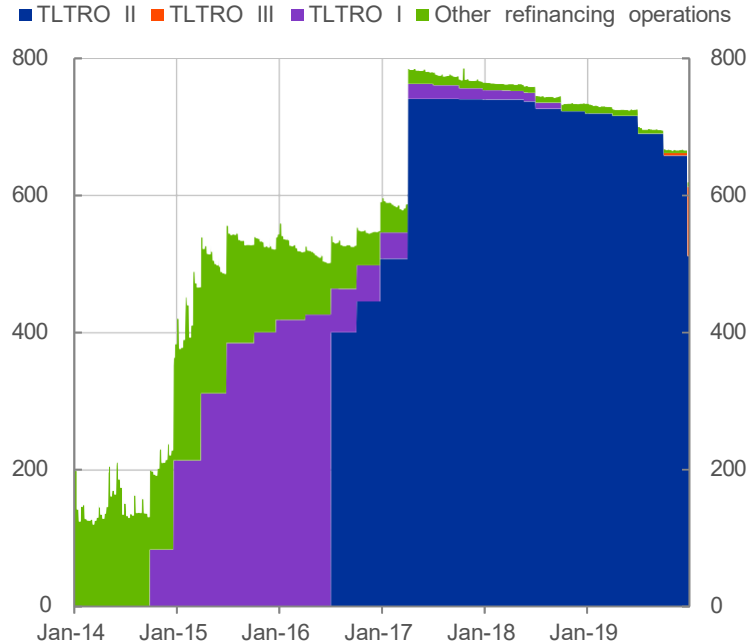
**Federal Reserve System Open Market Account holdings**  
(USD billion, book value)



Source: Federal Reserve Bank of New York.  
Latest observation: December 2019.

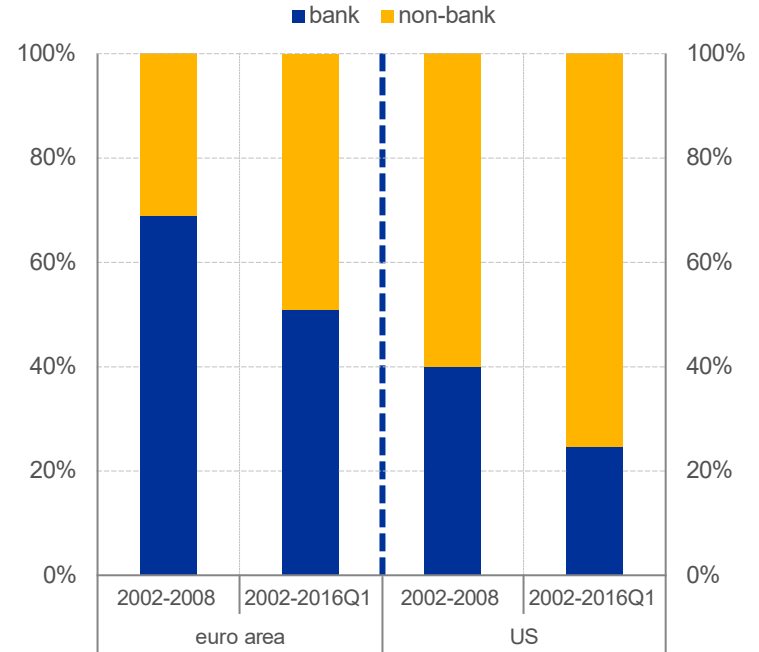
# Targeted long-term refinancing operations (TLTRO)

**Outstanding credit operations**  
(EUR bn)



Source: ECB and ECB calculations.  
Latest observation: 31 Dec 2014.

**Share of bank and non-bank financing in total non-financial corporation financing**  
(cumulated transactions, percentages)



Source: ECB, Federal Reserve System.  
Notes: Calculations are based on cumulated transactions since 2002.  
Latest observation: Q12016.

# The ECB's monetary policy response to the pandemic crisis



# The ECB uses non-standard measures

## Rationale of non-standard measures:

- Providing further monetary accommodation at the effective lower bound ('quantitative easing')
- Ensuring that key interest rates are appropriately transmitted through the financial sector to the real economy ('credit easing')
- Funding reassurance for the banking system ('lender of last resort')

## Core elements:

### Asset purchases

(public & private assets)

### Targeted longer-term refinancing operations (TLTROs)

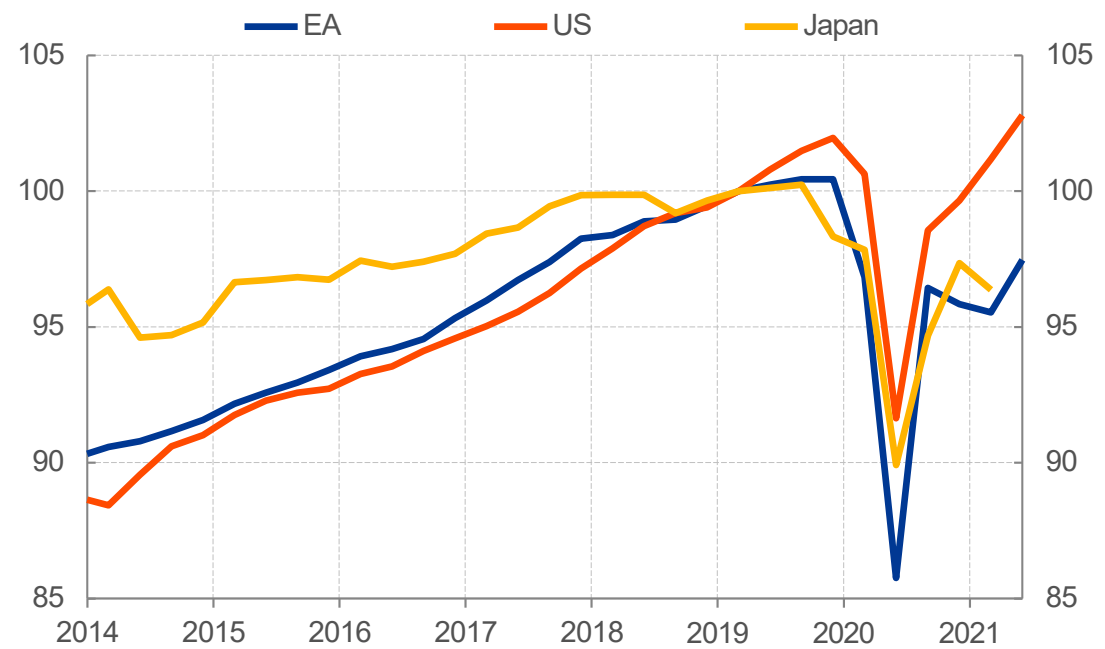
### Forward guidance

(on future monetary policy)

### Negative interest rates (for banks' deposits with the Eurosystem)

# Unprecedented decline in economic activity...

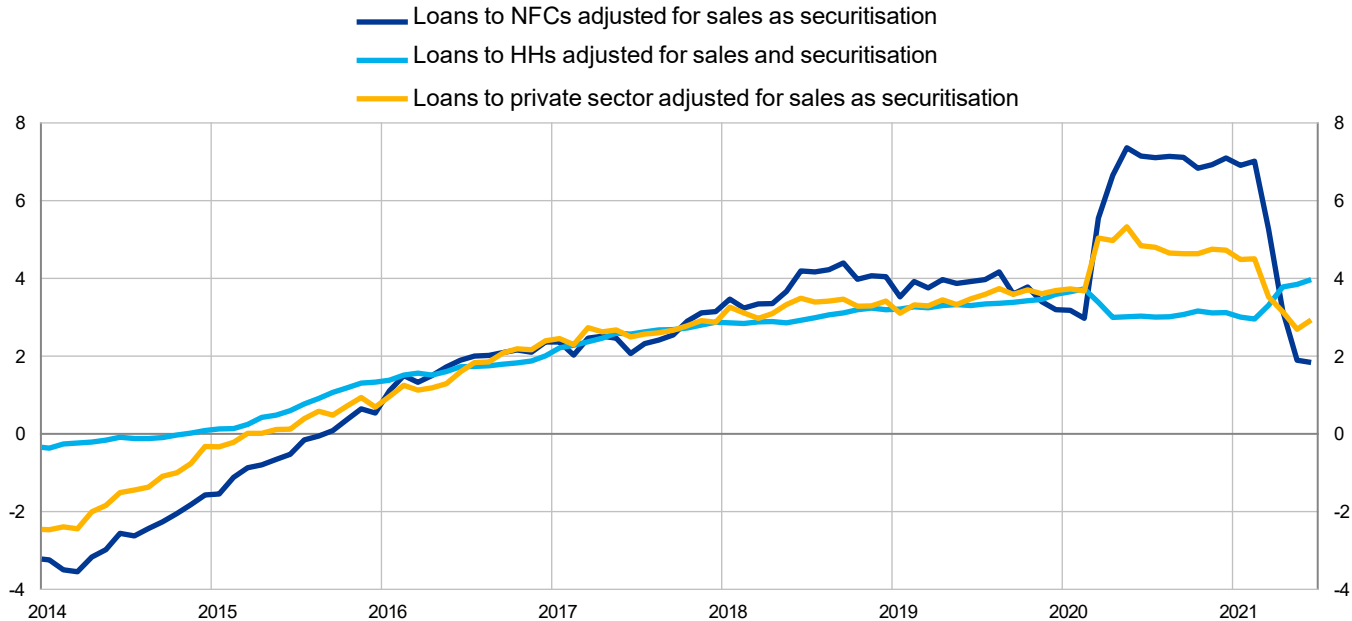
**Real GDP**  
(index, 2019Q1=100)



Sources: Eurostat, BEA, Cabinet Office, ECB calculations.  
Latest observation: 2021Q2 for the euro area and the US, 2021Q1 for Japan.



## MFI loans to the private sector (annual growth rates)

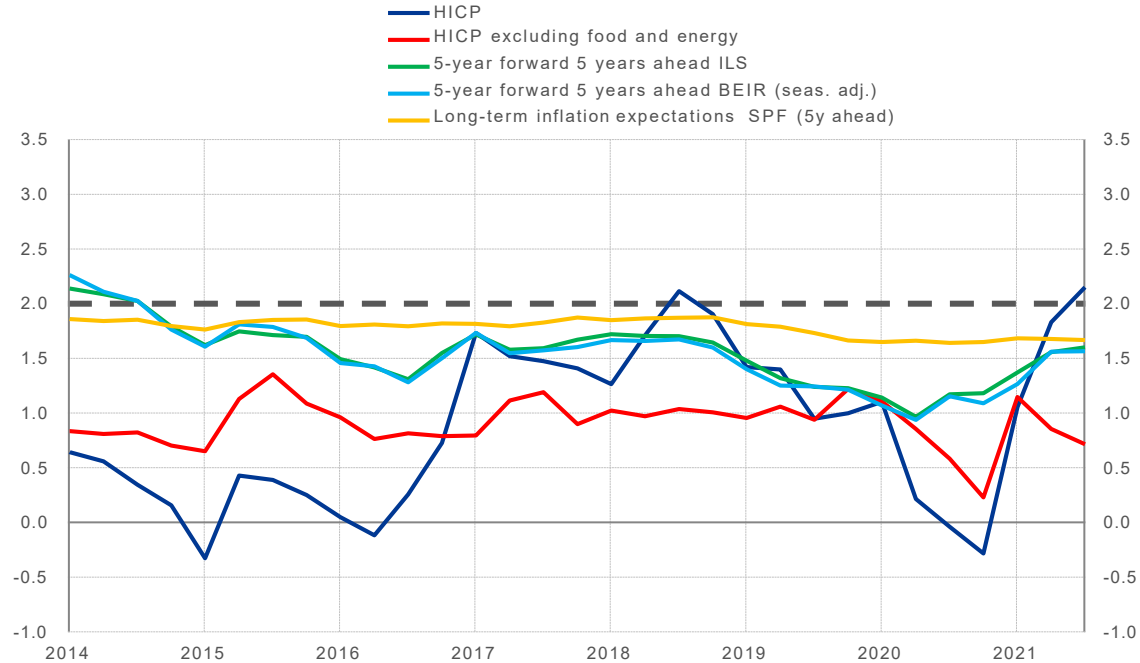


Source: ECB.

