



EUROPEAN CENTRAL BANK

EUROSYSTEM

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European Central Bank

Living in a low interest rate environment

Annual Regional Seminar on
Financial Stability Issues: Central
Banks in Unchartered Territories

Cumpatu, Sinania, Romania, 21
October 2016

The views expressed in this presentation do not necessarily reflect those of the ECB.

Overview

1 The low interest rate environment

2 The monetary policy response

3 Financial stability implications

Overview

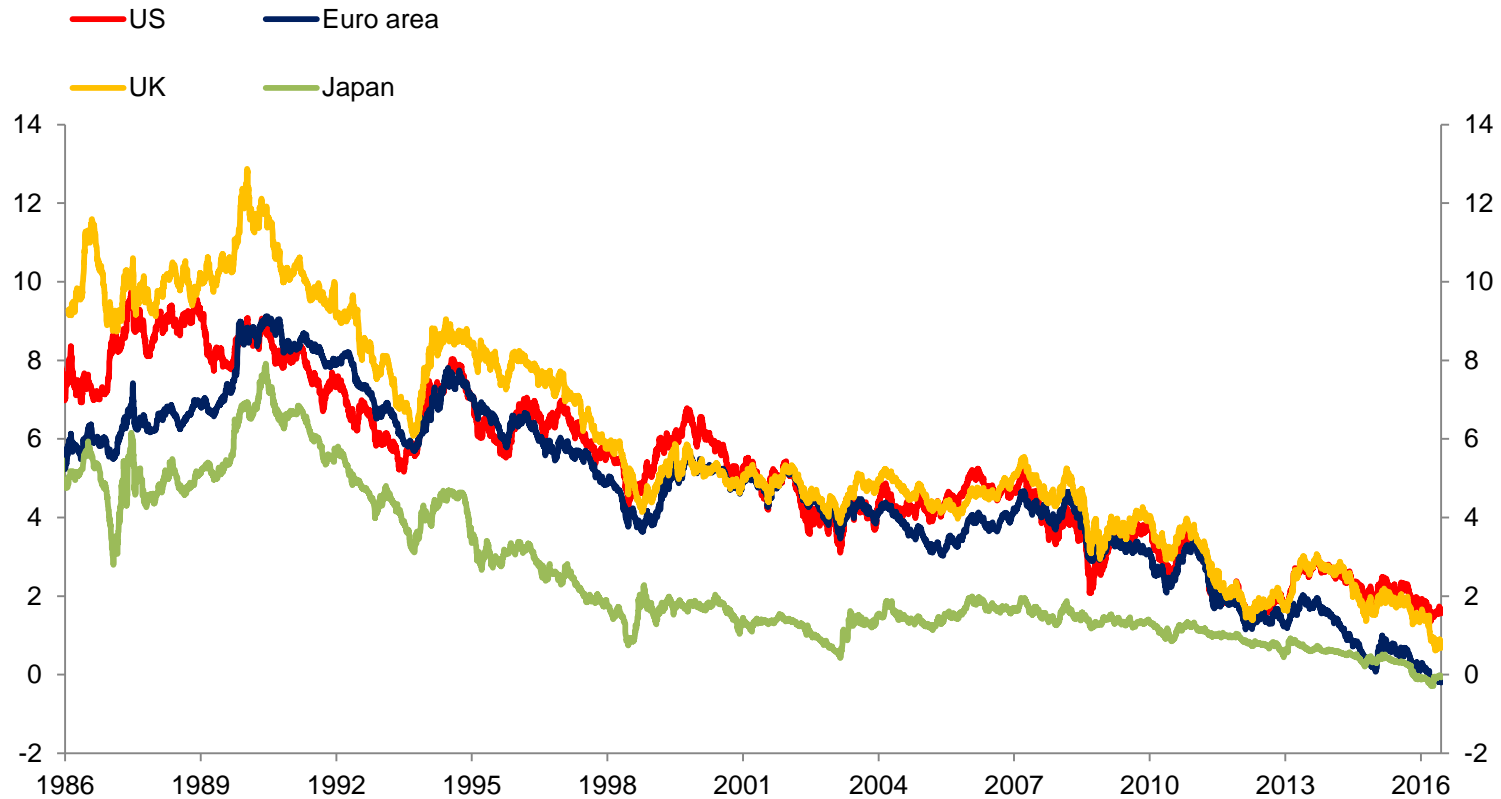
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Gradual decline in nominal yields decline since early 1990s ...

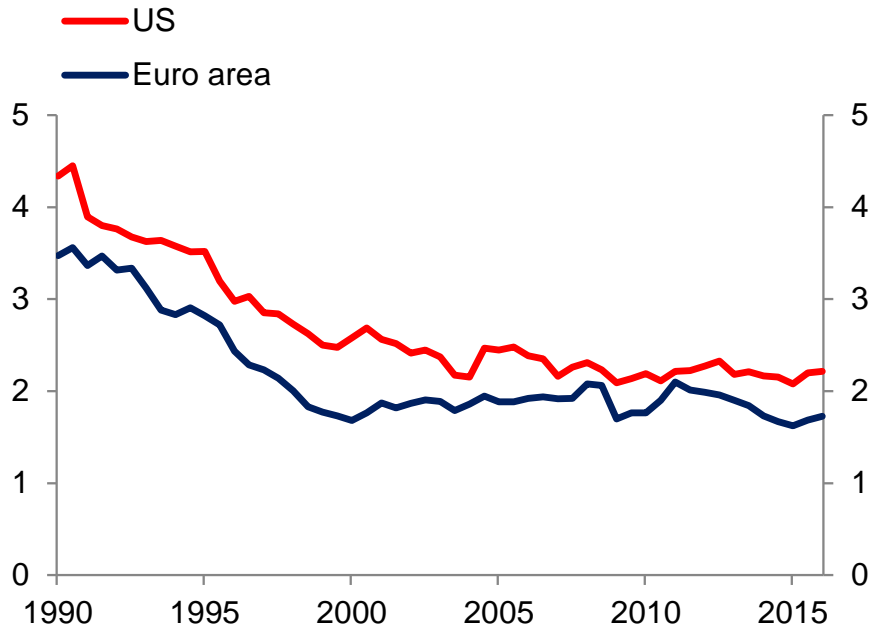
Nominal government bond yields – 10 year maturity (yield p.a.)



