

# Monetary Policy in Practice

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# The European Central Bank

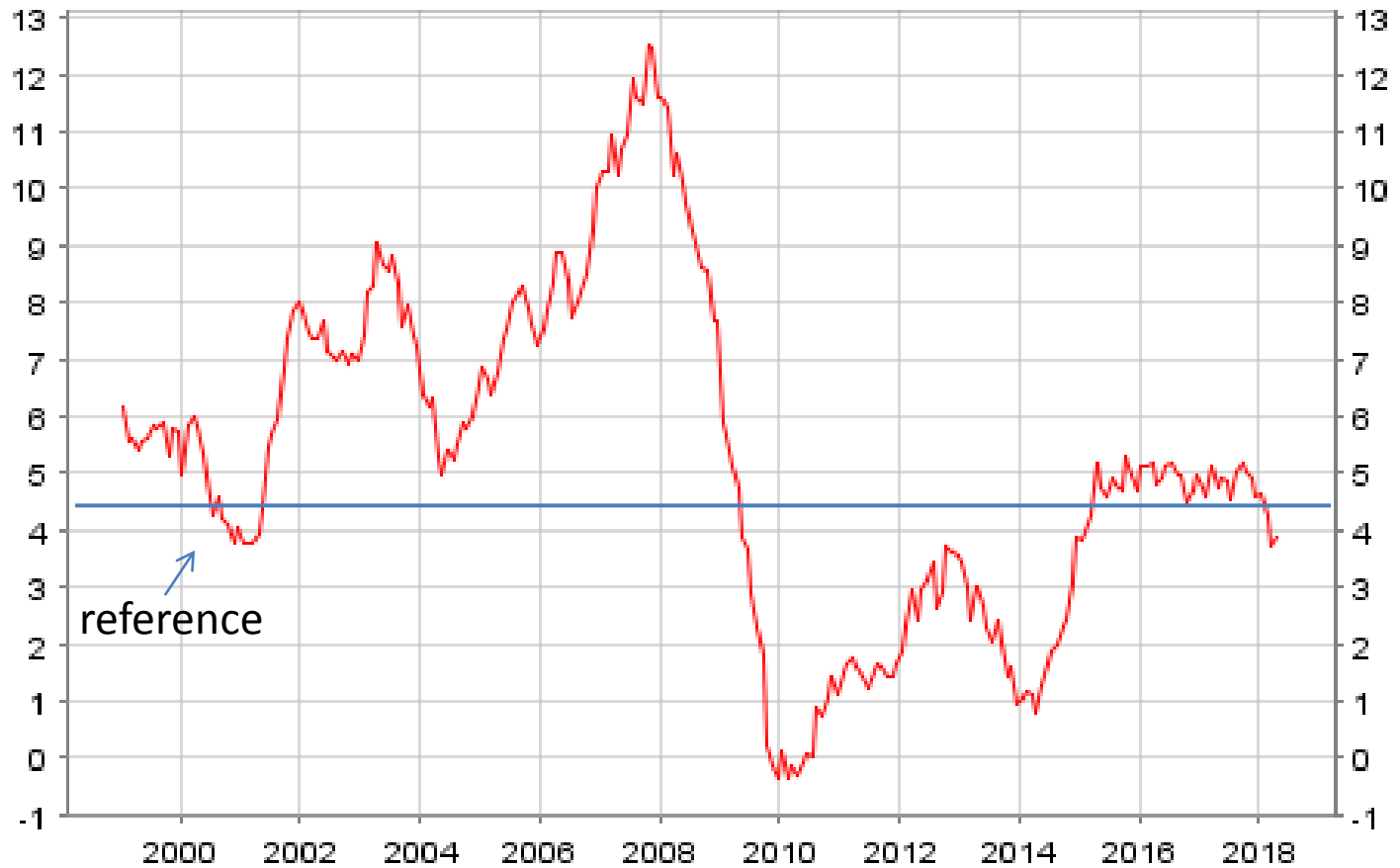
- ECB, Eurosystem and European System of Central
- Euro area members: 19
  - 11 founding members (1999)
  - Enlargement: Greece (2001), Slovenia (2007), Cyprus and Malta (2008), Slovakia(2009), Estonia (2011), Latvia (2014), Lithuania (2015)
  - U.K. and Denmark:“opt-out” clause