Notes: Monthly data. "NFCs" stands for non-financial corporations and "HHs" stands for households.

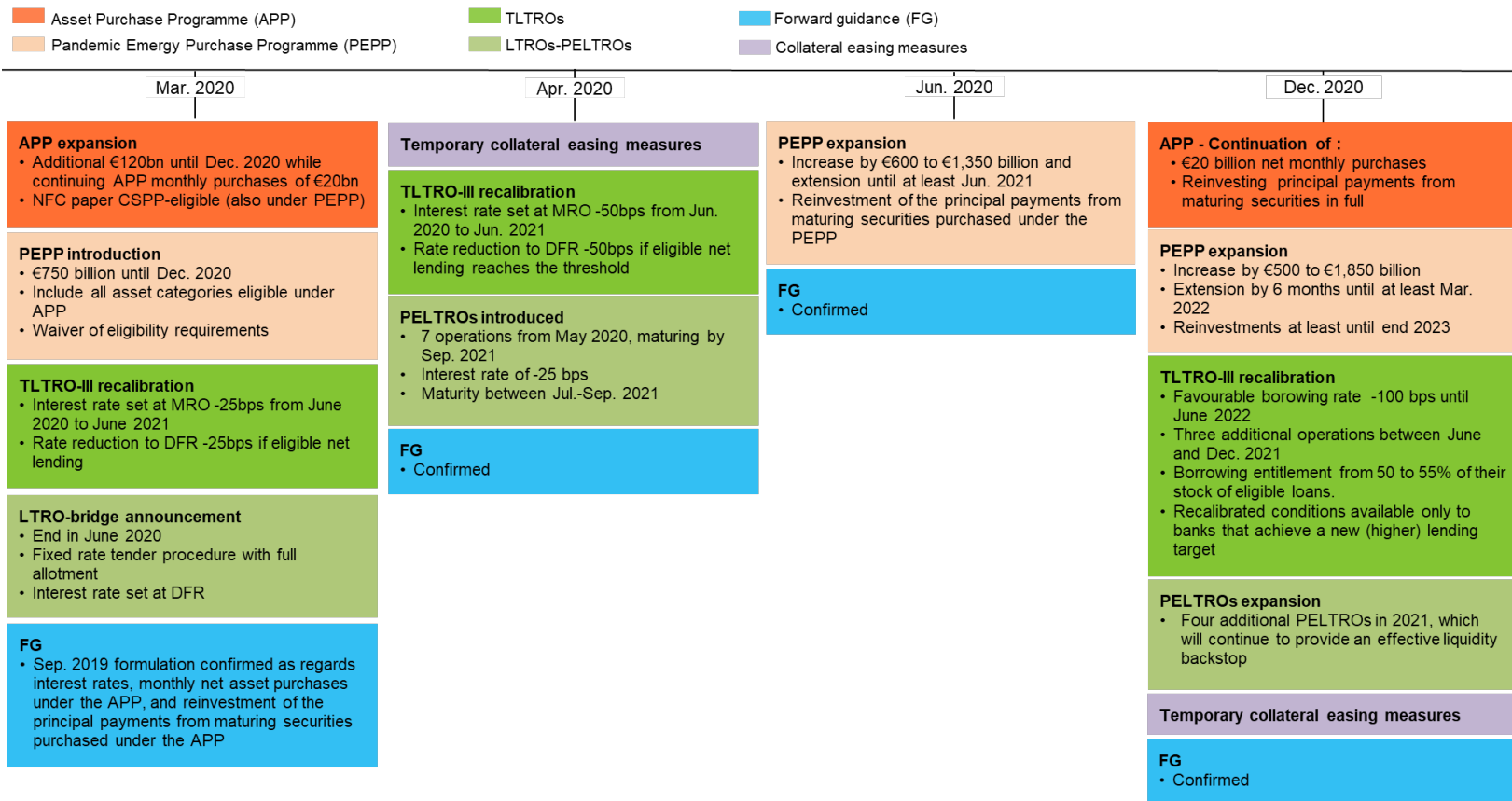
Latest observation: June 2021.

## HICP inflation and inflation expectations (percent)



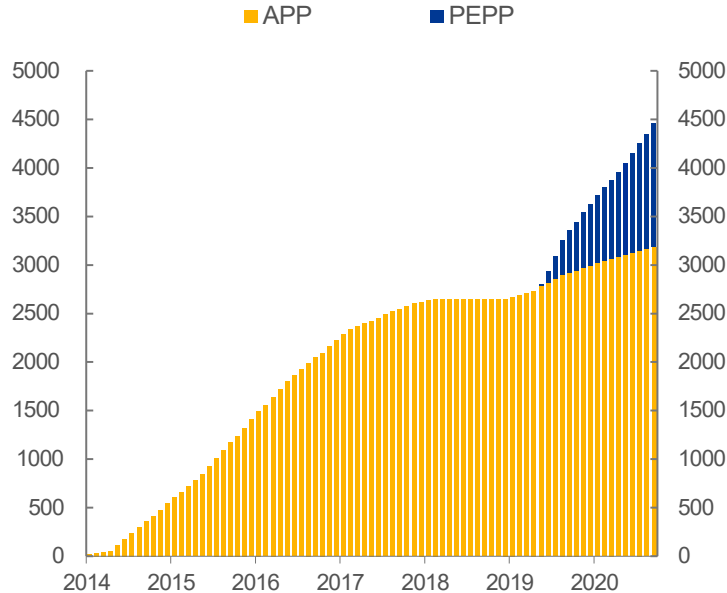
Source: ECB.  
Latest observation: 2021Q3.

# The ECB's measures in response to the pandemic



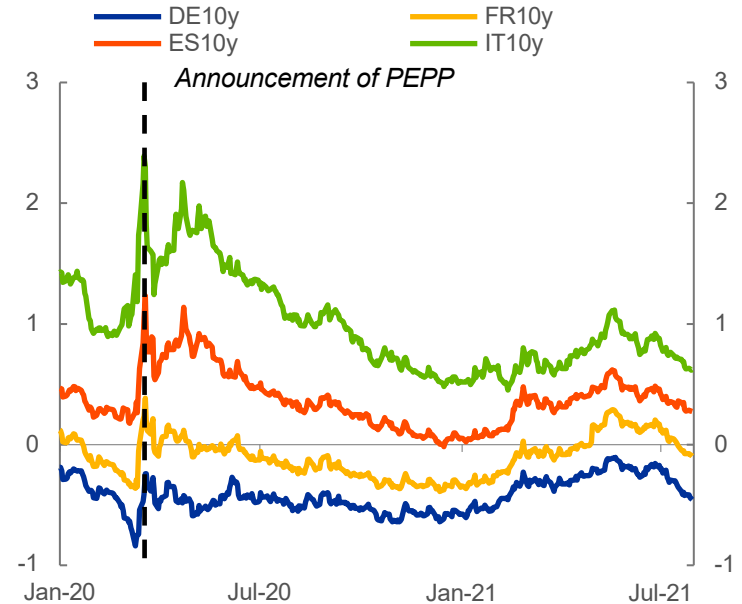
# Pandemic emergency purchase programme offsets transmission risks and eases

**Cumulative net purchases under the APP and PEPP**  
(EUR billion, book value)



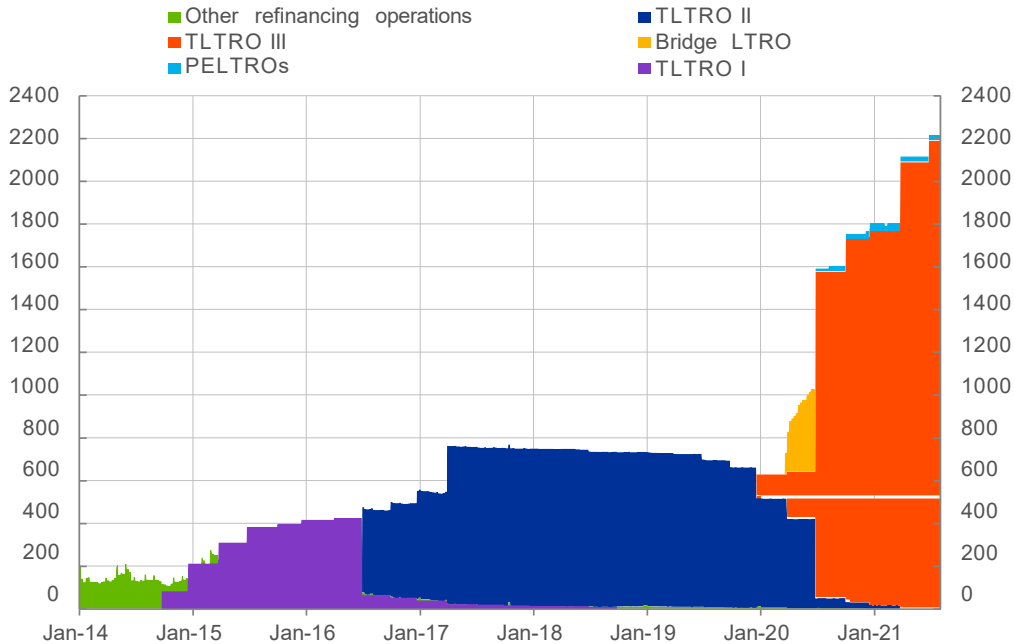
Source: ECB.  
Latest observation: July 2021.

**10-year sovereign bond yields**  
(percent)



Source: Refinitiv.  
Latest observation: 30 July 2021.

## Outstanding credit operations (EUR bn)




Source: ECB and ECB calculations.  
Latest observation: 02 Aug 2021.

# The situation today



# The ECB and the Russian invasion of Ukraine




“The Russian invasion of Ukraine is a watershed for Europe. The Governing Council expresses its full support to the people of Ukraine. We will ensure smooth liquidity conditions and implement the sanctions decided by the European Union and European governments. We will take whatever action is needed to fulfil the ECB’s mandate to pursue price stability and to safeguard financial stability.”

Christine Lagarde  
Press Conference March 2022



# The ECB and the Russian invasion of Ukraine



“In view of the highly uncertain environment caused by the Russian invasion of Ukraine and the risk of regional spillovers that could adversely affect euro area financial markets, the Governing Council decided to extend the Eurosystem repo facility for central banks (EUREP) until 15 January 2023. [...] Requests from non-euro area central banks for individual euro liquidity lines will be assessed by the Governing Council on a case-by-case basis.”

