



EUROPEAN CENTRAL BANK

EUROSYSTEM

Frank Smets
European Central Bank

Panel Discussion: Revisiting the merits of the inflation targeting policy framework and its alternatives

**The views expressed are my own and
Should not be attributed to the ECB.**

2018 Bank of Canada Annual Conference
1-2 November 2018

- **Keep medium-term inflation expectations anchored**
- **Unconventional tools do work in a zero interest rate environment**
- **There is no one recipe: Design depends on financial system, credibility**
- **Alignment with fiscal policy is important**
- **Macroprudential policy must be alert to offset financial stability risks**

Keep medium-term inflation expectations anchored

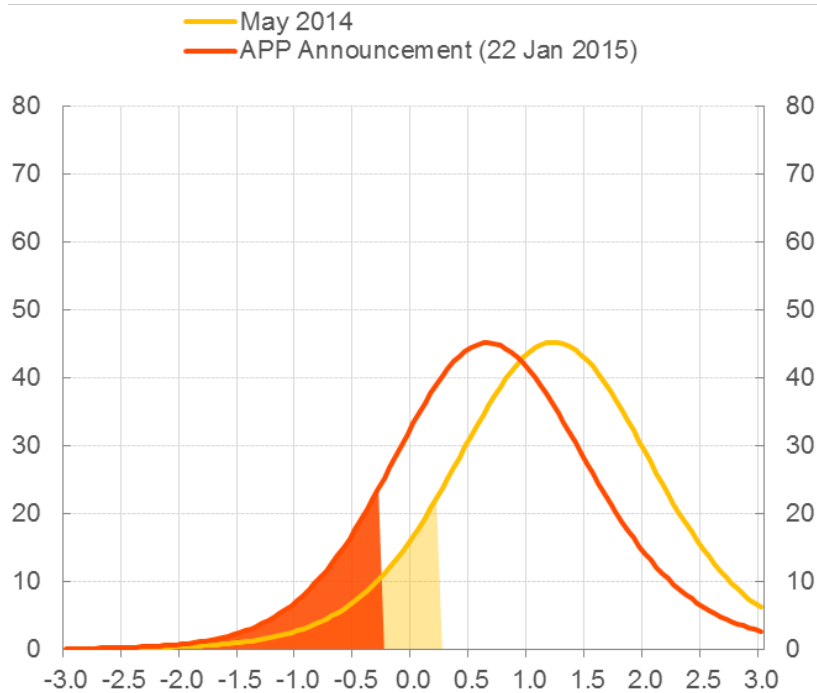
- Why?
 - Powerful anchor that puts a drag on self-fulfilling deflation dynamics
 - Maintains monetary policy space for **real** interest rate reductions
- How?
 - An impeccable track record
 - Clear focal point for the inflation objective (Target range? Average inflation targeting?)
 - Credible ex-ante commitment to use unconventional tools to achieve objective
 - “Aggressive” response when there are signs of disanchoring (Soderstrom, Adam and Billi)
- ECB experience

Headline and core inflation – SPF 5-year ahead inflation expectations



Risk of de-anchoring in the run-up to policy measures initiated in 2014

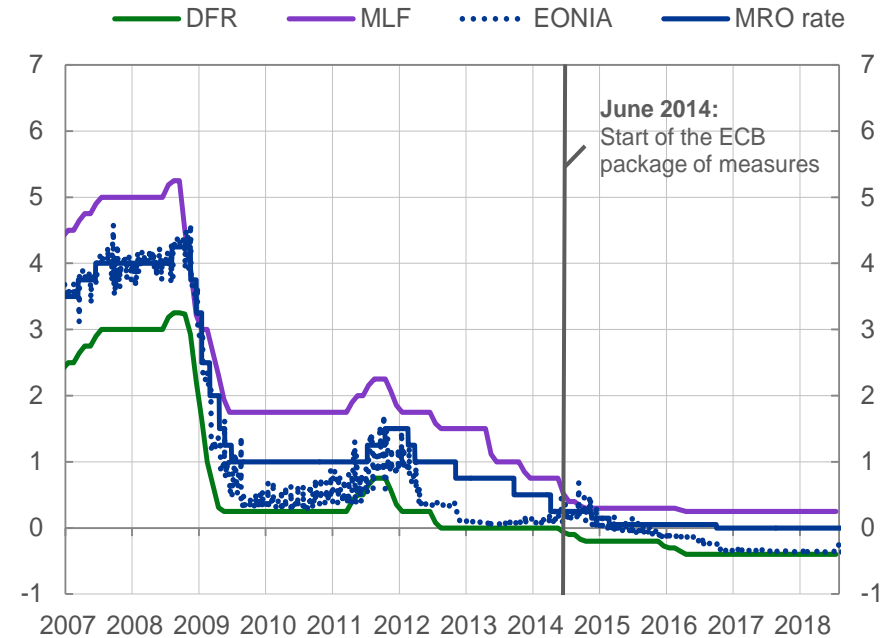
Option implied probability density function of euro area inflation over the next five years



Sources: Bloomberg, Reuters, and ECB calculations.

Notes: Density functions are computed from 5-year maturity zero-coupon inflation option floors under the assumption of risk neutrality. Shaded areas indicate a probability mass of 15% assigned to the inflation rate over the next 5 years.