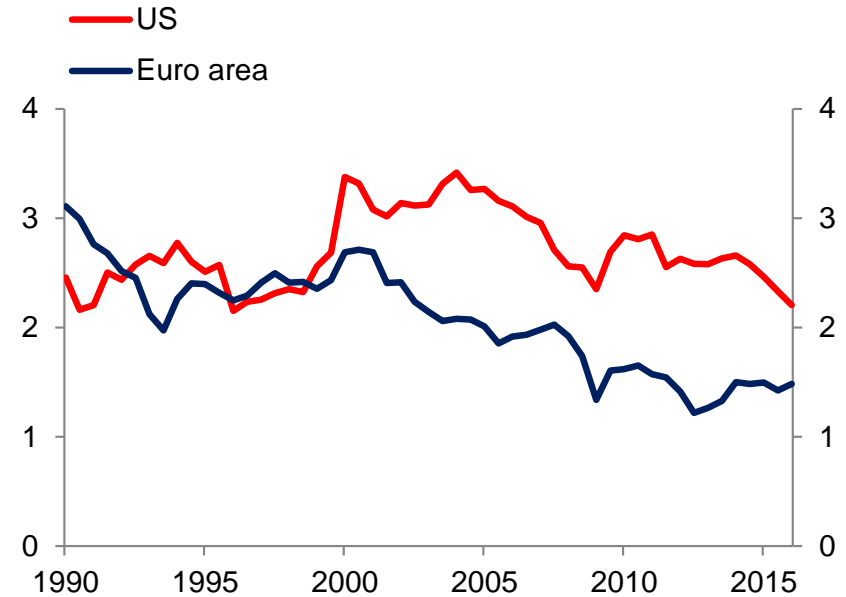
Source: Datastream, The Euro area is represented by German Bund yields

... partly reflects lower growth and inflation expectations

Long-term inflation expectations (5-10 years ahead)



Long-term real GDP growth expectations (5-10 years ahead)

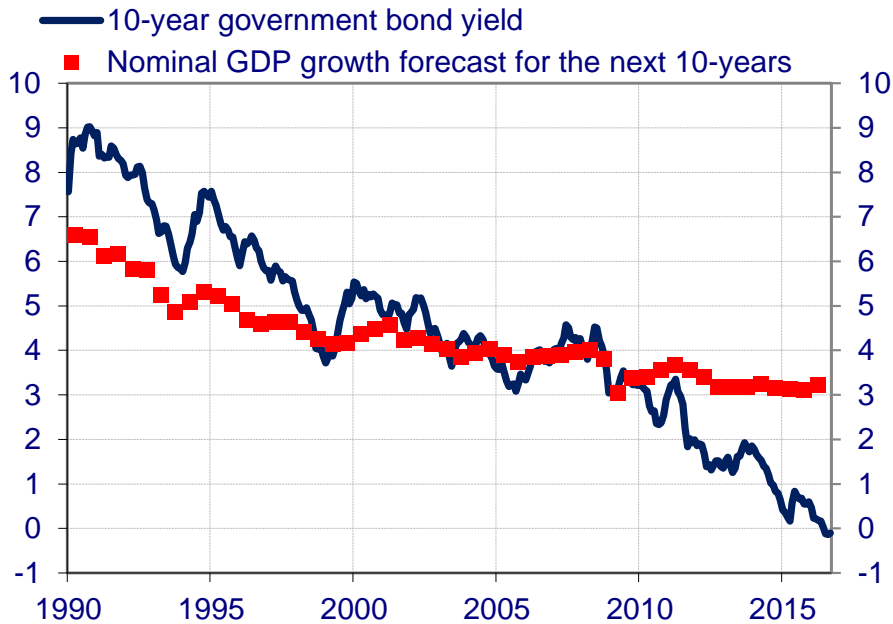


Source: Consensus Economics

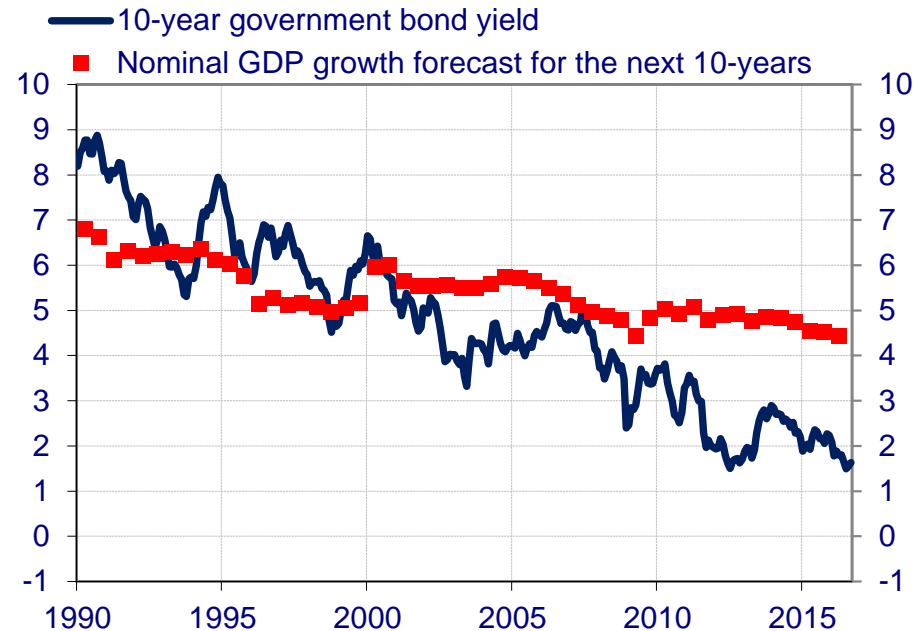
But yield compression went beyond fundamental benchmark

Nominal long-term yields and long-term nominal growth expectations (10-year government bond yield, 5-10 years ahead real growth and inflation expectations)