Christine Lagarde  
Press Conference March 2022





# Monetary policy outlook

**Energy prices** continue to be the **main reason for higher inflation.**

— HICP

■ Energy

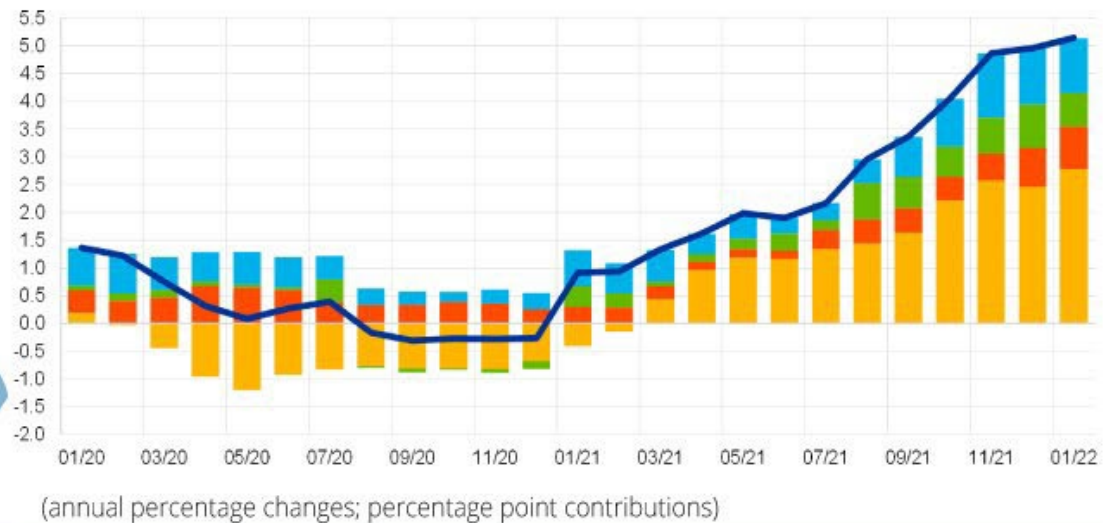
■ Food

■ Non-energy  
Industrial goods

■ Services



## HEADLINE INFLATION AND ITS COMPONENTS

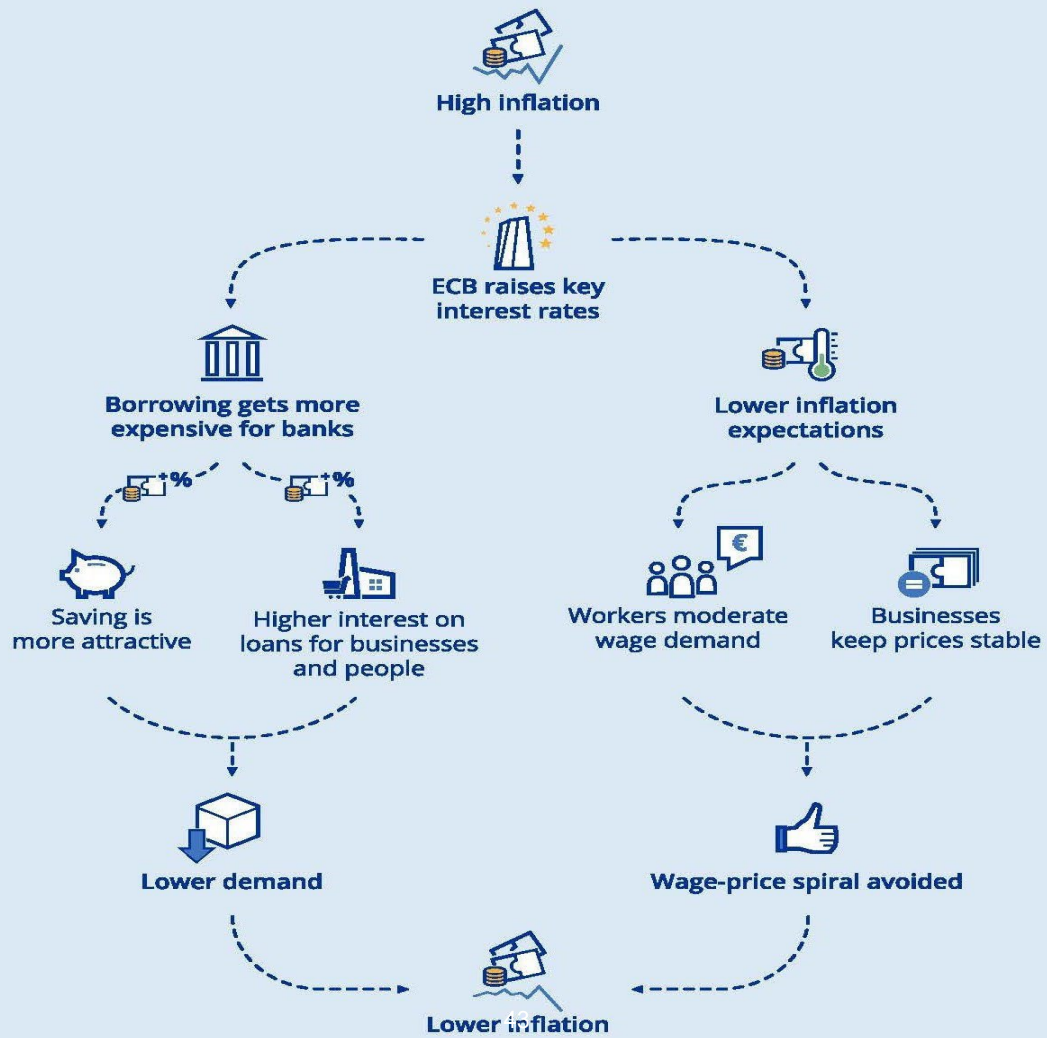


Source: Eurostat and ECB staff calculations

# Monetary policy outlook

## Euro area HICP (annual rate of change)





# Monetary policy outlook

## 21 July 2022 - ECB raises interest rates for the first time in 11 years



Following its July 21 meeting, the Governing Council of the ECB has decided to raise its three key interest rates by 50 basis points. This is the first time that the ECB has raised interest rates since 2011, and comes in response to a period of surging inflation above the 2% target.

# Monetary policy outlook – further rates hikes....

## MONETARY POLICY DECISIONS – 8 SEPTEMBER 2022

OUR KEY INTEREST RATES

**0.75%**

DEPOSIT  
FACILITY

PREVIOUS RATE: 0.00%

**1.25%**

MAIN REFINANCING  
OPERATIONS

PREVIOUS RATE: 0.50%

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## MONETARY POLICY DECISIONS – 14 SEPTEMBER 2023

OUR KEY INTEREST RATES

**4.00%**

DEPOSIT  
FACILITY

PREVIOUS RATE: 3.75%

**4.50%**

MAIN REFINANCING  
OPERATIONS

PREVIOUS RATE: 4.25%

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# What is happening in our economy?

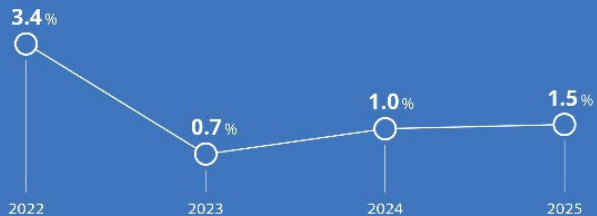


- Inflation continues to decline but is still expected to remain too high for too long– even if supply constraints are decreasing.
- The world economy is growing slowly & the outlook is more uncertain.
- People are buying less and businesses are cutting production
- Labour market still robust.

# Monetary policy outlook

We expect the economy to be weak for now but to recover slowly in the coming years.

Projections for euro area economic growth in 2023 and the coming years  
(projections from September 2023)



We see inflation falling from high levels. Over time we expect it to move back towards our 2% target.

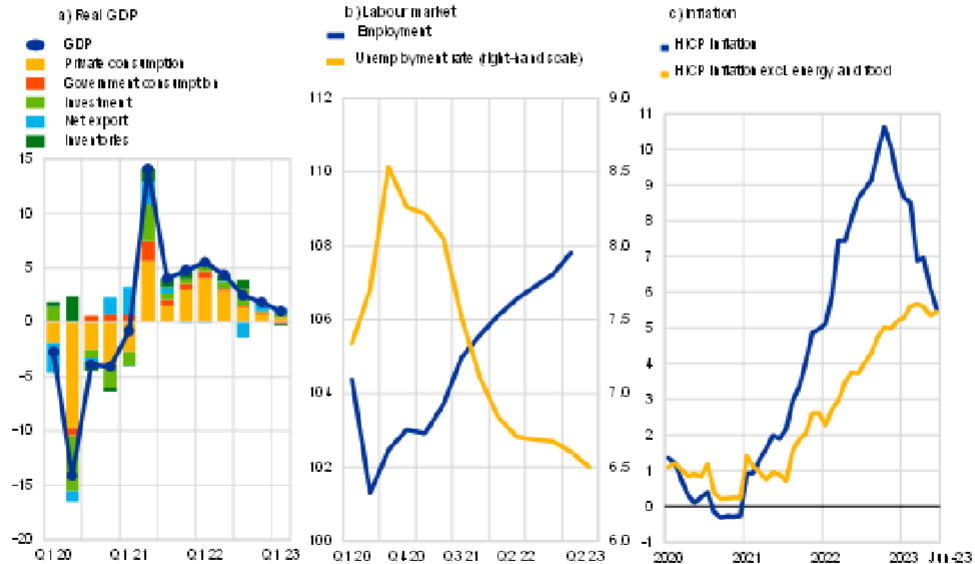
Projections for euro area inflation in 2023 and the coming years  
(projections from September 2023)



The monetary policy measures will take some time to be effective.

## Real GDP, labour market and inflation

(panel a: year-on-year percentage changes and pp contributions, panel b: Q1 2008=100 and percentage of labour force; panel c: percentages)



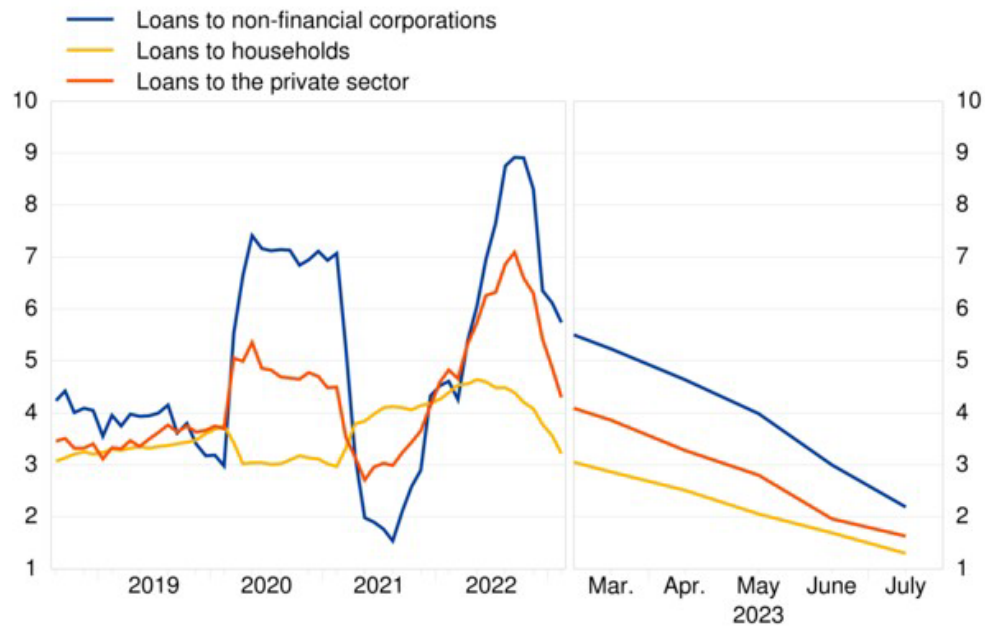
Sources: Eurostat.

Notes: The latest observations are for the first quarter of 2023 for GDP and employment, May 2023 for unemployment and June 2023 for (flash) inflation.