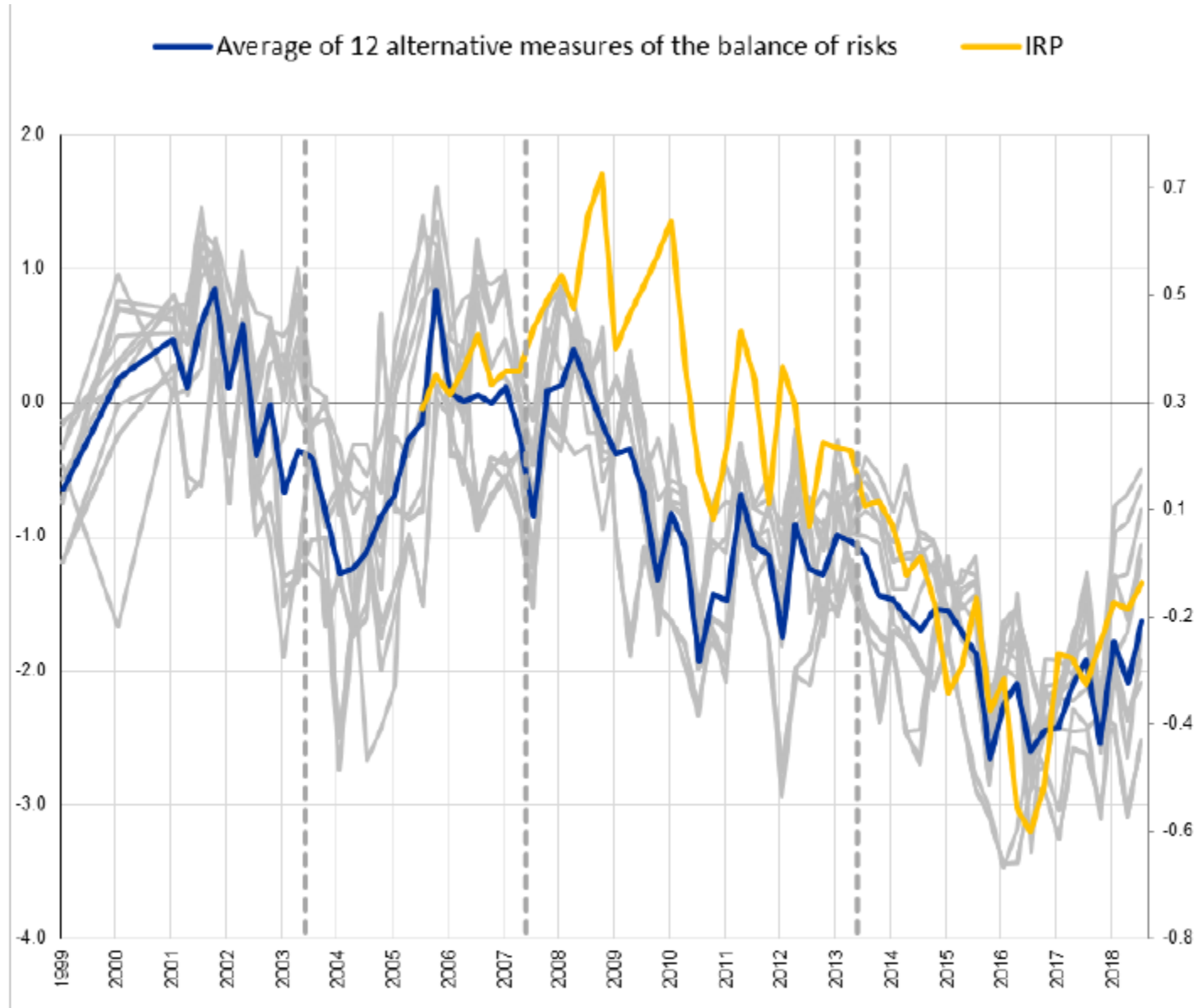
ECB policy rates and Eonia (percentages per annum)



Source: ECB.

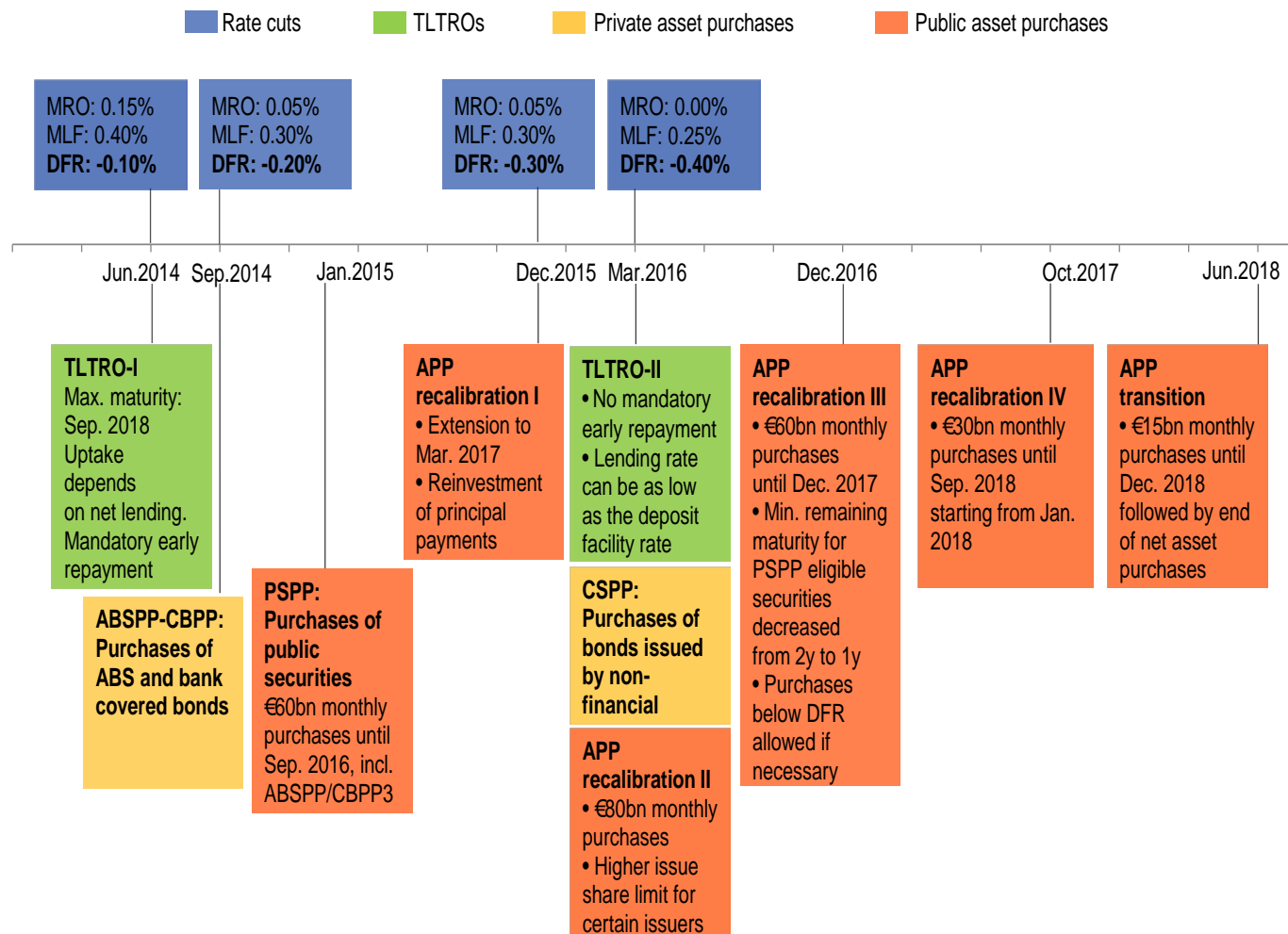
Latest observation: 12 September 2018.