Euro area

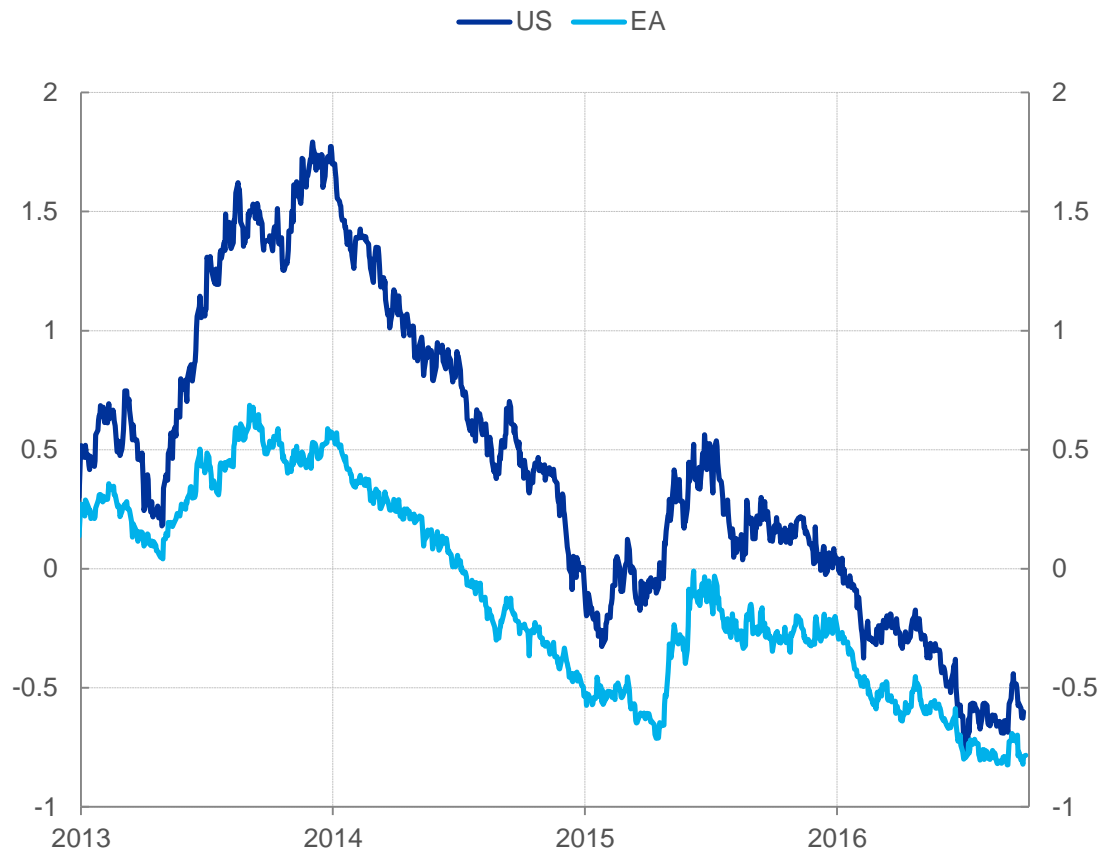


United States



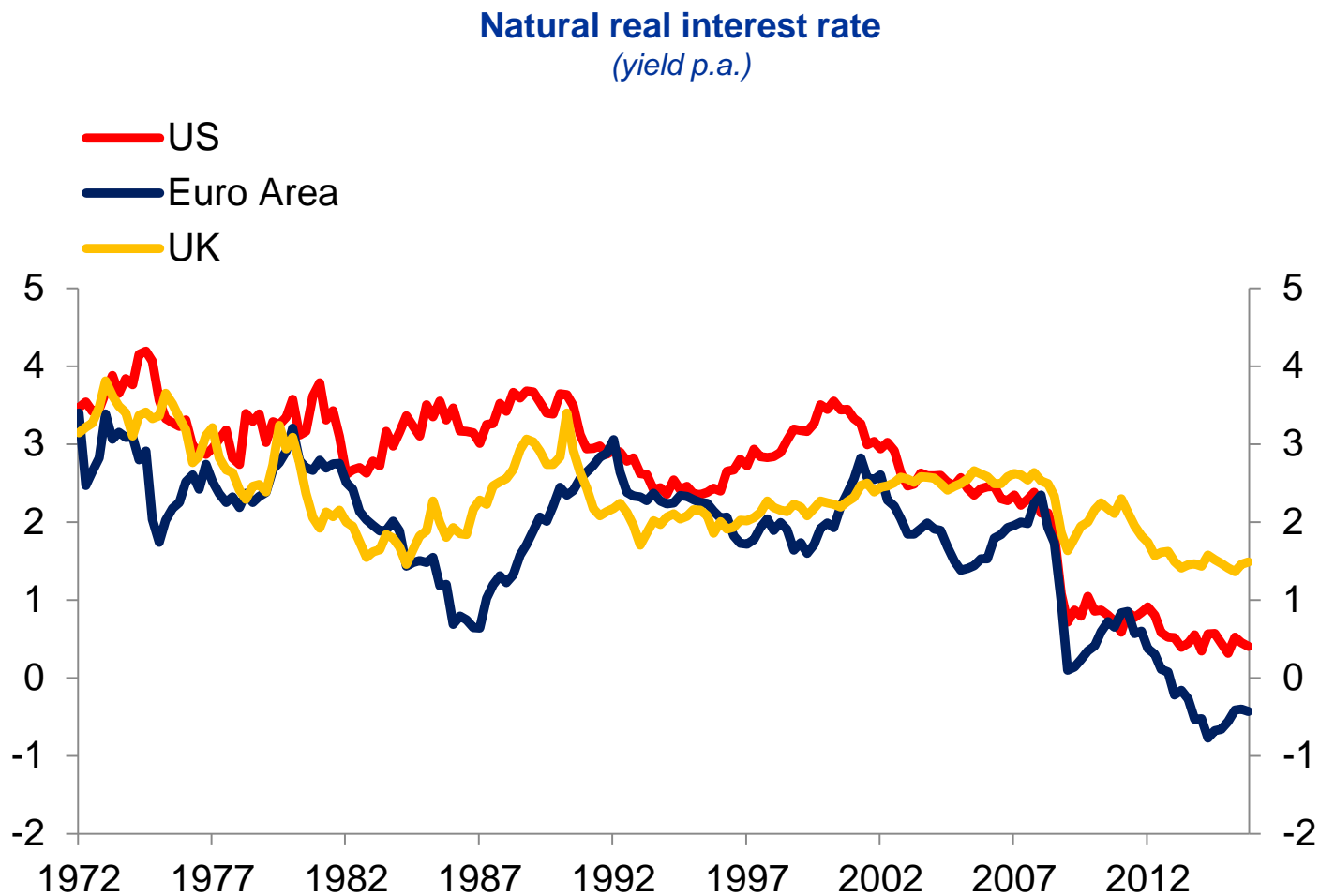
Source: Datastream, Consensus Economics, The euro area long-term yield is represented by German Bund yields

Term premia estimates (contribution to 10 year government bond yield p.a.)



Source: Bloomberg and ECB staff calculations and Federal Reserve Board. Notes: The euro area nominal term premium estimates are based on an affine term structure model using the Joslin, Singleton and Zhu (2011) approach. For the US estimates, the data is available on the Federal Reserve Board of Governors website. Latest observation: 30 Sep 2016.