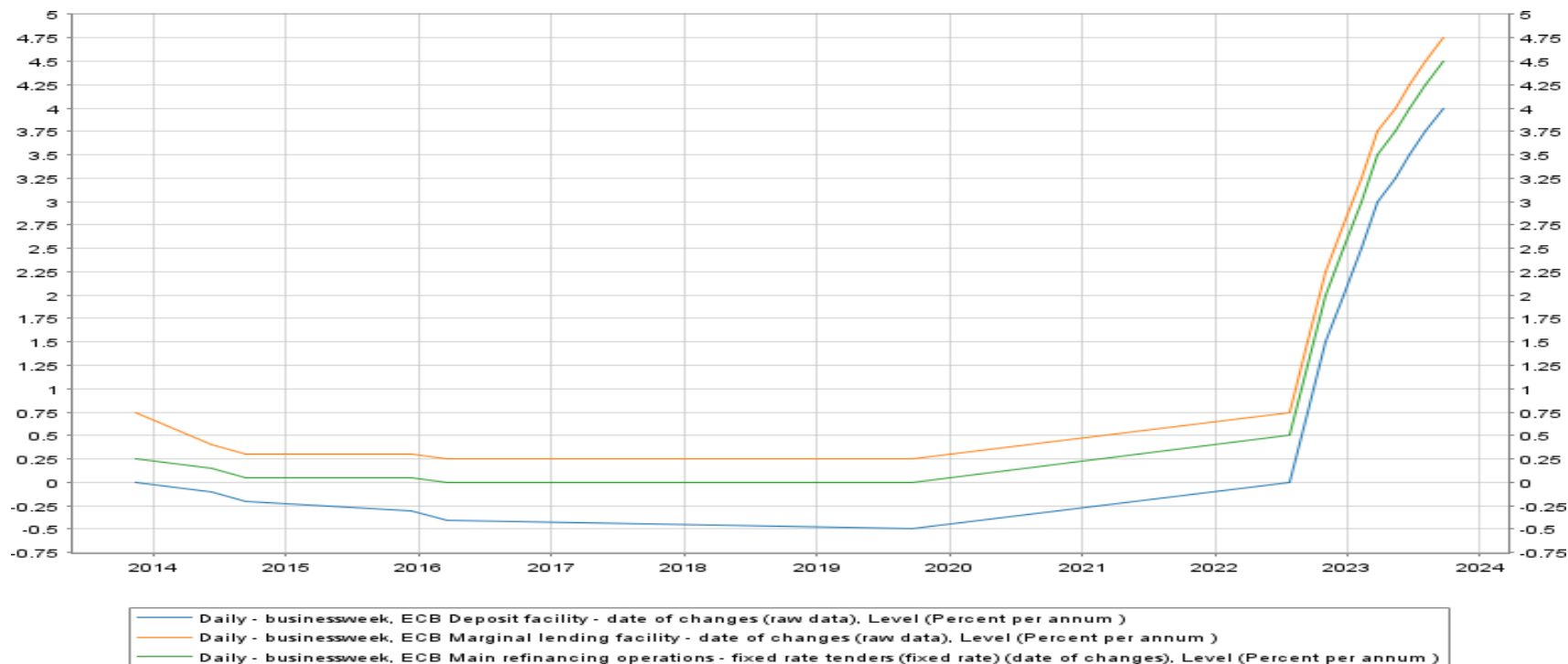


## Adjusted loans to the private sector

(annual growth rates)

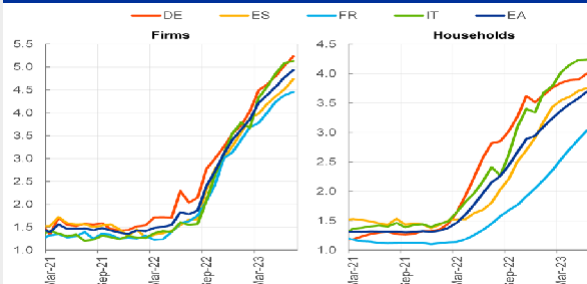


## ECB Official interest rates



# Interest rates in the euro area (2/2)

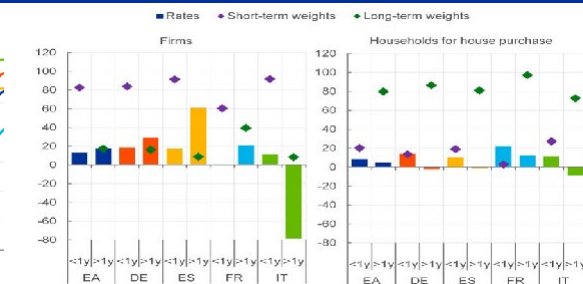
**Chart 1: Cost of borrowing for firms and households for house purchase (percentages per annum)**



Source: ECB.

Notes: The indicator for the total cost of borrowing for firms and for households for house purchase is calculated by aggregating short-term and long-term rates using a 24-month moving average of new business volumes.

**Chart 2: Changes in corporate bank lending rates by interest rate fixation period in July 2023 (basis points)**



Source: ECB.

Notes: Rates are shown as differences compared to the previous month.

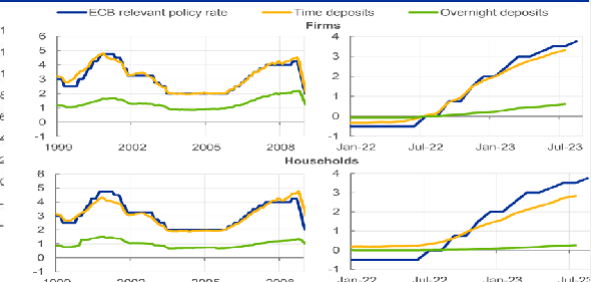
**Chart 3: Lending rates on new loans to non-financial corporations broken down by size (lhs: percentages per annum; rhs: basis points)**



Source: ECB.

Notes: Small loans are loans of up to € 1 million and large loans are those above € 1 million. The spread is calculated as the difference between the rates on small and large loans.

**Chart 4: Policy and deposit rates (percentages per annum)**



Sources: ECB and ECB calculations.

Notes: The ECB relevant policy rate is the MRO for the window since 1999 to 2008 and the DFR for the 2022 panels. Time deposits refer to deposits with agreed maturity of up to 2 years.





# 3.

## Monetary Policy strategy review

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# Overview of the ECB Strategy Review

Last strategy review

**2003**

Duration **18 months**

January 2020 to July 2021

**> 650**

staff involved

**14** separate

Workstreams

**12** seminars of  
the ECB Governing  
Council



**18** “ECB listens” events  
across the euro area

**4000** online  
contributions from citizens

# The ECB's strategy review

- **Launched in January 2020, first results announced in July 2021.**
- **Why a review of the strategy now?**
  - **Economy has changed fundamentally since 2003 review.**
    - *“Smartphones were not around!”*
    - Declining trend growth and lower natural rate of interest.
    - Climate change, digitalisation, (de)-globalisation, and other transformations impacting inflation dynamics & functioning of the economy.
  - **Reduced scope for conventional MP instruments.**
  - **Changing financial structures.**
    - Affecting the way monetary policy is transmitted through economy
  - **Enhance public trust in the ECB.**
    - Reaching out to a wide set of stakeholders.
    - Reviewing the ECB monetary policy communication.
  - **Identify directions for future research.**

# Making the ECB's monetary policy fit for the future

<p><b>Climate change</b></p> <p>Examines the risks posed by climate change and how these risks feed into the monetary policy framework.</p>	<p><b>Digitalisation</b></p> <p>Studies the implications of digitalisation for the functioning of the economy and the conduct of monetary policy.</p>	<p><b>Eurosystem modelling</b></p> <p>Assesses knowledge gaps in the main models used for monetary policy decision-making.</p>
<p><b>Fiscal &amp; monetary policy in a monetary union</b></p> <p>Takes stock of the fiscal policy landscape in the euro area and assesses the implications for monetary policy.</p>	<p><b>Globalisation</b></p> <p>Assesses the impact of globalisation on the transmission of monetary policy decisions to the economy and inflation.</p>	<p><b>Inflation expectations</b></p> <p>Analyses how inflation expectations are formed and deepens the understanding of their main drivers.</p>
<p><b>Inflation measurement</b></p> <p>Analyses the most accurate method of measuring inflation, and assesses potential measurement issues.</p>	<p><b>Macropru, mon.pol. &amp; financial stability</b></p> <p>Contributes to the assessment of the interaction between macroprudential policies, financial stability and monetary policy.</p>	<p><b>Monetary policy communication</b></p> <p>Assesses the ECB's communication strategy in relation to monetary policy decisions and the general public's understanding of the ECB.</p>
<p><b>Non-bank fin. intermediation</b></p> <p>Examines how the changing structure of the financial sector, in particular the growing role of non-banks, affects the conduct of monetary policy.</p>	<p><b>Price stability objective</b></p> <p>Provides analysis on the ECB's numerical formulation of price stability and alternative approaches to achieving price stability.</p>	<p><b>Productivity, innov &amp; techn. progr.</b></p> <p>Assesses developments in productivity and technology, and analyses the implications of these developments for monetary policy.</p>



## Strategy review outcome (1)

- The 2% inflation target provides a **clear anchor for inflation expectations**.
- **Harmonised Index of Consumer Prices (HICP)** remains the appropriate price measure for assessing price stability.
- However, GC recognises that **costs related to owner-occupied housing** would capture the inflation rate that is relevant for households (a multi-year project with Eurostat).
- An **inflation buffer above 0%** provides policy with space for interest rate cuts in the event of adverse developments and a safety margin against the risk of deflation.
- We have seen a trend decline in equilibrium real interest rates that reduces room of manoeuvre.
- In a **low inflation environment**, this implies that the **effective lower bound (ELB)** on nominal interest rates will more frequently constrain monetary policy.

## ECB's price stability objective has evolved

### Governing Council in October 1998:

- “Price stability shall be defined as a year-on-year increase in the **Harmonised Index of Consumer Prices (HICP)** for the **euro area** of below 2%. Price stability is to be maintained over the **medium term**.”

### Clarification in 2003

- The Governing Council (GC) aims to maintain inflation rates at levels **below, but close to, 2%** over the **medium term**.

### Strategy Review in 2020-21

- The GC aims to maintain inflation rates at **2% over the medium term**.
- This target is symmetric: both negative and positive **deviations are equally undesirable**.
- See press release at:  
<https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210708~dc78cc4b0d.en.html>

## Strategy review outcome (2)

- **Forceful monetary policy measures** are needed when economy is **close to ELB** to avoid low inflation expectations becoming entrenched.
- GC will employ forward guidance, asset purchases and longer-term refinancing operations, as appropriate, plus the standard MP measures.
- Monetary policy decisions are based on an **integrated assessment** by means of:
  - **economic analysis** focussing on real and nominal economic developments; and
  - **monetary and financial analysis**, focussing on the monetary transmission mechanism and possible risks to medium-term price stability from financial imbalances and monetary factors.
- **As climate change has also implications for price stability**, the GC has also committed to an ambitious climate-related action plan. See press release at:  
[https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210708\\_1~f104919225.en.html](https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210708_1~f104919225.en.html)
- **Monetary policy decisions will be communicated through Monetary Policy Statement, at Press Conference, the Economic Bulletin and the monetary policy accounts.**

# Outcome of the Review – key points

- New symmetric 2% inflation target
- Inclusion of owner-occupied housing in inflation measurement
- Unconventional monetary policy instruments become conventional
- New analytical framework
- Action plan on climate change
- Modernised communication

*“The new strategy is a strong foundation that will help guide us in the conduct of monetary policy in the years to come.”*

*Christine Lagarde*



**Thank you**

# Main decision-making body is the ECB's Governing Council

## Governing Council

- Six members of the Executive Board, plus the governors of the national central banks of the 19 euro area countries
- main decision-making body of the ECB

## Executive Board



**Christine Lagarde**  
President



**Luis de Guindos  
Jurado**  
Vice-President



**Frank Elderson**



**Philip Lane**



**Fabio Panetta**



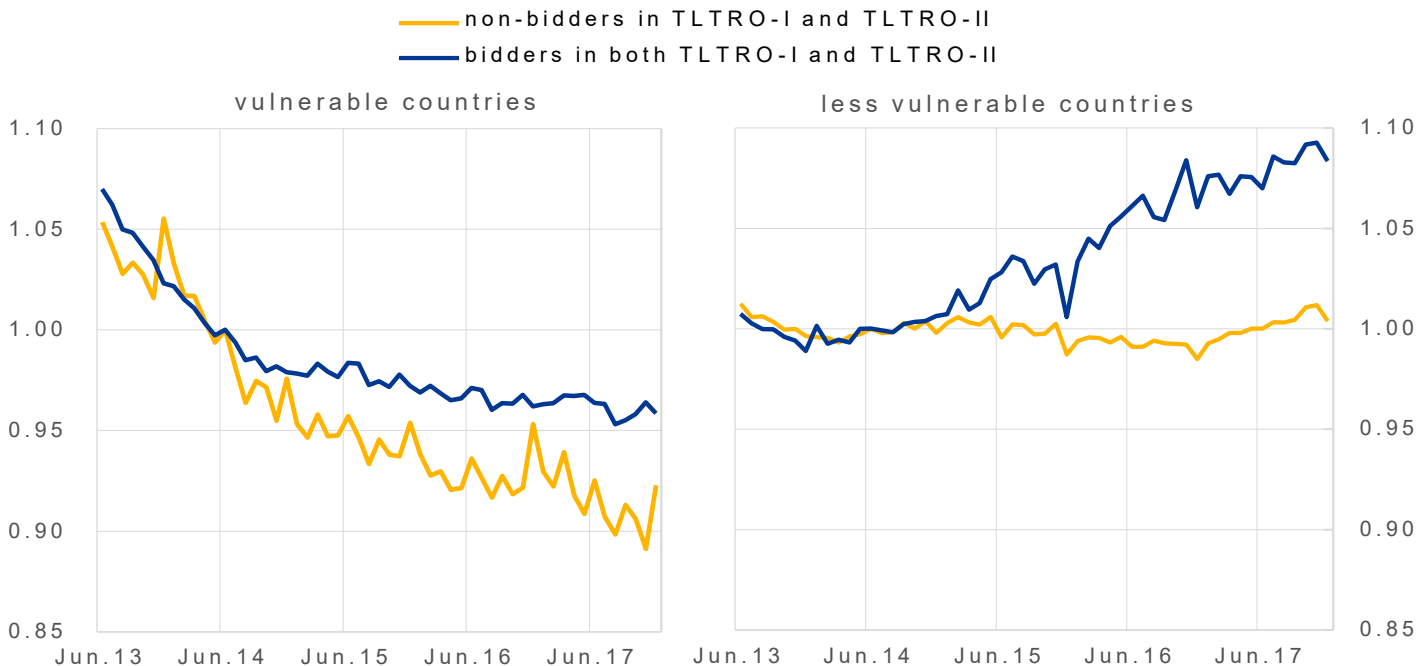
**Isabel Schnabel**



# TLTROs reinforce incentives for banks to lend on borrowed funds

## Lending to NFCs by TLTRO-bidders and non-bidders

(index=1 in June 2014)



Source: ECB.