- “Convergence criteria”
  - Inflation  $< 1.5\%$  + average inflation among three members with lowest inflation
  - Deficit/GDP  $< 3\%$
  - Debt/GDP  $< 60\%$  (o getting close to it)
  - Exchange rate: two years within ERM II without devaluations
  - Long term interest rate  $< 2\%$  + average rate among three members with lowest inflation
- ECB: decision bodies
  - Executive Board (6 members: P+VP+4)
  - Governing council: EB + EA NCB
    - Since January 2015: rotation of voting rights (4/5,11/14)
  - General Council: EB + EU NCB

- Mandate (Treaty Art. 127):
  - Primary objective: price stability
  - Without prejudice of price stability, support the policies that contribute to EU objectives (Art. 3), including “full employment” and “balanced economic growth”.
  - Initially no direct responsibility on financial supervision and regulation, only:
    - “surveillance” of risks to financial stability
    - provision of liquidity in the face of financial shocks
    - payment system
  - Nov. 2014: ECB becomes single banking supervisor of the EA (large banks)
    - Part of European Banking Union (SSM, together with bank resolution (SRM), and (planned) deposit insurance (EDIS))

- Monetary Policy Strategy (October 1998)
  - Quantitative definition of price stability: increase in HICP in the EA  $< 2\%$ , to be attained in the medium term.
  - Review (2003): “less than, but close to, 2%”
  - Analysis of risks to price stability based on “two pillars”:
    - Monetary analysis
      - until 2003: “prominent role of money,” with reference value for money growth (4.5%).
      - after 2003 review: becomes “second pillar,” focus on medium and long-term.
    - Economic analysis: factors that affect short-term inflation
      - activity, demand, labor demand, exchange rate, fiscal policy,...
      - projections, SPF
    - “Cross-checking”