Measures of the balance of 5-y inflation risks – Inflation risk premium



The 2014-2018 ECB package of measures

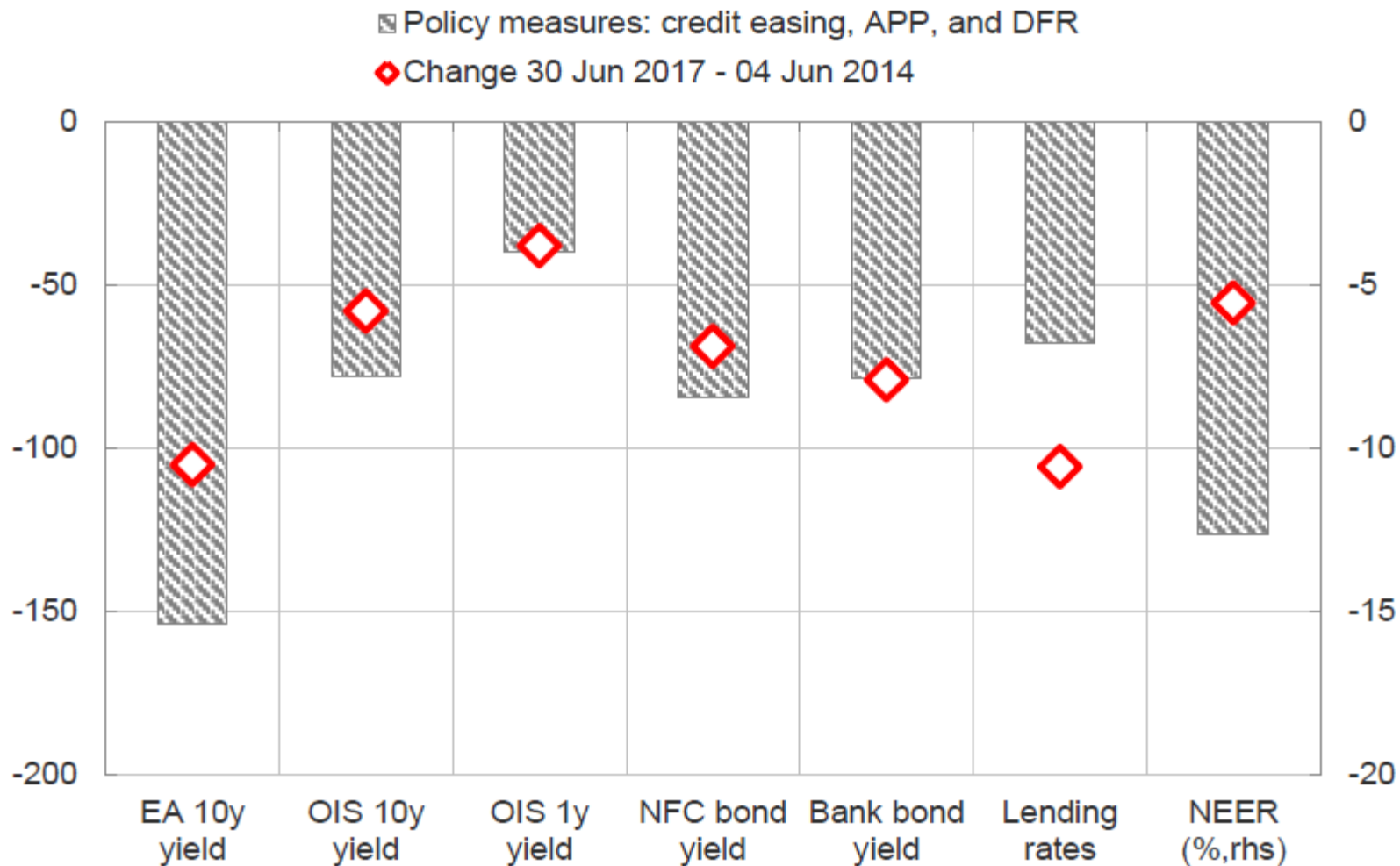
ECB package of measures timeline



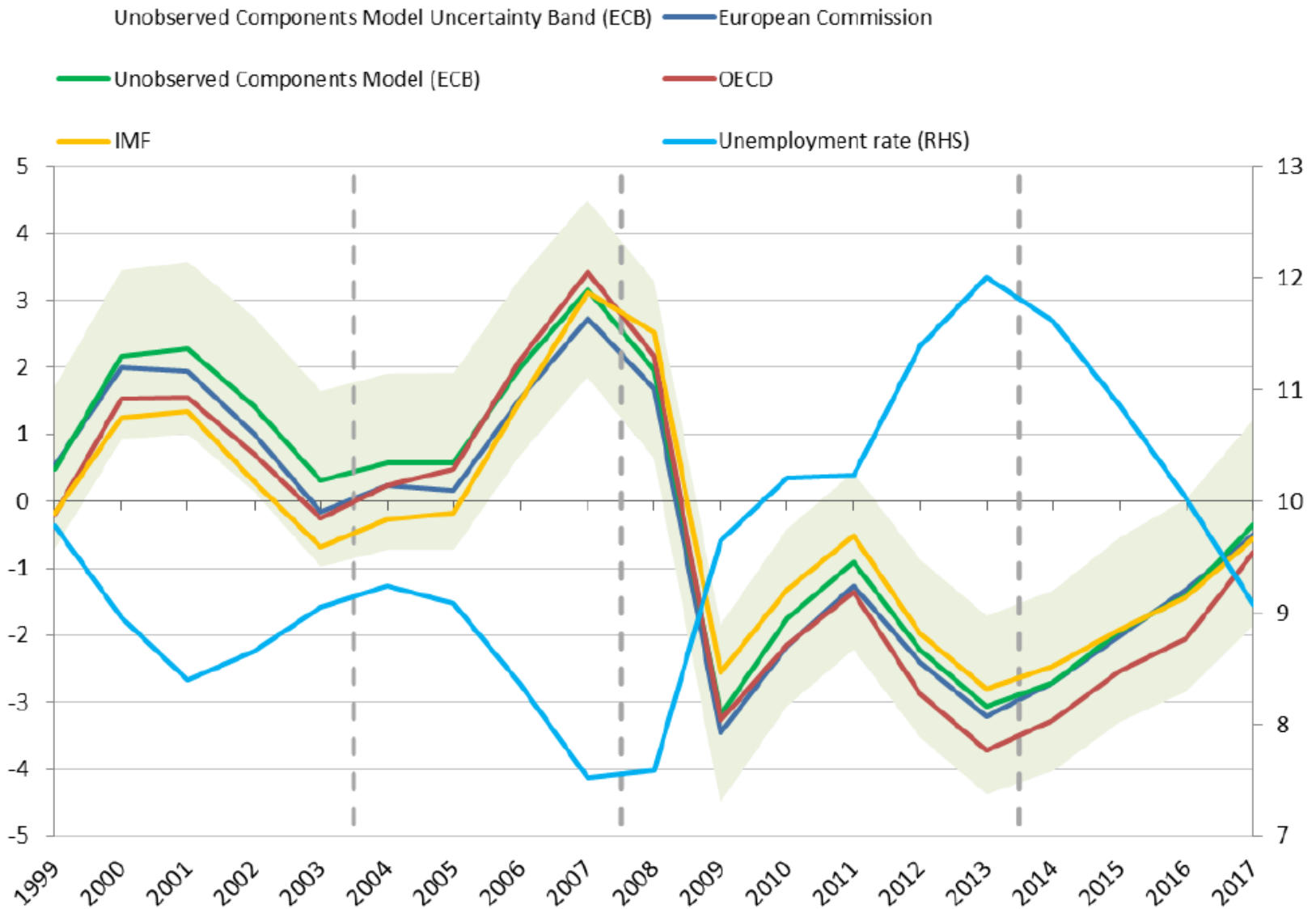
Unconventional policy measures do work in a zero interest rate environment

- How?
 - Very much like conventional monetary policy: by easing financial conditions;
 - Precise channels depend on the measure (QE: Duration extraction and term premium; FG: Signalling and flattening of OIS curve; Targeted lending: Direct reduction of banks' funding costs, NIRP: Shifting distribution of forward rates, Domestic and international portfolio rebalancing, ...)
- ECB experience