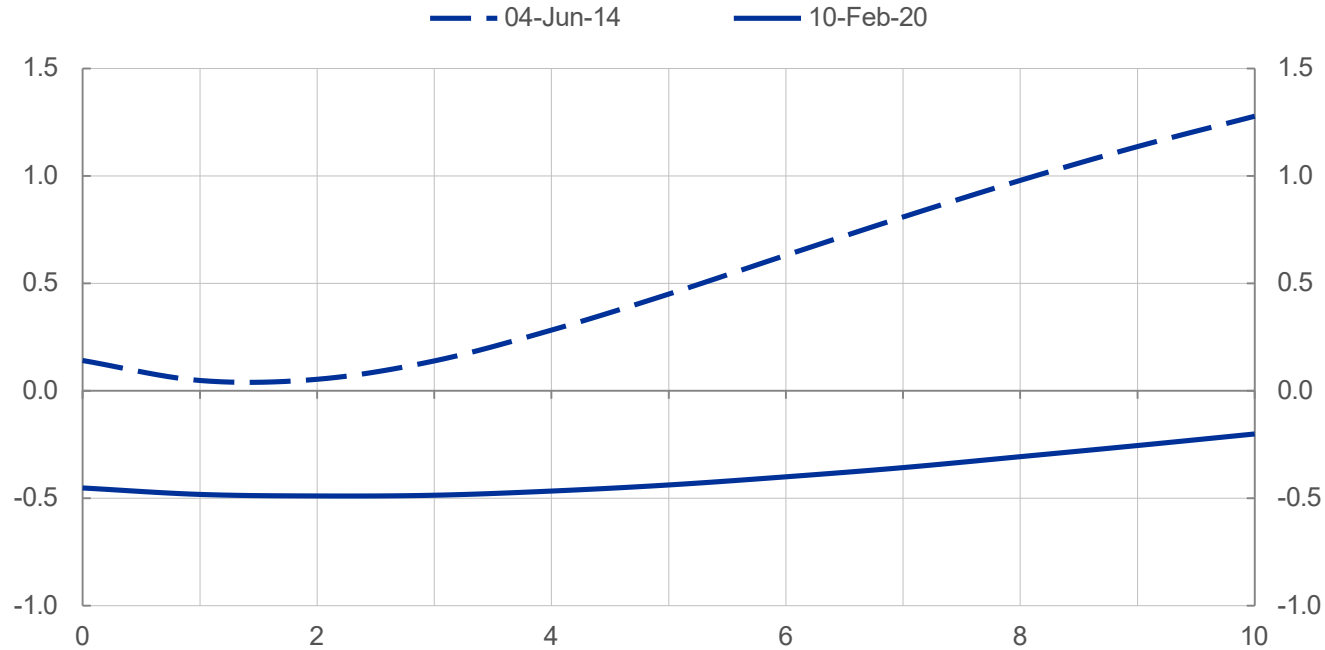
Notes: Notional stock of loans to non-financial corporations. It is constructed by adding the net flows of loans to NFCs to the stock of NFC loans as of June 2013. Depicted is the aggregate evolution for the group of banks that borrowed from both the TLTRO-I and II and the group of banks which did not access any of the two. Based on sample of euro area MFI for which individual balance sheet information is available. Vulnerable countries are Spain, Italy, Greece, Cyprus, Portugal and Slovenia. Less vulnerable countries are the remaining euro area countries. The series are not seasonally adjusted.

Latest observation is December 2017.

# APP compresses term premia over the whole range of the yield curve

## OIS term structure

(percentages per annum)

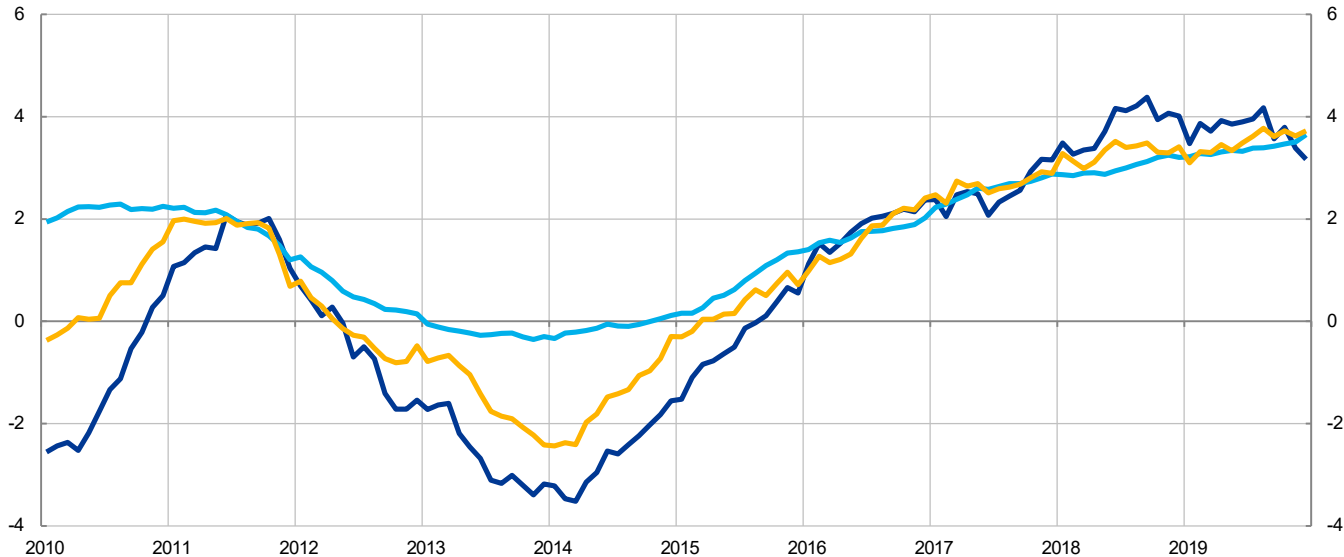


Sources: Reuters, ECB.  
Last observation: 10 Feb 2020.



## MFI loans to the private sector (annual growth rates)

- Loans to NFCs adjusted for sales as securitisation
- Loans to HHs adjusted for sales and securitisation
- Loans to private sector adjusted for sales as securitisation



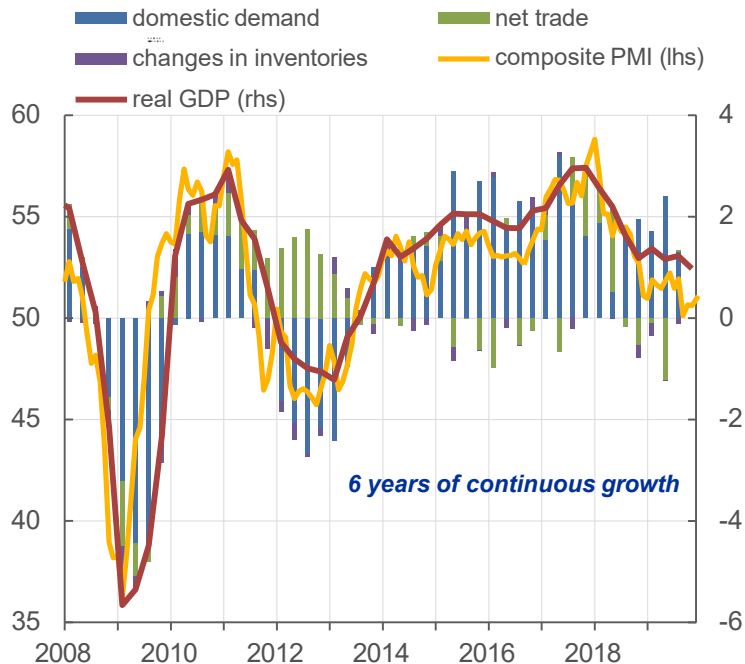
Source: ECB.

Notes: Monthly data. "NFCs" stands for non-financial corporations and "HHs" stands for households.

Latest observation: December 2019.

## Real GDP growth, main components and PMI

(lhs: balances; rhs: y-on-y growth and pp contributions)

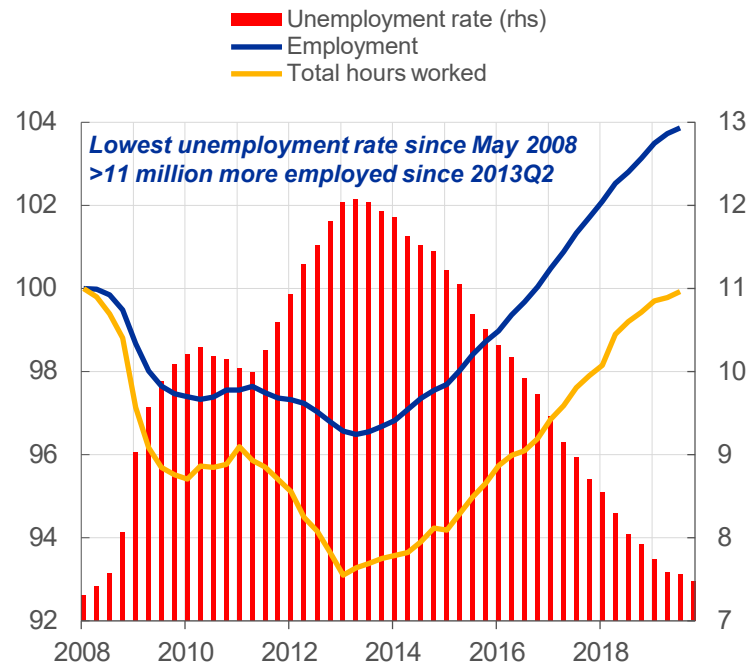


Sources: Eurostat, Markit, and ECB calculations.

Latest observations: 2019Q4 for real GDP, 2019Q3 for GDP components and Jan 2020 for PMI.

## Labour market indicators

(Unemployment: percent; employment and total hours worked: index, 2008Q1=100)



Source: Eurostat, National accounts.