# M3 Growth Rate in the Euro Area



Source: ECB Statistical Data Warehouse, 2018

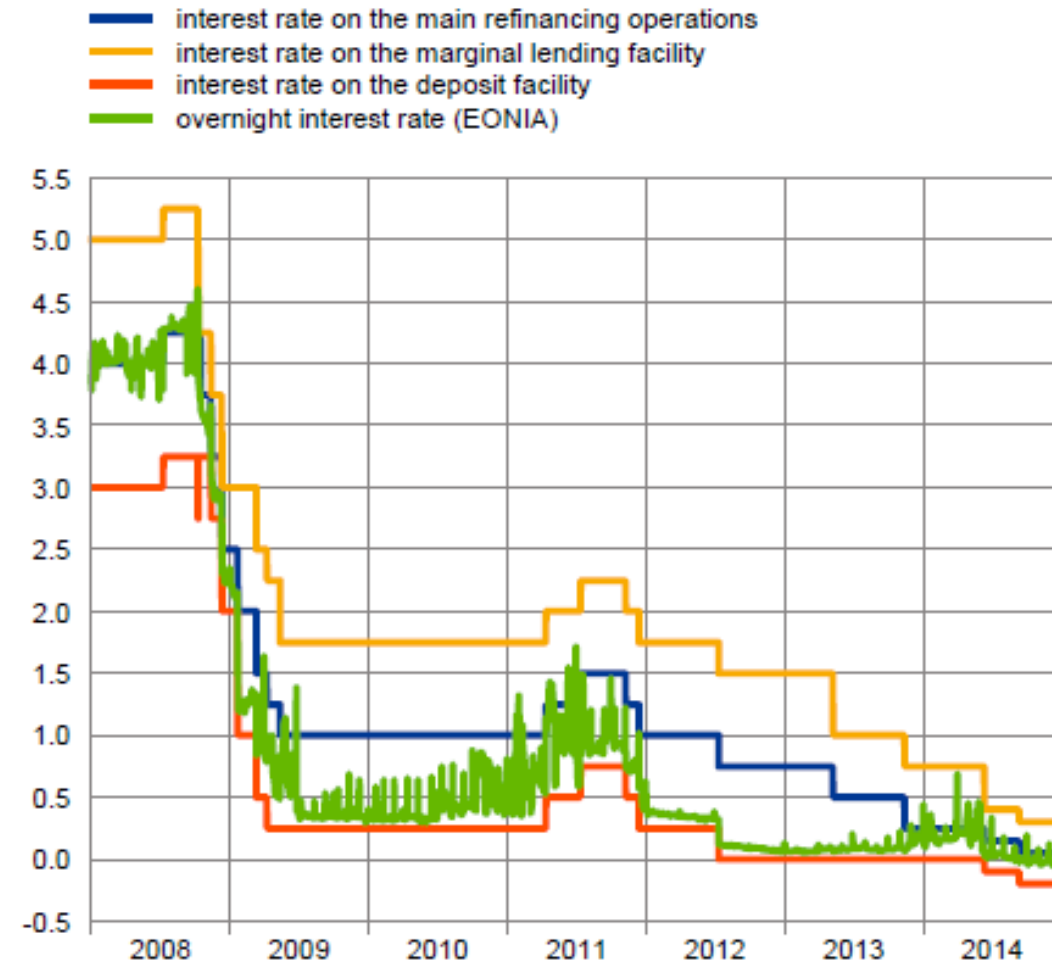
# Implementation

- “Main Refinancing Operations”(MRO)
  - one-week loans to banks (“repurchase agreements”)
  - policy rate = minimum rate at the auction
  - since October 2008: fixed rate, “full allocation” (since June 2016: 0%)