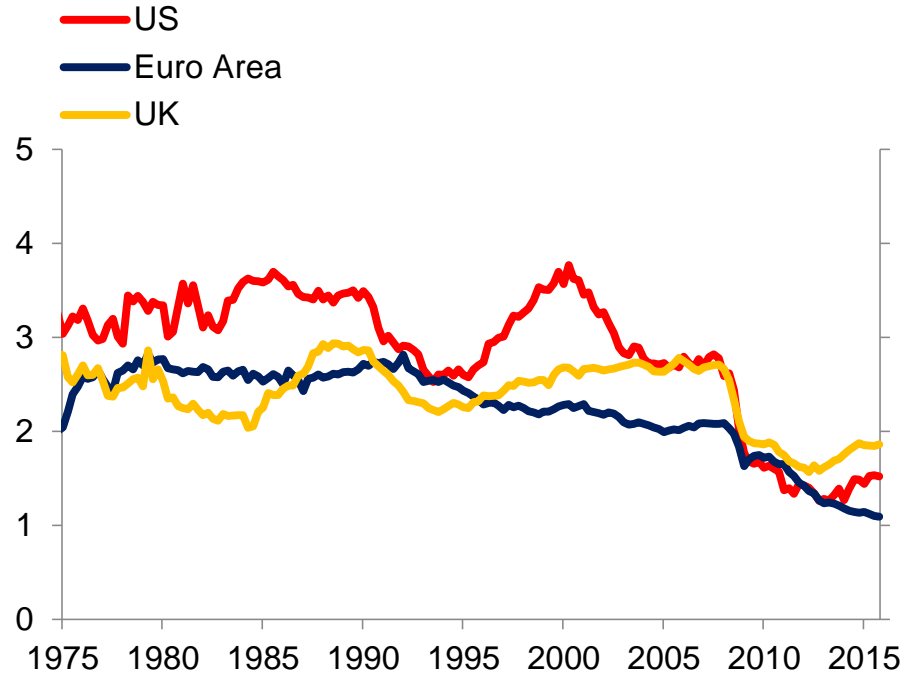
Significant decline in natural rate of interest



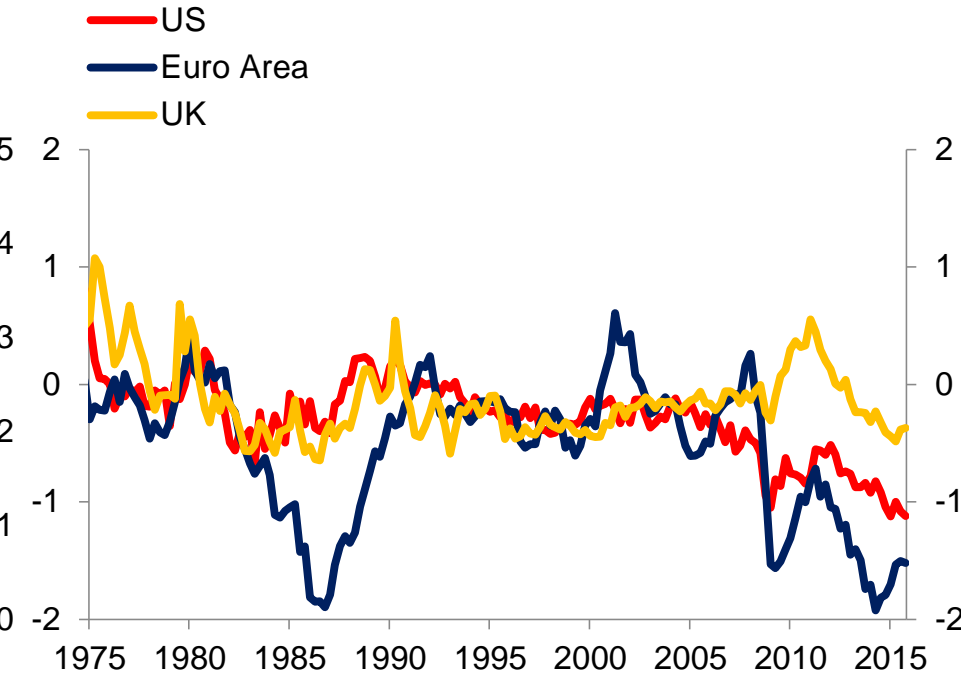
Note: Estimates from Laubach and Williams, August 2016. "Measuring the Natural Rate of Interest: International Trends and Determinants"

Components of Laubach/Williams natural rate estimates

Trend GDP growth
(contribution to natural rate.)



Other determinants
(contribution to natural rate.)



Note: Estimates from Laubach and Williams, August 2016. "Measuring the Natural Rate of Interest: International Trends and Determinants"