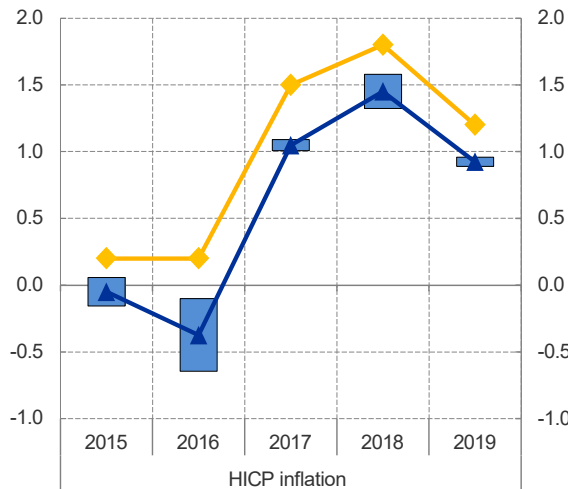
Latest observations: 2019Q3 for total hours worked and employment, 2019Q4 for unemployment rate.

# Effects of policy measures have been substantial

## HICP inflation

(year on year percentage change)

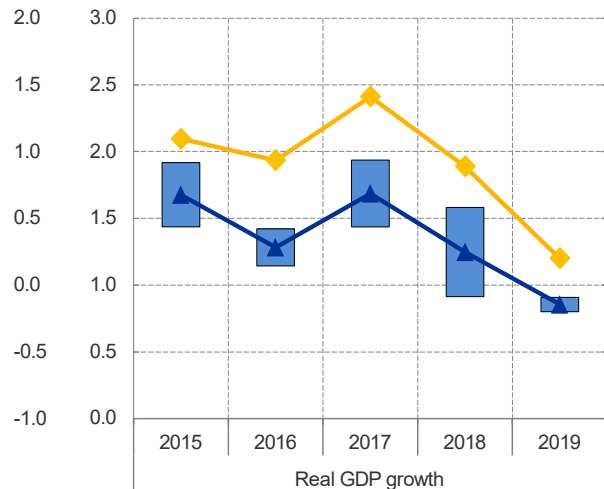
—◆— Observable —▲— In absence of non-standard measures



## Real GDP growth

(year on year percentage change)

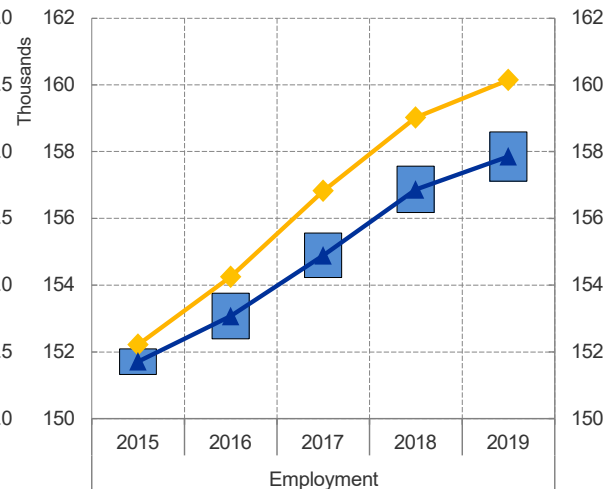
—◆— Observable —▲— In absence of non-standard measures



## Employment

(Millions)

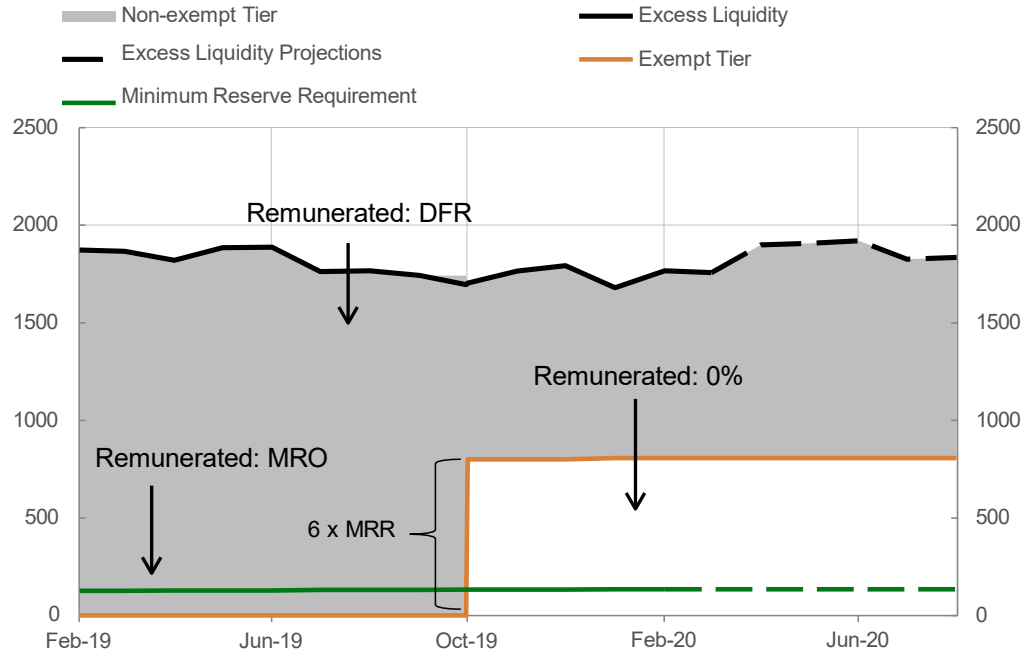
—◆— Observable —▲— In absence of non-standard measures



Sources ECB calculations.

Notes: The boxplot refers to a range of assessments, comprising the Eurosystem staff assessment included in the (B)MPE projection baseline and the assessment documented in Rostagno et al. (2019). The Eurosystem staff assessment has been carrying out on the basis of various modelling frameworks, comprising the suite of SAPI models and the Eurosystem projection-based tools. SAPI models span from fully structural models to time-series models.

## Excess liquidity and the two-tier system for reserve remuneration (EUR billion)

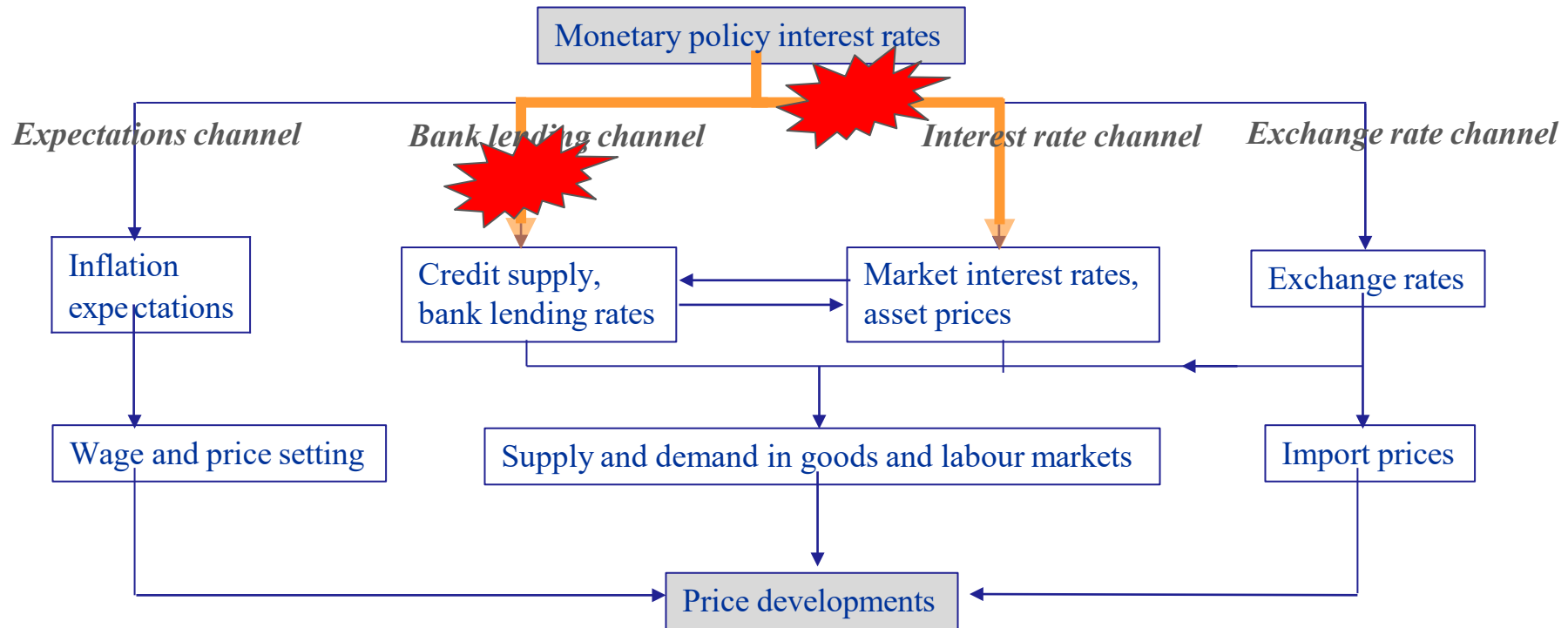


Sources: ECB.

Notes: MRR assumed to stay constant after January 2020. The size of the exempt tier is  $MRR \times 6$ .

Latest observations: 31 January 2020.

# Standard transmission channels blocked

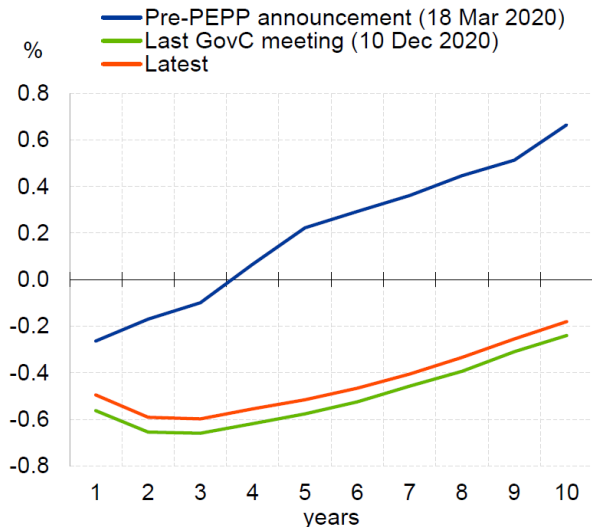


# Did the ECB measures help?



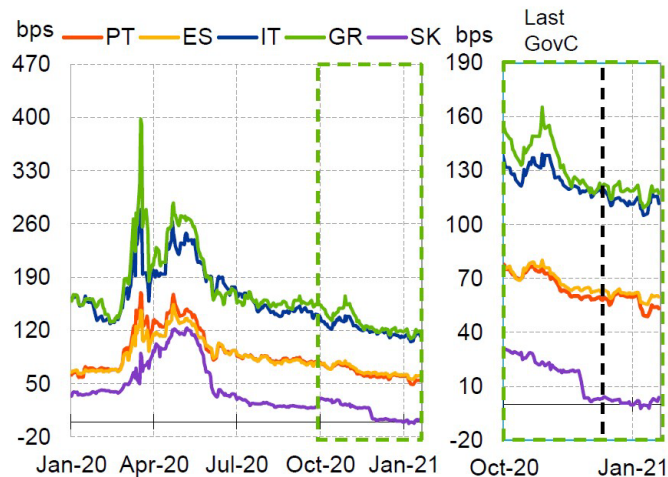
# Impact of ECB measures (I)

**Euro area GDP-weighted yield curve**  
(percent)

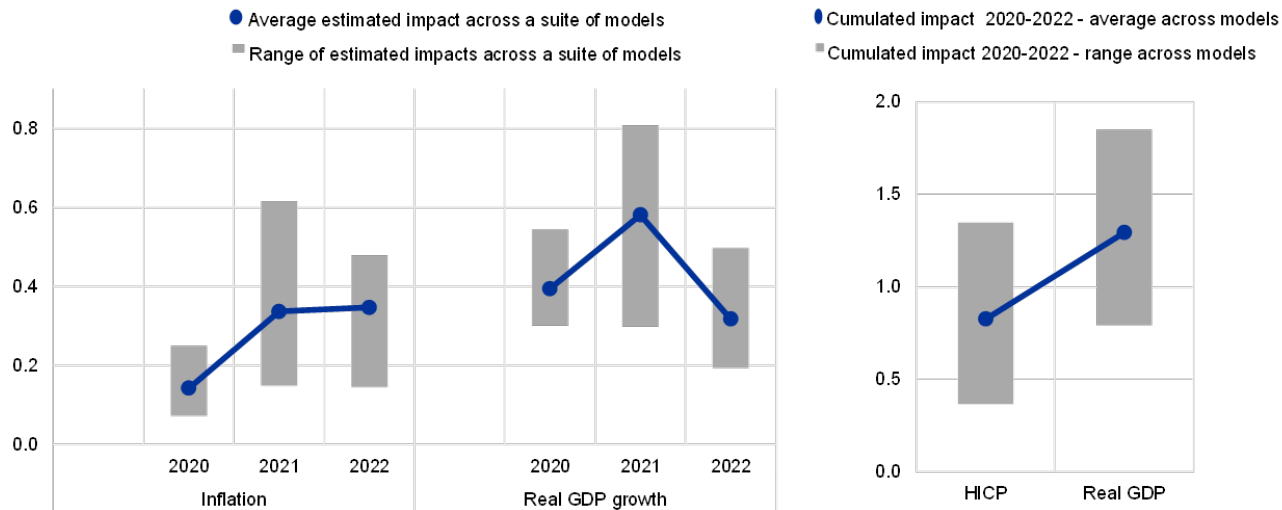


Source: Bloomberg.  
Last observation: 18 January 2021.