Impact of 2014-2018 policy measures on financial conditions

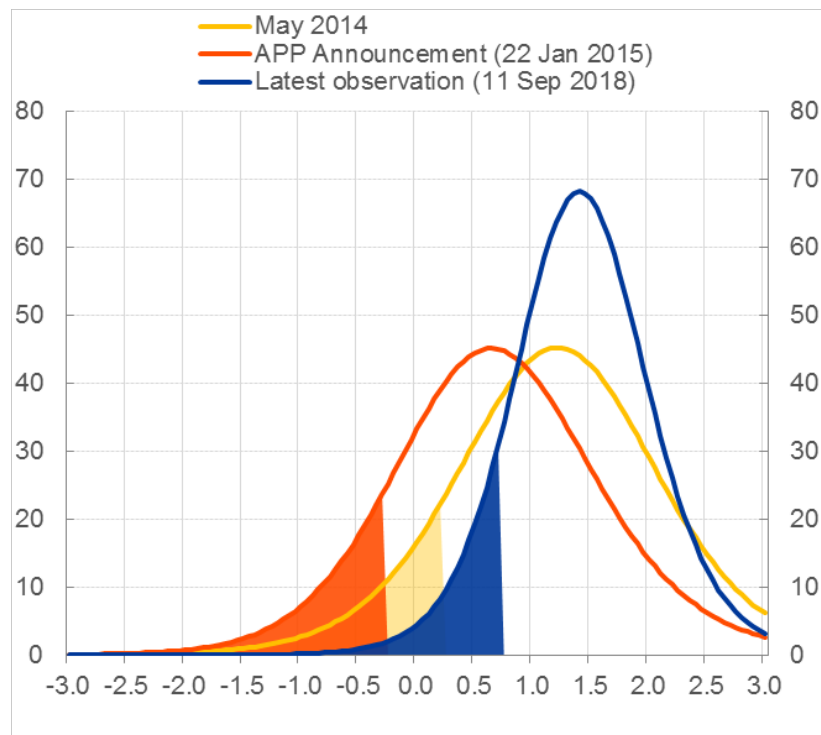


Output gaps and unemployment rate



Reabsorption of uncertainty about degree of inflation anchoring

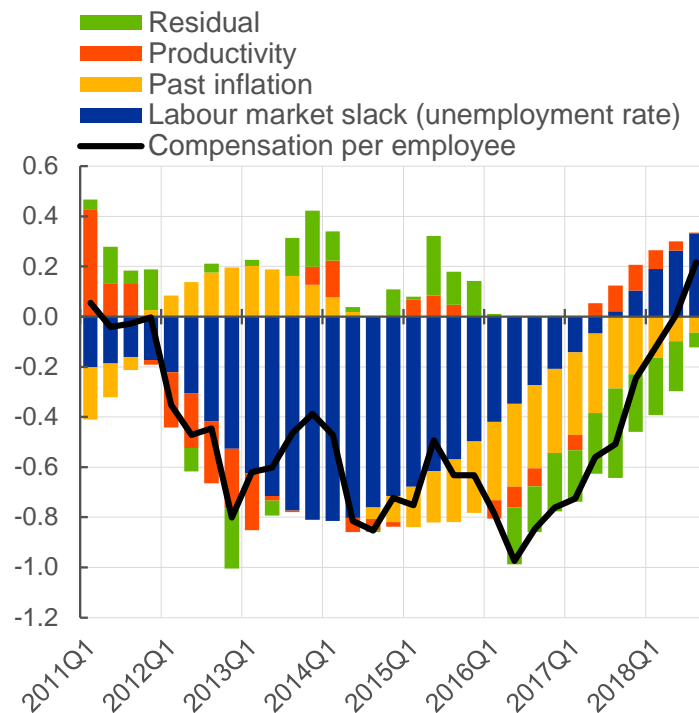
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Euro area wage Phillips curve decomposition (deviations from mean in y-o-y growth terms; percentage point contributions)



Sources: Eurostat, ECB staff calculations based on June 2018 BMPE.

Notes: Contributions are calculated based on an equation in which the annualised quarterly growth of compensation per employee is regressed against its own lag, the lagged unemployment rate, productivity growth, the four-quarter moving average of headline inflation and a constant. Estimation sample: 1999Q1 until 2018Q1. Contributions are derived as in Yellen, J.L. (2015), "Inflation Dynamics and Monetary Policy", Speech at the Philip Gamble Memorial Lecture, University of Massachusetts, Amherst, September 24.

There is no one recipe. Many complex design issues that depend on the structure and state of the financial system, credibility of central bank, ...

- Non-conventional tools are complex:
 - Negative rates: Tier system or not,...
 - Forward guidance: Date or state dependence, qualitative/quantitative,...
 - APP: Private versus public sector securities, maturities, front/back loading,...
 - Targeted credit operations: Terms, conditionality,...
- Need to be attuned to the objective of overcoming the zero bound or addressing impairments in policy transmission
 - If there are no limits to arbitrage (perfectly fluid financial system) and perfect credibility of central bank, forward guidance can be powerful;
 - APP can help to reinforce FG (signalling through sequencing); has direct and portfolio rebalancing effects particularly in malfunctioning markets
 - Targeted credit operations addressed at specific segments (e.g. SME lending)
- Optimise the complementarities between non-standard tools
 - Negative rates strengthen forward guidance and portfolio rebalancing by banks, etc.

Timeline of ECB policy measures since outbreak financial crisis

	Financial crisis		Sovereign debt crisis		Low-inflation recovery (with lower bound constraint)			
Interest rate policy	+25bps MRO:4.25%	-325bps DFR:0.25%	+50bps DFR:0.75%	-75bps DFR:0%	-20bps DFR:-0.20%	-20bps DFR:-0.40%		
Credit operations	Overnight FTOs "Front-loading" Maturity extension Dec07 \$ swaps	Oct08 FRFA Expand. collateral LTROs (6m) \$ swaps May09 LTROs (1y)		Oct11 LTROs Dec11 VLTRO I (3y) Feb12 VLTRO II (3y)		Jun14 TLTRO I Mar16 TLTRO II		
Asset purchases		May09 CBPP I	May10 SMP I	Aug11 SMP II Oct11 CBPP II Sep12 OMT	Jun14 ABSPP CBPP III Jan15 PSPP	Dec15 APP I Mar 16 CSPP APP II (80bn)	Dec16 APP III (60bn) Oct17 APP IV (30bn) Jun18 APP V (15bn)	
Forward guidance					Jul13 FG I: Policy rate extended period Jan15 FG II: APP date and SAPI	Mar16 FG III: Policy rate well past APP	Jun18 FG IV: Exp. APP end date and SAPI	
	08/2007	09/2008	05/2010	08/2011	06/2013	08/2015	12/2016	today