- Longer-Term Refinancing Operations (LTRO)
  - From three months to three years
- Marginal lending facility (official + 1% -> +0.25%)
- Marginal deposit facility (official – 1% -> -0.25% -> -0.4%)

## Chart 23

### ECB interest rates and the overnight interest rate

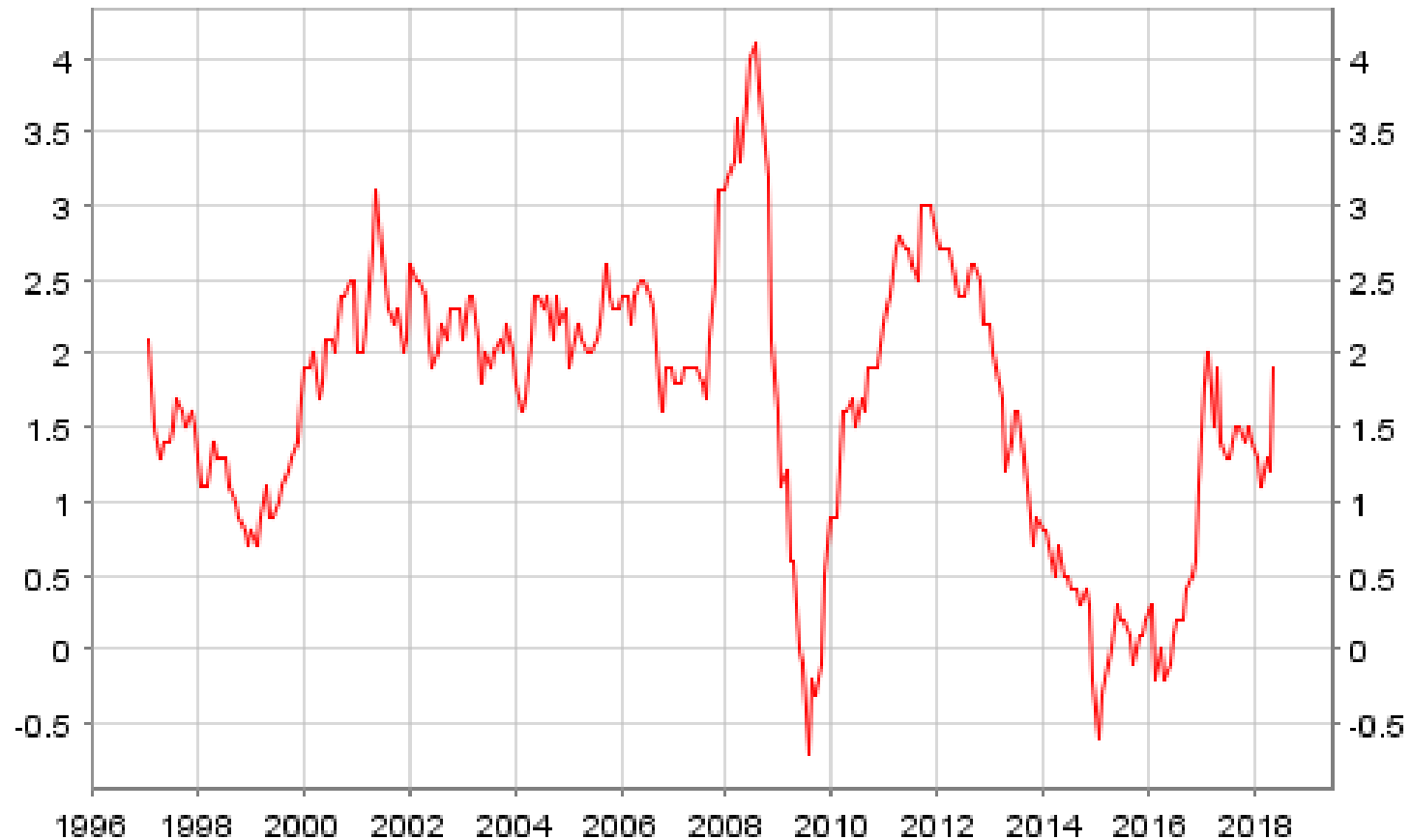
(percentages per annum; daily data)