**Selected 10-year sovereign yield spreads**  
(over equivalent German Bunds)



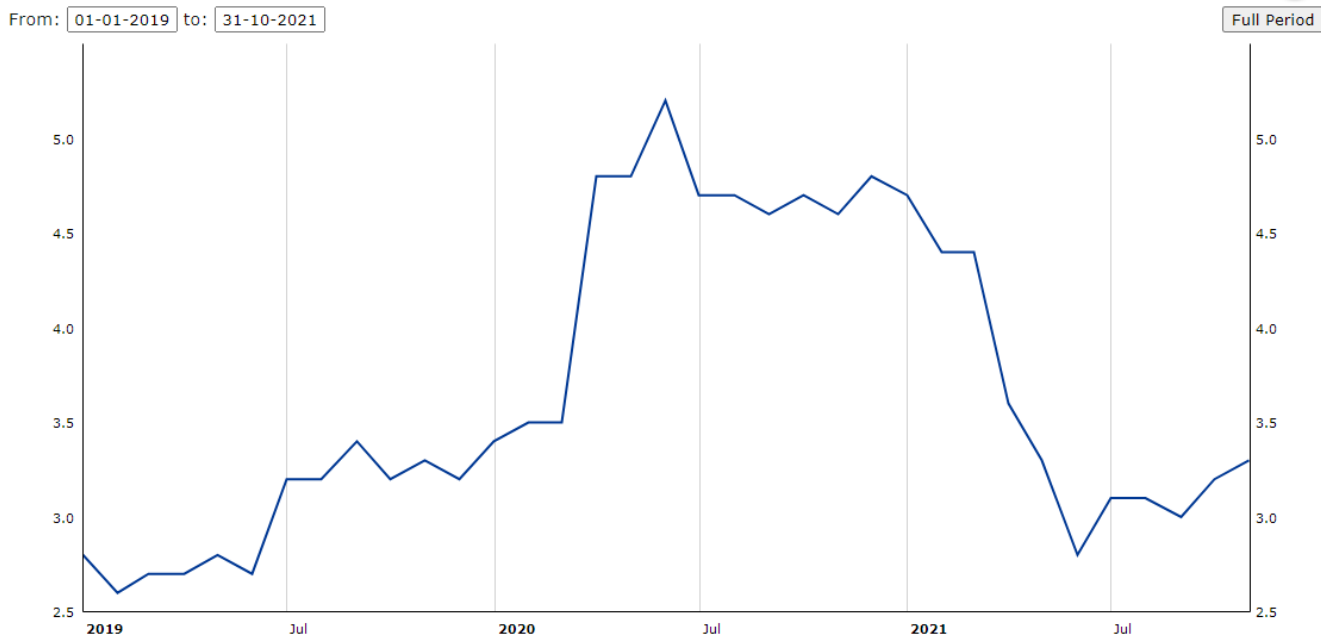
# Impact of ECB measures (II)



Source: ECB calculations. Notes: The estimated impact via a suite of models refers to the average across a set of models used by the Eurosystem, see Rostagno, M., et al (2019), "A tale of two decades: the ECB's monetary policy at 20", ECB Working Paper No 2346

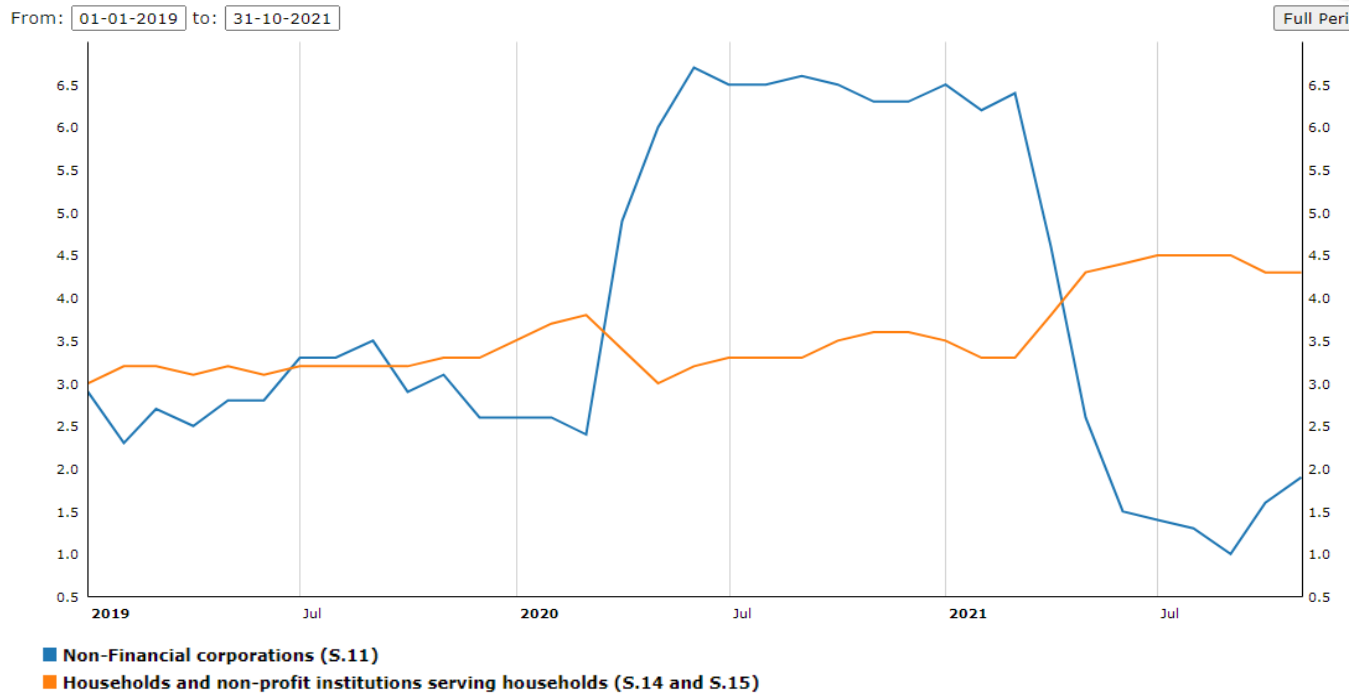


# Impact of ECB measures (III): Loans to private sector



Source: ECB Statistical Datawarehouse

# Impact of ECB measures (IV): Loans to households and companies



Source: ECB Statistical Datawarehouse

# Central banks and climate change

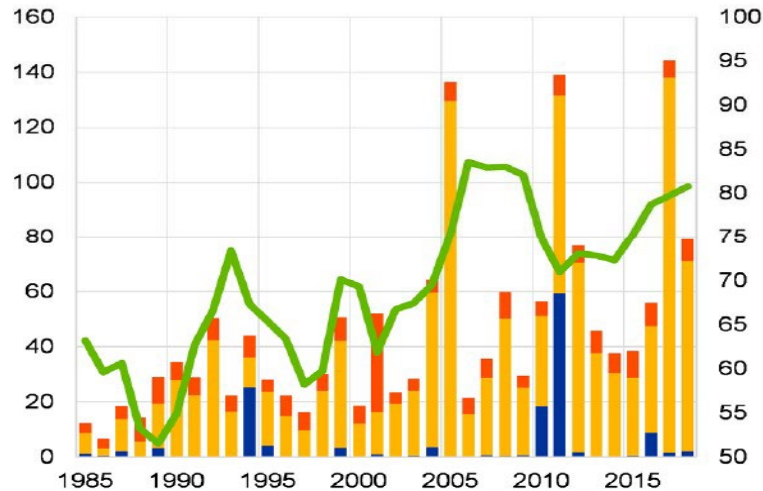
# First challenge: Climate Change matters – But is it relevant for a Central Bank?

- **Greenhouse gas emissions are continuing to rise** and without a change in direction, global warming could exceed 4° C by 2100 (IPCC). But many countries are taking actions to curb emissions (or plan to do so) as reflected in the Paris Agreement to combat climate change.
- **This may lead to economic and financial disruptions.** Climate change creates economic and financial risks (sometimes called physical risks). Yet the steps taken to reduce these risks by cutting emissions may also carry risks (sometimes called transition risks) - and opportunities - through disruptive technical change.
- **This leads to many potential areas of interest in climate change for a central bank** relating to aspects such as financial stability, banking supervision, economic analysis and monetary policy.
- **And the impact of policy and technological responses to climate change** may come via the real economy (growth, potential output) and financial conditions, which need to be assessed with a view to arriving at an informed assessment of the medium-term inflation outlook and financial stability risks.

## Global insured catastrophe losses 1985-2018

(left scale: USD billions; right scale: percentages)

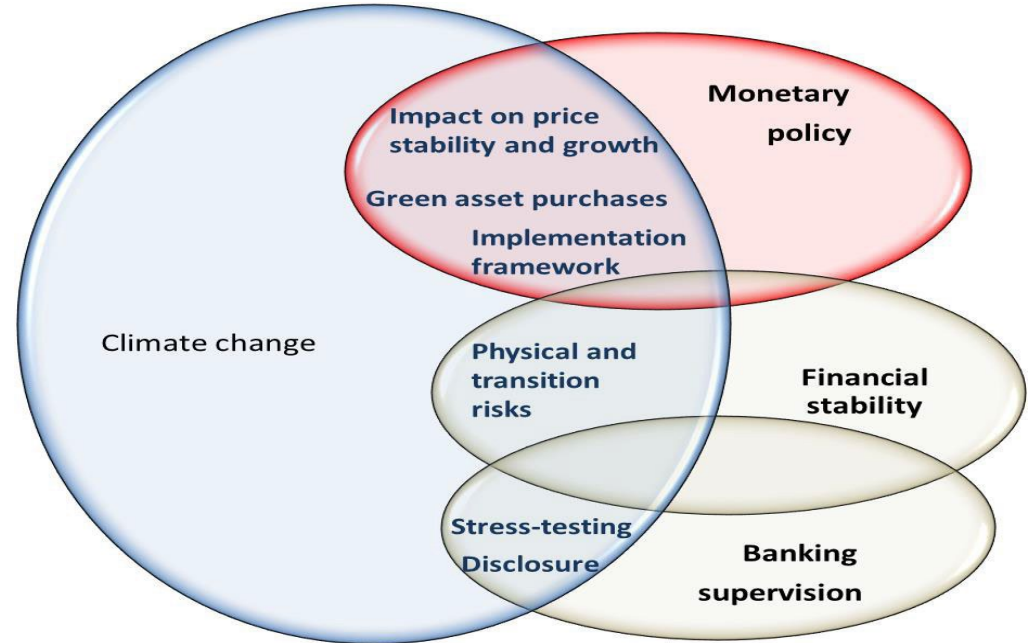
- Earthquake/tsunami
- Weather-related catastrophes
- Man-made disasters
- % of weather-related catastrophes losses - 5-year moving average (right-hand scale)



Sources: ECB Financial Stability Review May 2019, Special Feature on Climate Change and Financial Stability (underlying sources: Swiss Re Institute, Munich Re NatCatService and ECB calculations).