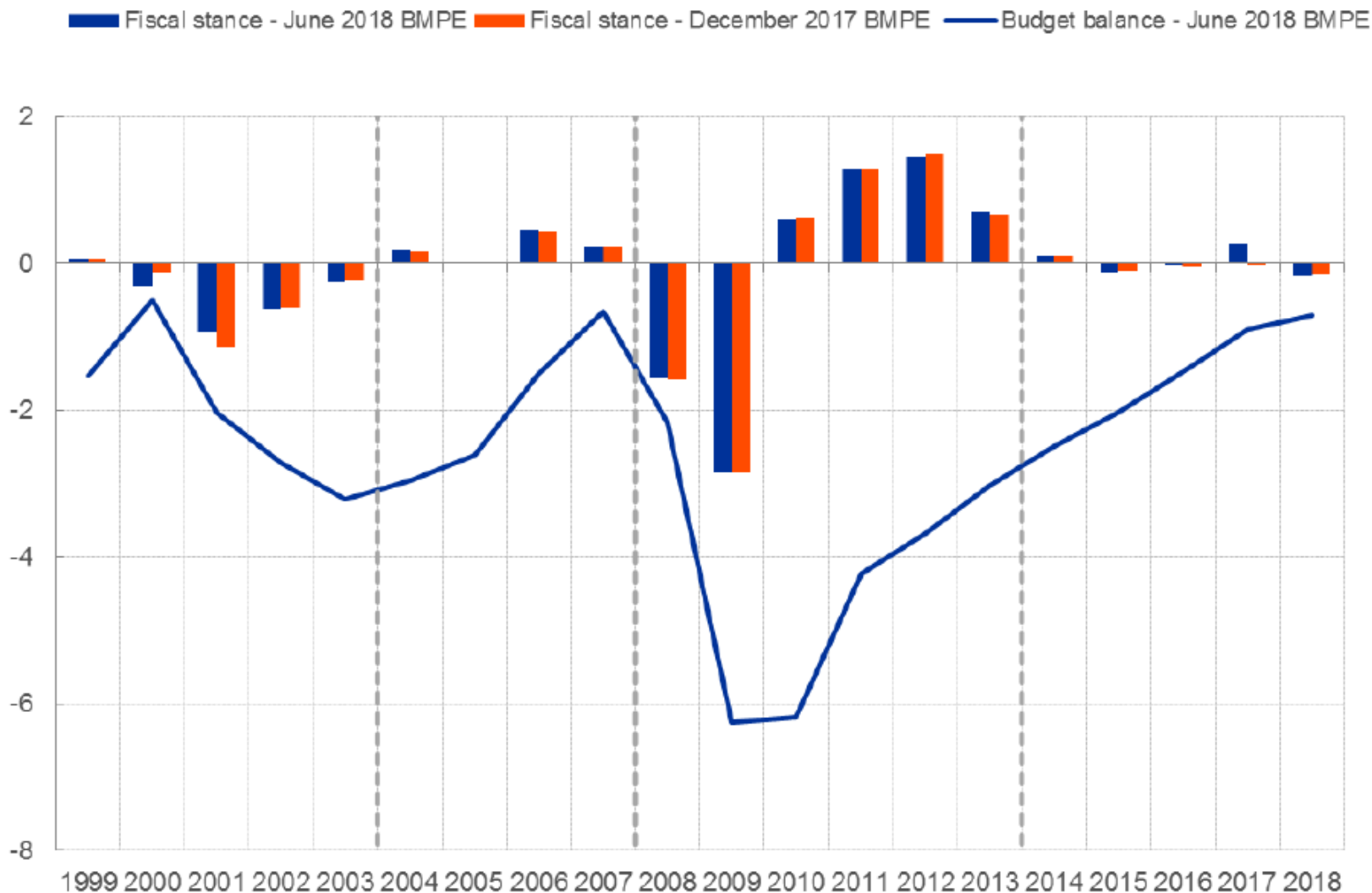
- Standard interest rate policies
- Negative Deposit Facility Rate
- Non-standard policies to address lower bound of rates

- Impaired interbank and bank funding markets and later also bank lending channel
- Sovereign-bank nexus and re-denomination risk
- Heterogeneous pass-through in bank lending markets

Alignment with fiscal policy is important in a zero interest rate environment

- See Marty's discussion
- But also requires countercyclical fiscal policy in the boom periods to ensure sustainability
- Not easy in the ECB context of a monetary union with 19 fiscal authorities; debate on the need and design of a fiscal stabilisation mechanism is ongoing

Fiscal policy in the euro area



Source: ECB

Notes: The fiscal stance is computed as the variation of cyclically adjusted primary balance of the government. The cyclically adjusted primary balance corresponds to the balance minus interest payments and adjusted for cyclical impacts. The budget balance refers to the difference between total government revenues and expenditures.