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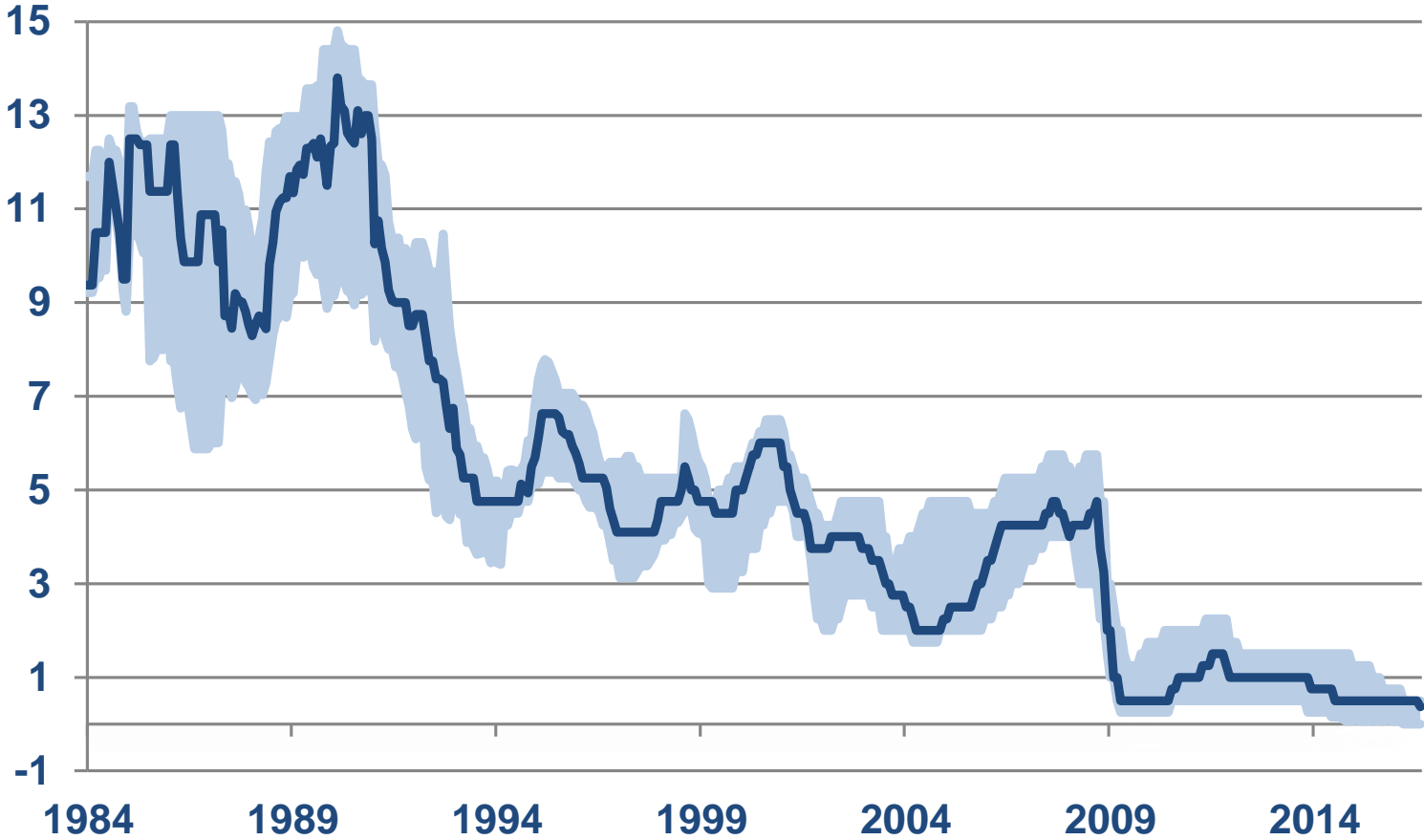
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Policy rates in major economies hit zero lower bound

Policy interest rates
(yield p.a.)



Notes: Median, first and third quartile across advanced economies: Australia, Canada, euro area (since 1999), Japan, New Zealand, Norway, Sweden, UK, United States.

A typology of unconventional monetary policy

- **Measures aimed at addressing the impairment of the monetary policy transmission channels**
Measures aimed at overcoming the “zero” lower bound constraint

Interest rate measures

Forward guidance on the future policy rate path

Negative policy interest rates

Balance sheet measures

Credit easing measures (providing bank liquidity and/or stimulating bank lending)

Asset Purchase Programmes (covering private and/or public sector securities)

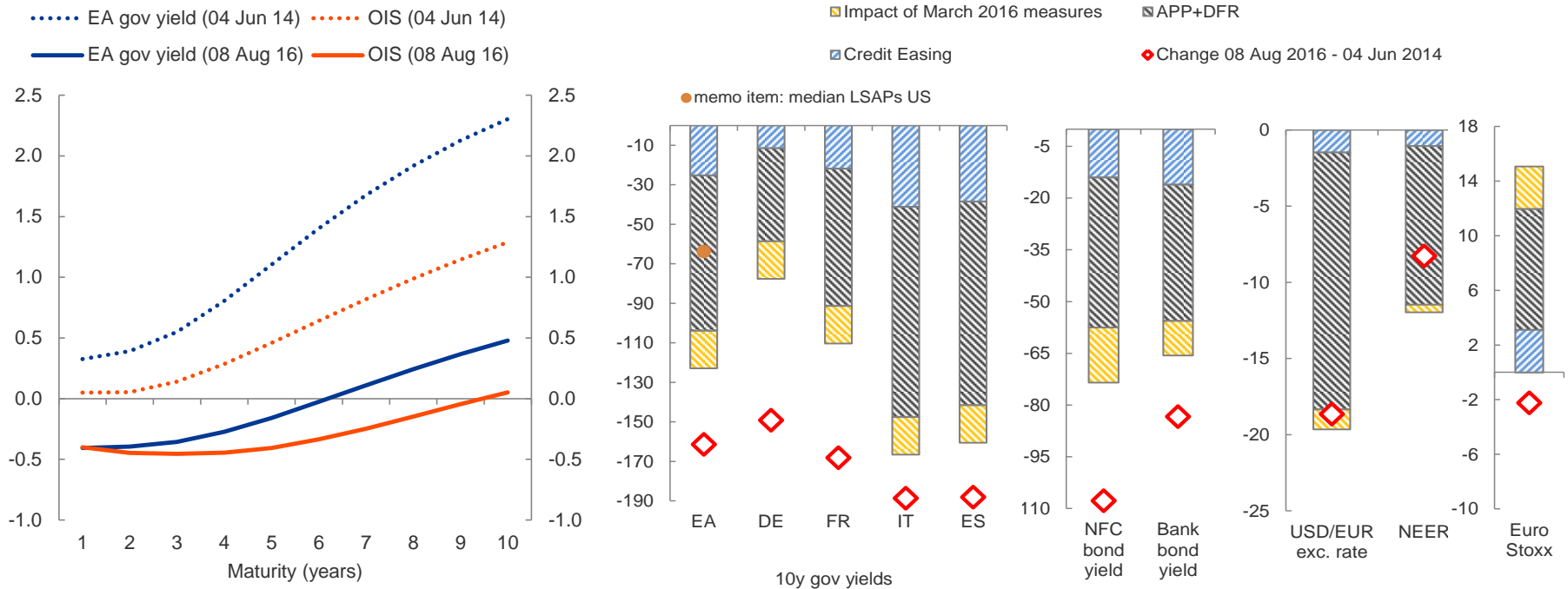
The ECB's monetary policy measures since mid-2014