# Climate change will impact on the conduct of monetary policy

- Prime responsibility to address climate change lies with governments...
- ... but reflections on whether and how central banks could also play a role have intensified
- Several recent studies have discussed the role that monetary policy can play to support the transition towards a green economy



Source: ECB.

# The literature on central bank reactions to climate change

## Reacting to climate change risk

- Protecting the balance sheet against sudden repricing
- Removing carbon biases that are currently embedded in the operational frameworks

## Role to sensitise the public

- Informing and educating the public
- Waking up the financial system to the mispricing of climate risk
- Stranded assets

## Proactively supporting the transition to a low carbon economy

- Greening monetary policy operations (Schoenmaker 2019, Monnin 2018)
- Green QE (de Grauwe 2019)
- Green TLTROs

Source: ECB.

# What are central banks doing? – The NGFS

NGFS



Since then, the NGFS has grown to **34 Members** **5 Observers** representing 5 continents.



## NGFS members' jurisdictions cover:



**31%** of the global population

Source: United Nations, 2017.



**45%** of global greenhouse gas emissions

Source: Global Carbon Budget, 2017.



Supervision of **2/3** of the global systemically important banks and insurers

Source: Financial Stability Board, 2018.



**44%** of the global GDP

Source: World Bank, 2017.





# What are central banks doing? – The NGFS

## WS1: Supervision of climate and environmental risks

Exchange best practices on integrating climate risk in micro-prudential frameworks

## WS2: Analysing the macro financial impact of climate change

Develop an analytical framework for assessing climate-related risks under different climate scenarios

## WS3: Scaling up green finance

Take stock of initiatives to scale up green financing; work on green taxonomies, green bonds labeling and prevention of greenwashing.

**First comprehensive report published on 17 April 2019**

- 1. Integrating climate-related risks into financial stability monitoring and micro-supervision**
- 2. Integrating sustainability factors into own-portfolio management**
- 3. Bridging the data gaps**
- 4. Building awareness and intellectual capacity**
- 5. Achieving robust and internationally consistent climate disclosure**
- 6. Supporting the development of a taxonomy**

# Is greening monetary policy appropriate?

Objections	Counter-arguments by proponents
Monetary policy is supposed to be neutral and not distort the market mechanism.	ECB has already departed from market neutrality. Asset purchases (e.g. CSPP) already have a “carbon bias”.
Climate change mitigation is a policy with large distributional consequences, which can only be taken by politicians	Also unconventional monetary policies always have large distributional consequences.
Too much power vested in institutions with a narrow definition of accountability and no democratic legitimacy.	Central banks already exercised considerable powers despite a rather narrow accountability framework.
Fiscal policy (carbon pricing) should be the prime tool to address CO2 externalities.	Political gridlock impedes the implementation of a carbon tax, while central banks are less constrained.
Tinbergen principle: conflicting objectives should be avoided. One policy tool for each policy objective.	In a second-best world, central bank’s action is preferable to no action at all.
Engaging in climate policy would drag central banks in “political” territory, potentially paving the way for further steps to support other political goals or undermining independence	Central banks have already stepped in political territory the moment they started unconventional monetary policy. The new CB’s normal requires new responsibilities

# Roadmap to greening monetary policy



## 2. Knowledge is the driving force

- Check our own exposure to climate risks
- Check firms' and banks' exposures to climate risks
- Make disclosure of climate risks a priority
- Review how credit ratings reflect climate risks

3.

## 3. Action based on reliable data and best knowledge

- Include climate risks into our collateral framework
- Green our asset purchases

1.

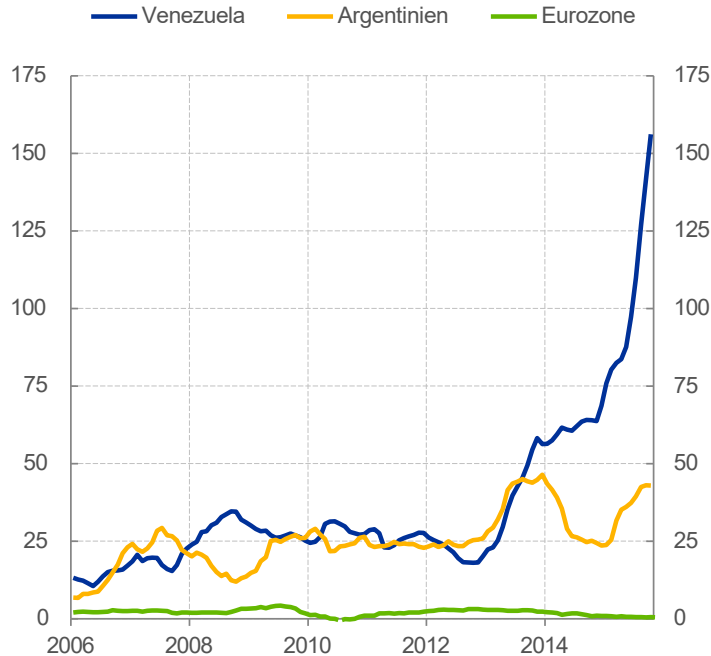
## 1. Paving the way with reliable data

- Gather data needed for climate change risk analyses
- Adapt our models and make them fit for climate change

# Miscellaneous

# Why price stability?

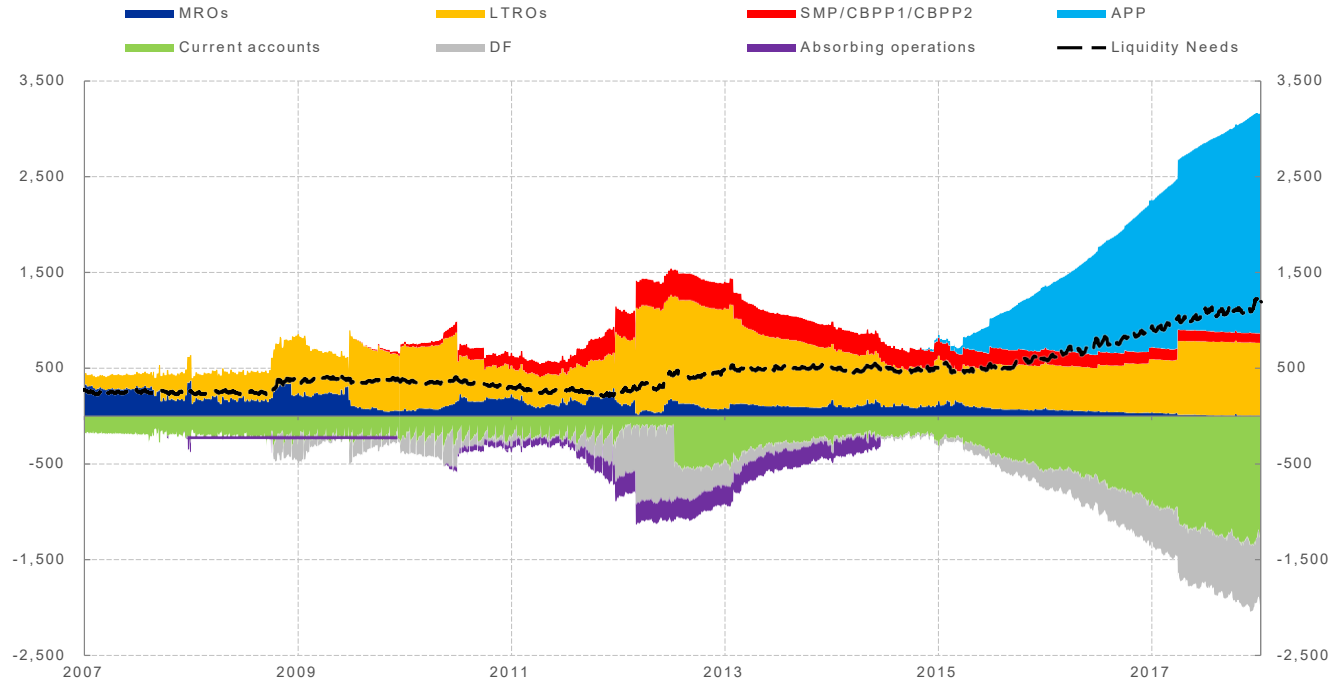
## Inflation (in %)



## Benefits of price stability

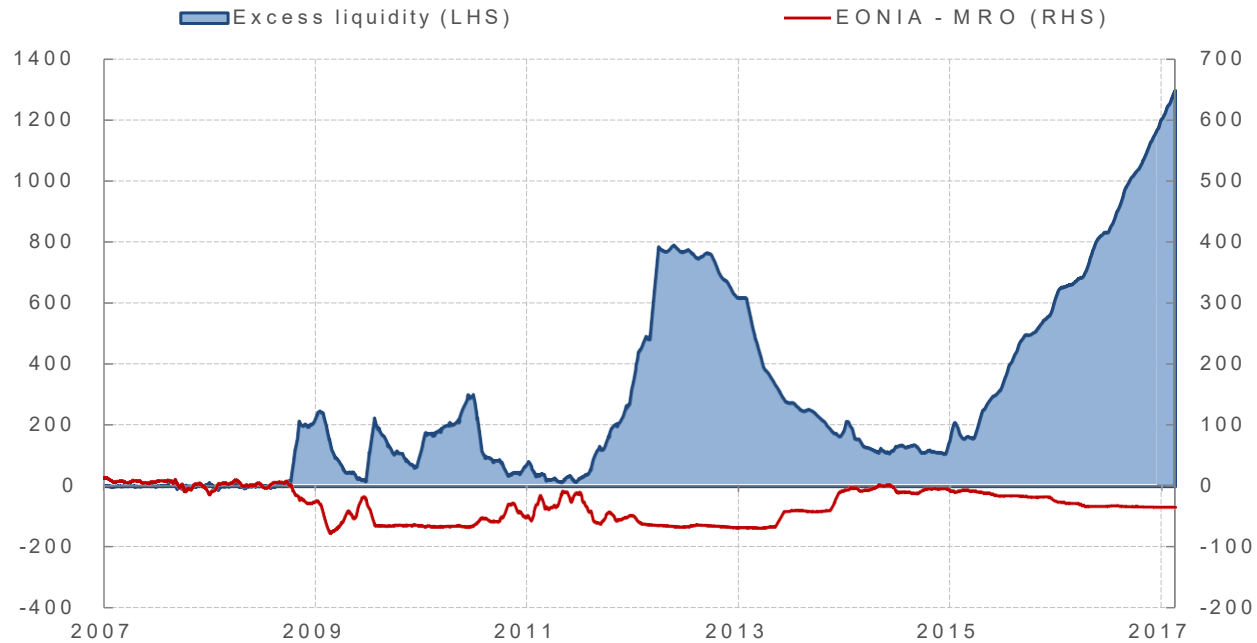
- Transparent prices
- Lower interest rates and inflation risk premia
- No need for unnecessary inflation insurance (efficient allocation of capital and resources)
- Low inflation tax
- No distortions in tax systems
- Supports financial stability

## Eurosysteem Balance Sheet (billion EUR)



Source: ECB  
Latest observation: 8 January 2018.

# Lower money market rates and rising liquidity



Source: ECB.

Notes: Excess liquidity and the EONIA-MRO spread are shown as 30-day moving averages.

Latest observation: 16 February 2017.

# A digital euro





# What do we mean by “digital euro”?

Digital euro would be **central bank money** made available to citizens and firms in **digital form** for use in payments



**Complementing**, not substituting, cash and wholesale central bank deposits



**Synergies** with industry



Digital euro **not necessary so far**



“The euro belongs to Europeans and we are its guardian. We should be prepared to issue a **digital euro**, should the need arise.”

Christine Lagarde

# When will it be ready?

## Digital euro

We have decided to launch the investigation phase of a digital euro project



- Investigation phase from October 2021
- Duration about two years
- Analyse how a digital euro could be designed and distributed
- Decision on whether or not to develop a digital euro after investigation phase