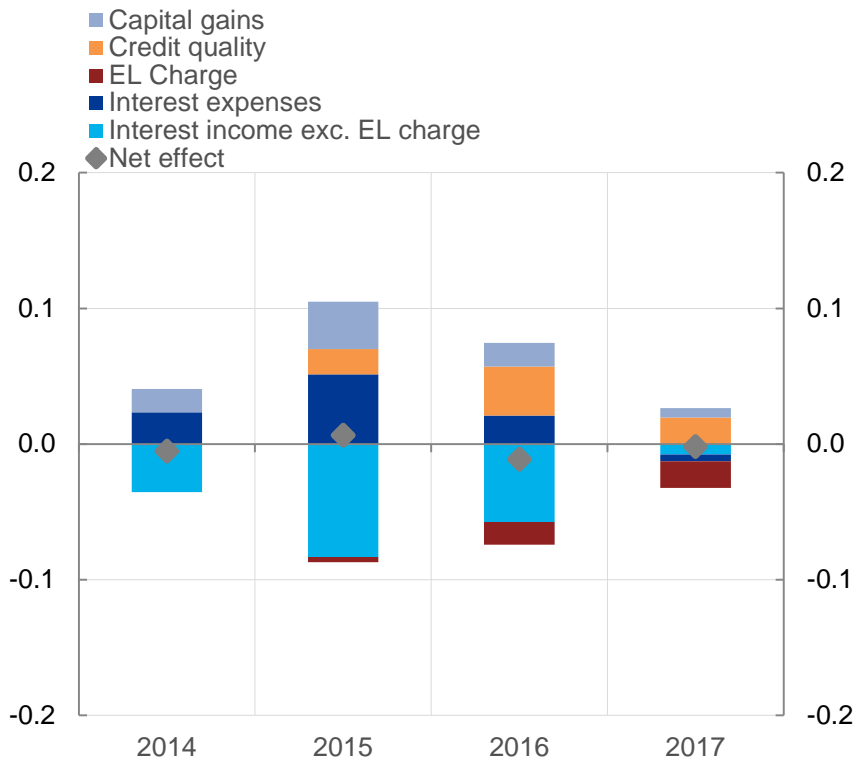
Macro- and microprudential policies need to be alert to offset financial stability risks of “low for long”

- Strong financial system with buffers helps the credibility of non-conventional measures
- So does the willingness to use macro-prudential policy to offset possible financial stability risks

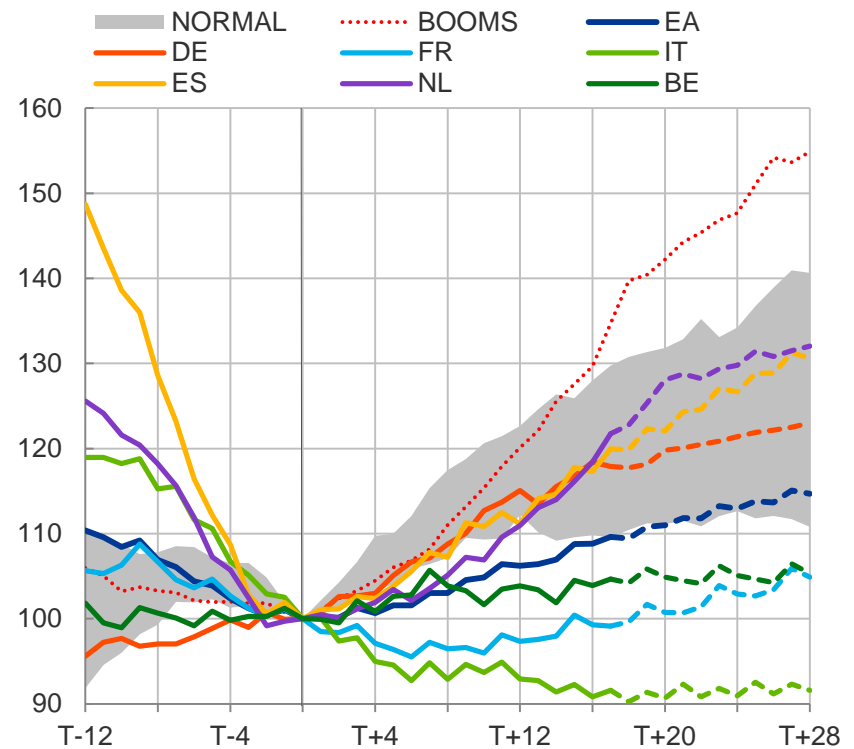
No evidence of generalised side effects of low rates for long

But macroprudential policy indispensable to counteract potential excessive risk-taking

Impact of non-standard monetary policy measures on bank profitability (contribution to ROA, percentage points)



Real house prices around starting period of house price booms (indices, normalised to 100 at T=trough; T=2013Q4)



Source: European Banking Authority, ECB and ECB calculations.

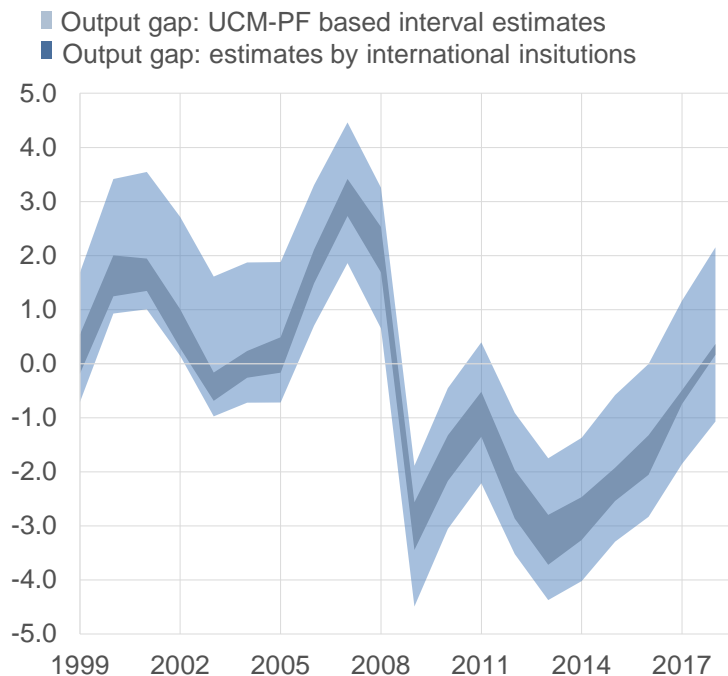
Notes: Capital gains based on data on a consolidated basis for 68 euro area banking groups included in the list of significant institutions under direct ECB supervision and in the 2014 EU-wide stress test. Euro area figures calculated as the weighted average for the countries included in the sample using the ECB's CBD data for the weight of each country's banking system in the euro area aggregate. NII stands for net interest income and EL for excess liquidity.