		Jun. 2014	Sep. 2014	Jan. 2015	Dec. 2015	Mar. 2016
	Negative policy rates	MRO: 0.15%; MLF: 0.40%; DRF: -0.10%	MRO: 0.05%; MLF: 0.30%; DRF: -0.20%		MRO: 0.05%; MLF: 0.30%; DRF: -0.30%	MRO: 0.00%; MLF: 0.25%; DRF: -0.40%
	TLTRO I & II	Fixed rate (MRO) Max. maturity: Sep. 2018 Uptake depends on net lending Mandatory early repayment				Fixed rate At MRO or below if lending > benchmark (<i>min. DFR</i>) No mandatory early repayment
APP	Private asset purchases		Broad portfolio of simple & transparent ABS and CBs		APP recalibration <ul style="list-style-type: none"> Adjusted date-based leg (to Mar. 2017) Reinvestment of principal payments 	Purchase of inv.-grade NFC bonds ... with high pass-through to real economy
	Public asset purchases			Purchases of EA sovereign bonds €60bn of monthly purchases <i>“until end-September 2016 and in any case until we see a sustained adjustment in the path of inflation which is consistent with our aim of achieving inflation rates below, but close to, 2% over the medium term.”</i>		APP recalibration <ul style="list-style-type: none"> €80bn monthly purchases Higher issue share limit for certain issuers

Financial market impact of ECB measures since mid-2014

Broad-based easing across markets via portfolio rebalancing and signalling effects

Term structure, yields and financial prices since 4 June 2014 (exchange rates and Eurostoxx in percent; else in basis points)



Sources: Bloomberg, ECB, ECB calculations. Notes: The impact of credit easing is estimated on the basis of an event-study methodology which focuses on the announcement effects of the June-September package; see the EB article "The transmission of the ECB's recent non-standard monetary policy measures" (Issue 7 / 2015). The impact of the DFR cut rests on the announcement effects of the September 2014 DFR cut. APP encompasses the effects of both January 2015 and December 2015 measures. The January 2015 APP impact is estimated on the basis of two event-studies exercises by considering a broad set of events that, starting from September 2014, have affected market expectations about the programme; see Altavilla, Carboni, and Motto (2015) "Asset purchase programmes and financial markets: lessons from the euro area" ECB WP No 1864, and De Santis (2015) mimeo. The quantification of the impact of the December 2015 policy package on asset prices rests on a broad-based assessment comprising event studies and model-based counterfactual exercises. The impact of the March 2016 measures is assessed via model-based counterfactual exercises. Latest observation: 8 August 2016.

Macroeconomic impact of ECB measures since mid-2014

The macroeconomic impact has been significant

	2016	2017	2018
	(in percentage points)		
HICP Inflation	0.5	0.5	
Real GDP Growth	1.5		

Source: ECB computations.

The net external spillovers of the ECB's UMP are positive

- Stabilisation of the euro area economy benefits the euro area's trading partners directly (expenditure boosting)
- Contractionary spillovers from expenditure switching in the euro area are not deemed to be large (the EUR has depreciated in effective terms only between April 2014 and April 2015)
- The financial spillover channel is relevant mostly for regions bordering the euro area in which euro area banks are active or in which the euro is being used, given its regional international currency status
- The ECB's UMP measures addressing the impairment of monetary policy transmission have now eliminated financial market fragmentation and boosted confidence in the euro area
- The ECB's UMP measures have helped to buttress euro area inflation expectations and hence avoided exporting a deflationary impact

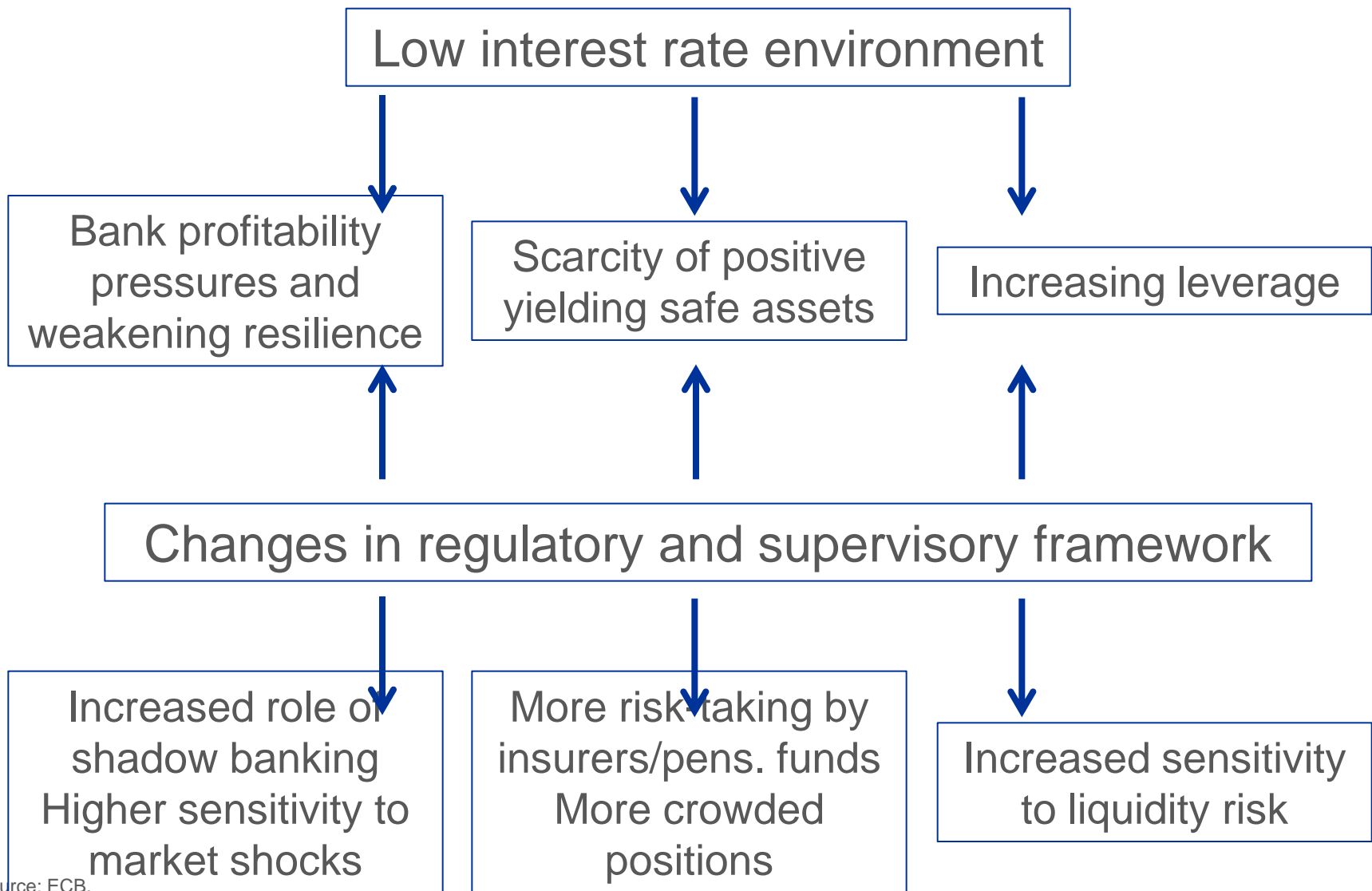
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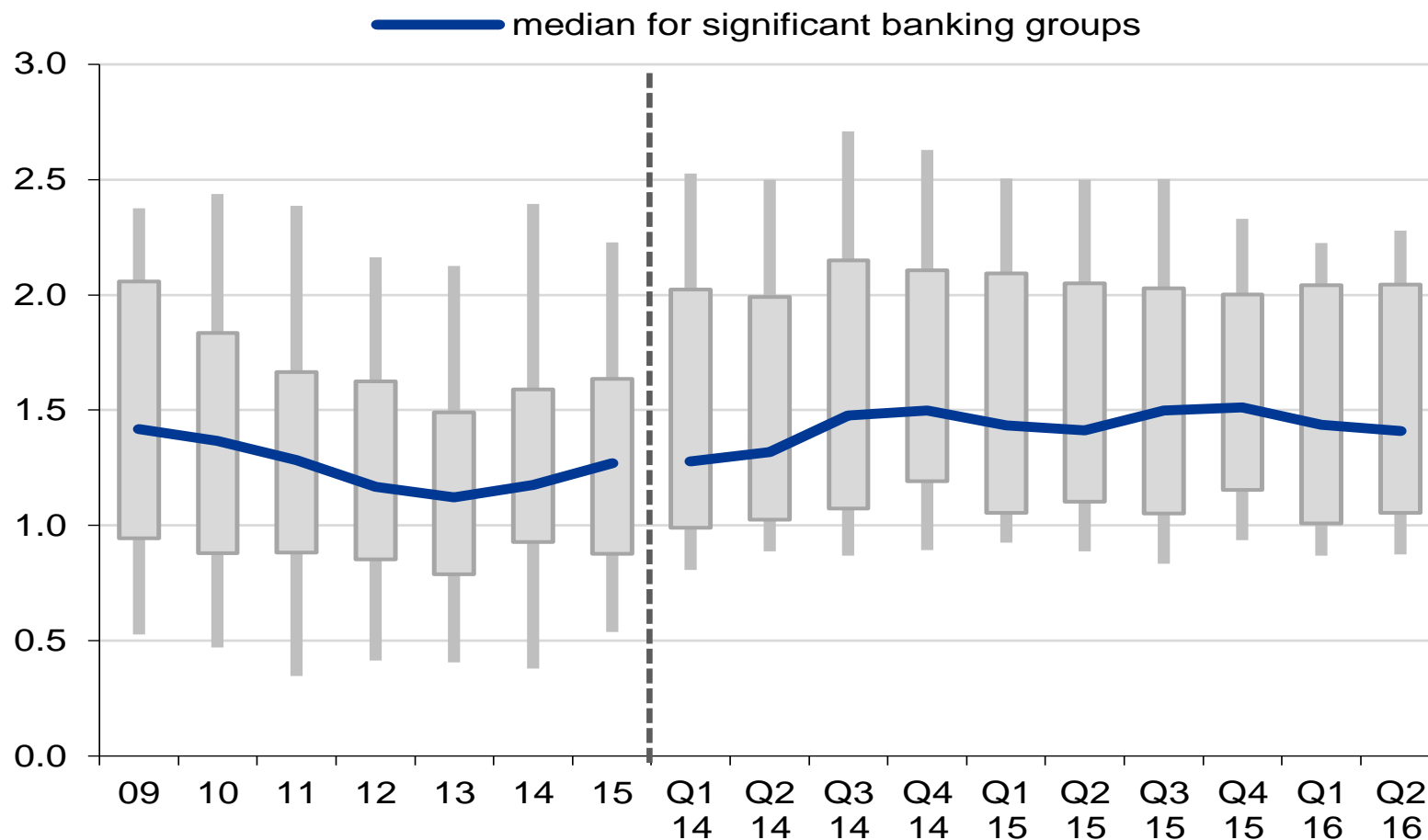
Implications of low interest rates for financial stability



Source: ECB.

Bank profitability: flat yield curve weighs on net interest income

Net interest income of euro area significant banking groups
(as a percentage of total assets)