Sources: BIS, ECB, Fed Dallas, OECD and ECB calculations. Notes: Based on data from 1975Q1 to 2018Q1 for euro area countries. Projections for euro area and Member States are from the September 2018 MPE. Trough (starting point of house price normal increases or booms) identified via quarterly version of Bry-Boschan algorithm by Harding and Pagan, 2002. Dotted line refers to median during house price booms. Grey range refers to interquartile range during normal house price increases.

Thank you

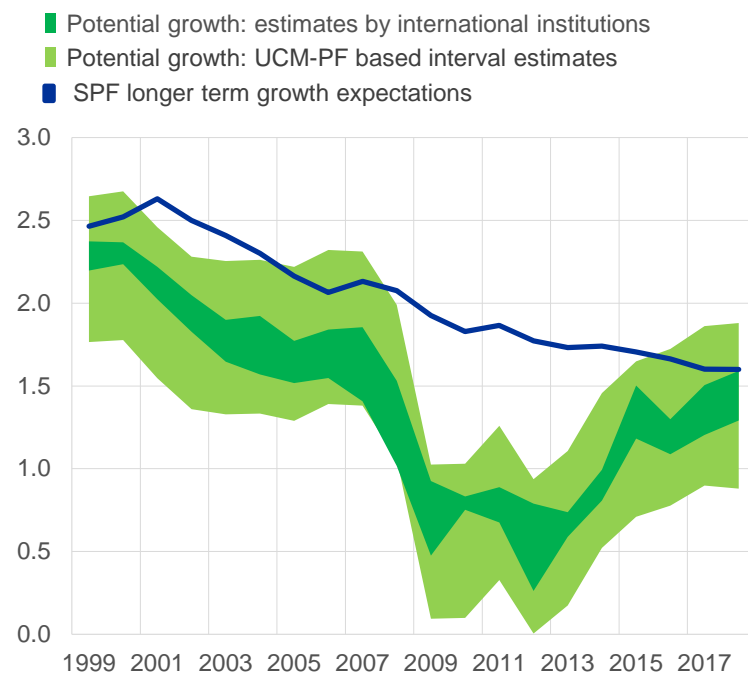
Reabsorption of the large negative output gap

Output gap estimates for the euro area (percent)



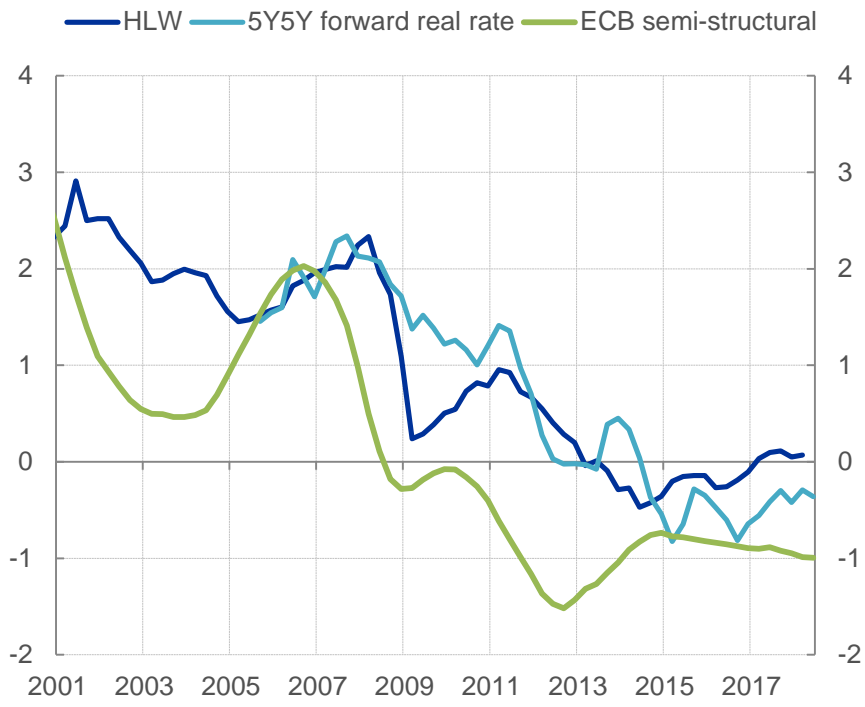
Sources: ECB staff, European Commission, IMF and OECD.

Potential growth estimates for the euro area (annual percentage change)



Sources: European Commission, IMF, OECD, ECB, and ECB staff calculations.

Estimates of the natural rate of interest (percentages per annum)



Source: Haver, EC, ECB, ECB computations.

Notes: 5y5y forward real rate is constructed by subtracting the 5y5y ILS from the nominal OIS rate. HLW reports Holston, Laubach, and Williams (2016) as published on the website of the San Francisco Fed. The differences with ECB semi-structural originate from differences in the model structure, estimation, and the filtering method. In particular, ECB semi-structural is based on a model featuring a non-accelerationist Phillips curve and a Taylor rule. Last observation: 2018Q2 for ECB semi structural and 5y5y, 2018Q1 for HLW.