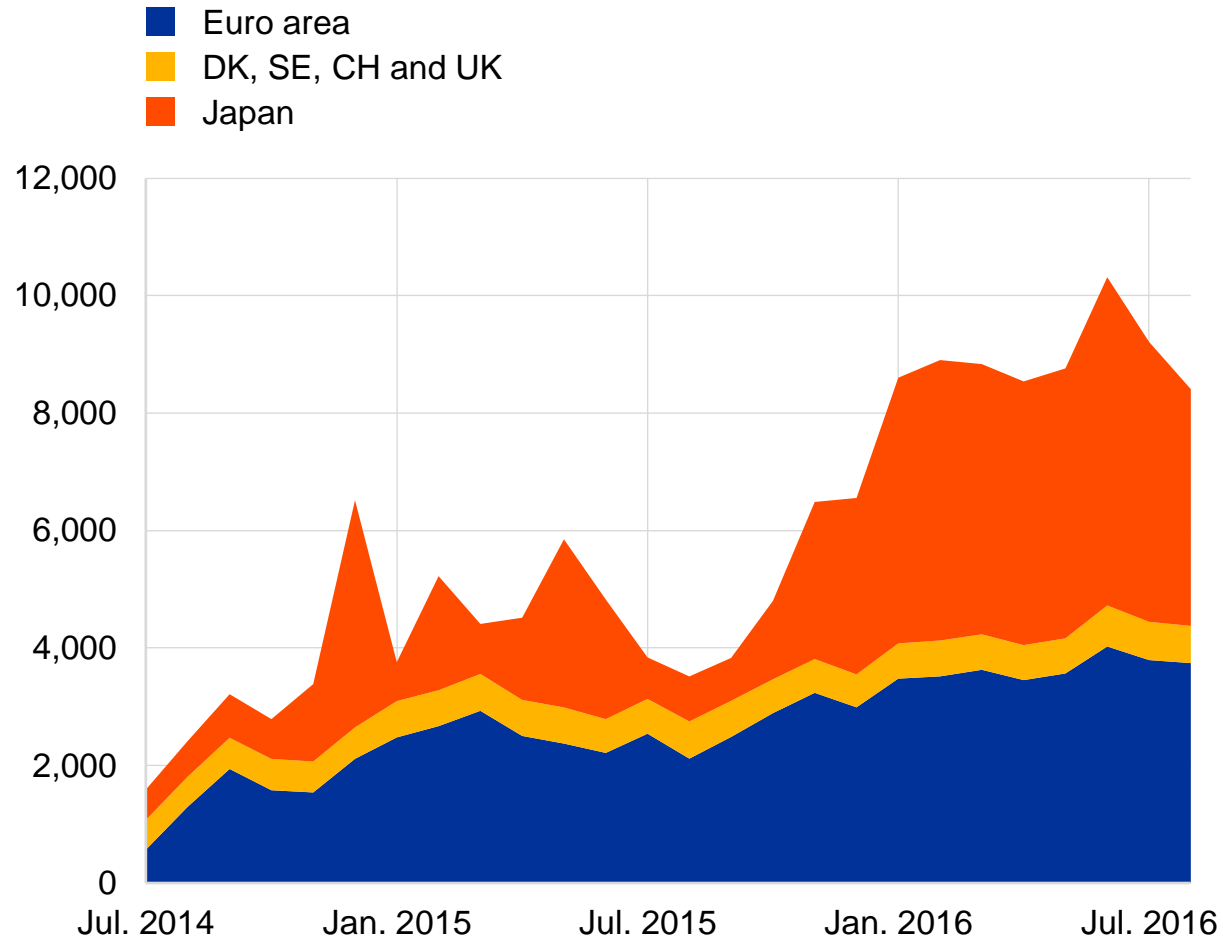


Source: SNL Financial.

Notes: Quarterly data are based on a sample of 44 SBGs.

Search for yield: assets with negative yields quadrupled in 2 years

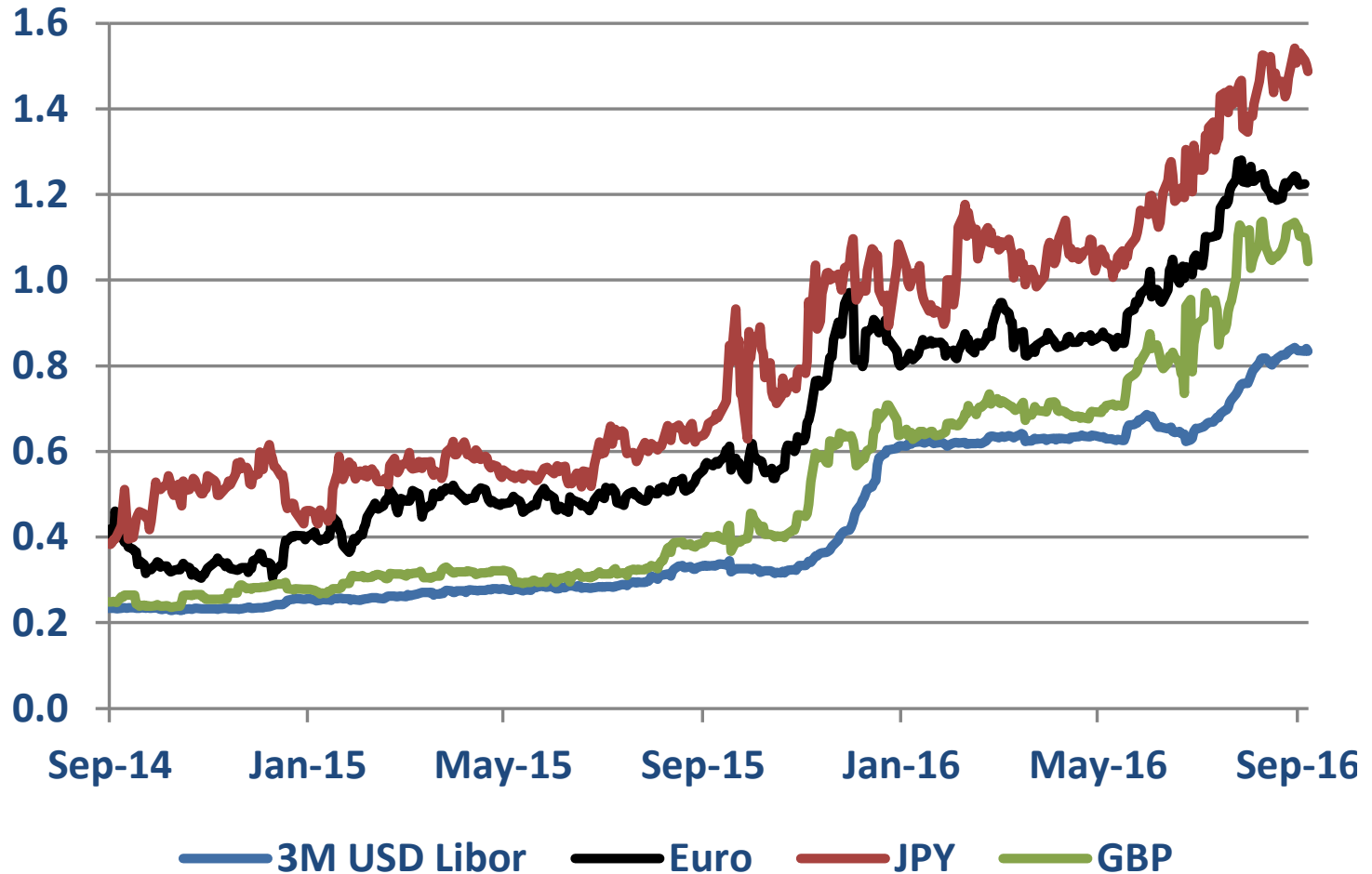
Amount of sovereign bonds with negative yields
(nominal amounts outstanding in US dollar)



Source: Dealogic, Bloomberg, ECB calculations

LIRE contributed to increase in USD funding costs of banks

Price of USD borrowing in the currency swap market
(yield p.a.)



Notes: The price of borrowing in the swap market corresponds to the USD Libor + cross currency basis swap.
Source: Bloomberg.

Conclusion

- Monetary policy needs to adapt to the low natural interest rate environment to remain effective
- A prolonged period of low interest rates can have adverse side effects, in particular on financial stability
- The immediate response is for all policy makers with responsibilities for financial stability to be preemptive in terms of expanding their tool kit so that they can act as and when needed
- The broader response is of a three-pronged nature: using not only monetary policy, but also fiscal and structural policy to address the cyclical and structural causes of the declining natural interest rate
- Failure to do so will ultimately also lead to failing effectiveness of monetary policy as we currently know it

Thank you for
your attention