Sources: ECB and Thomson Reuters.



# Performance: Inflation (I)

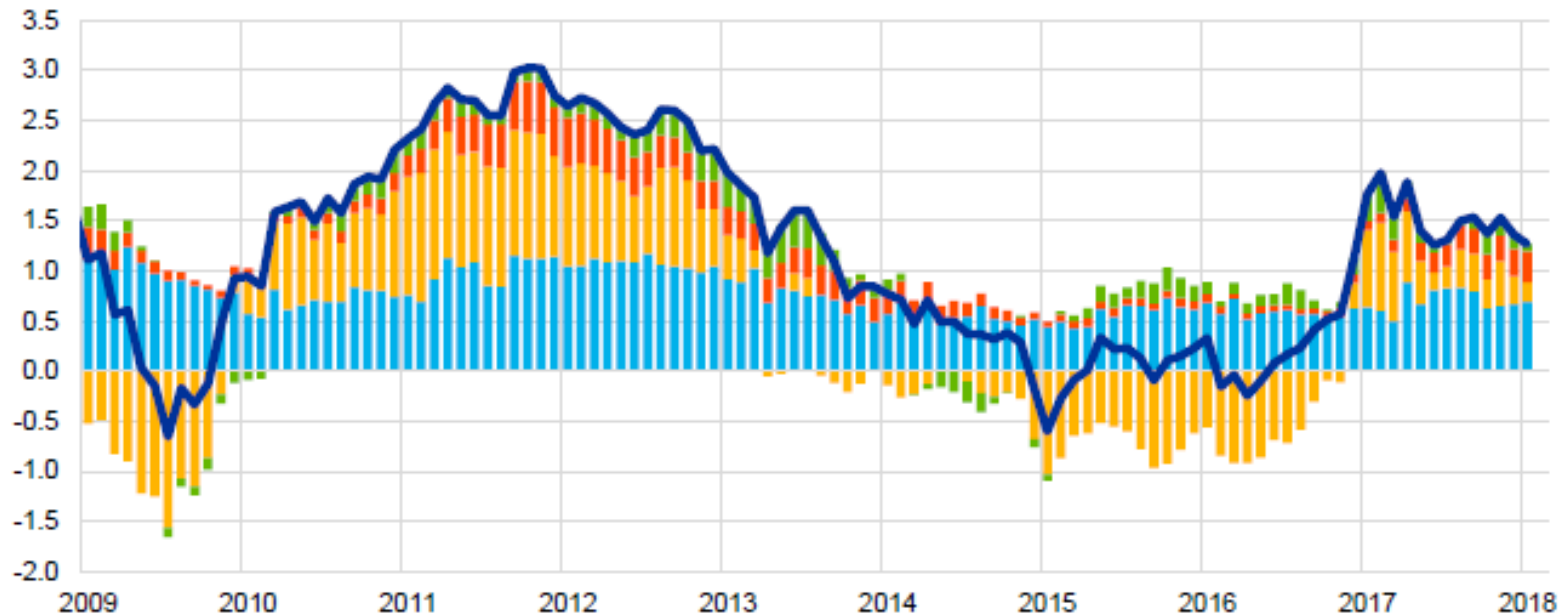


# Performance: Inflation (II)

## HICP inflation and contributions by components

(annual percentage changes; percentage point contributions)

- total HICP
- energy
- processed food
- unprocessed food
- HICP excluding energy and food

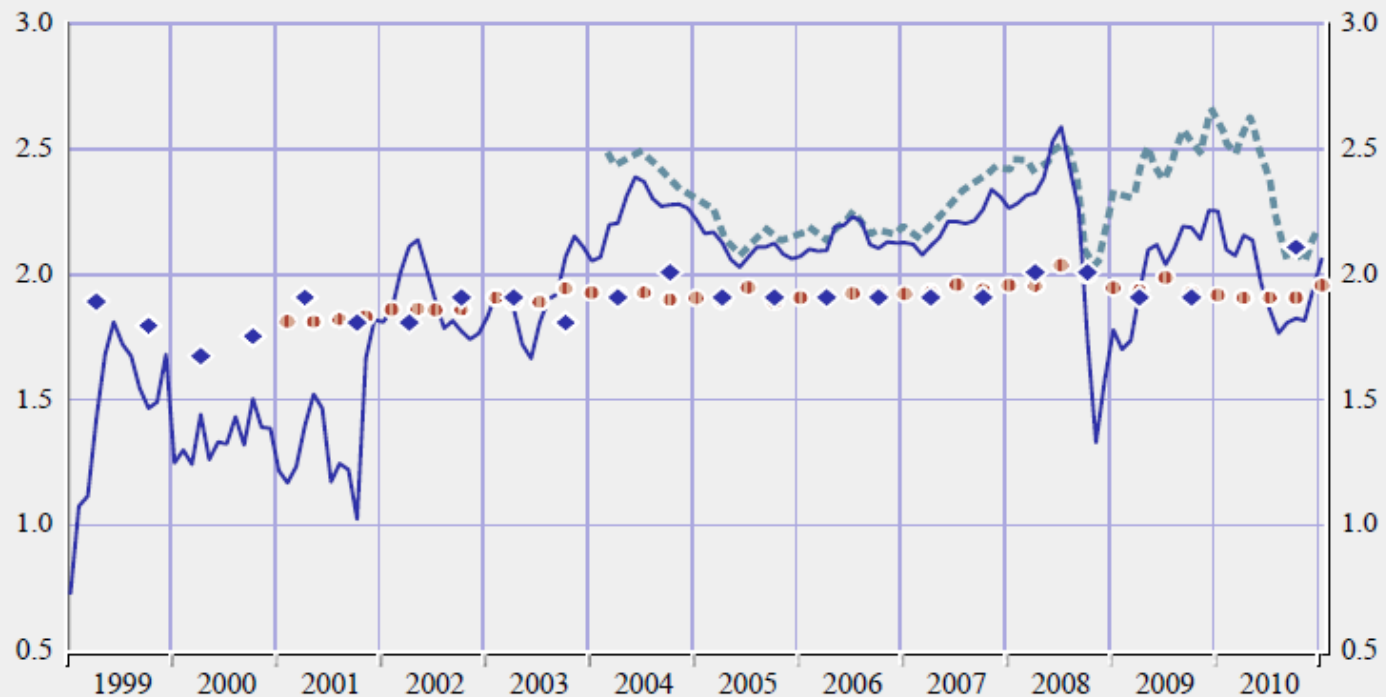


# Performance: Inflation Forecasts

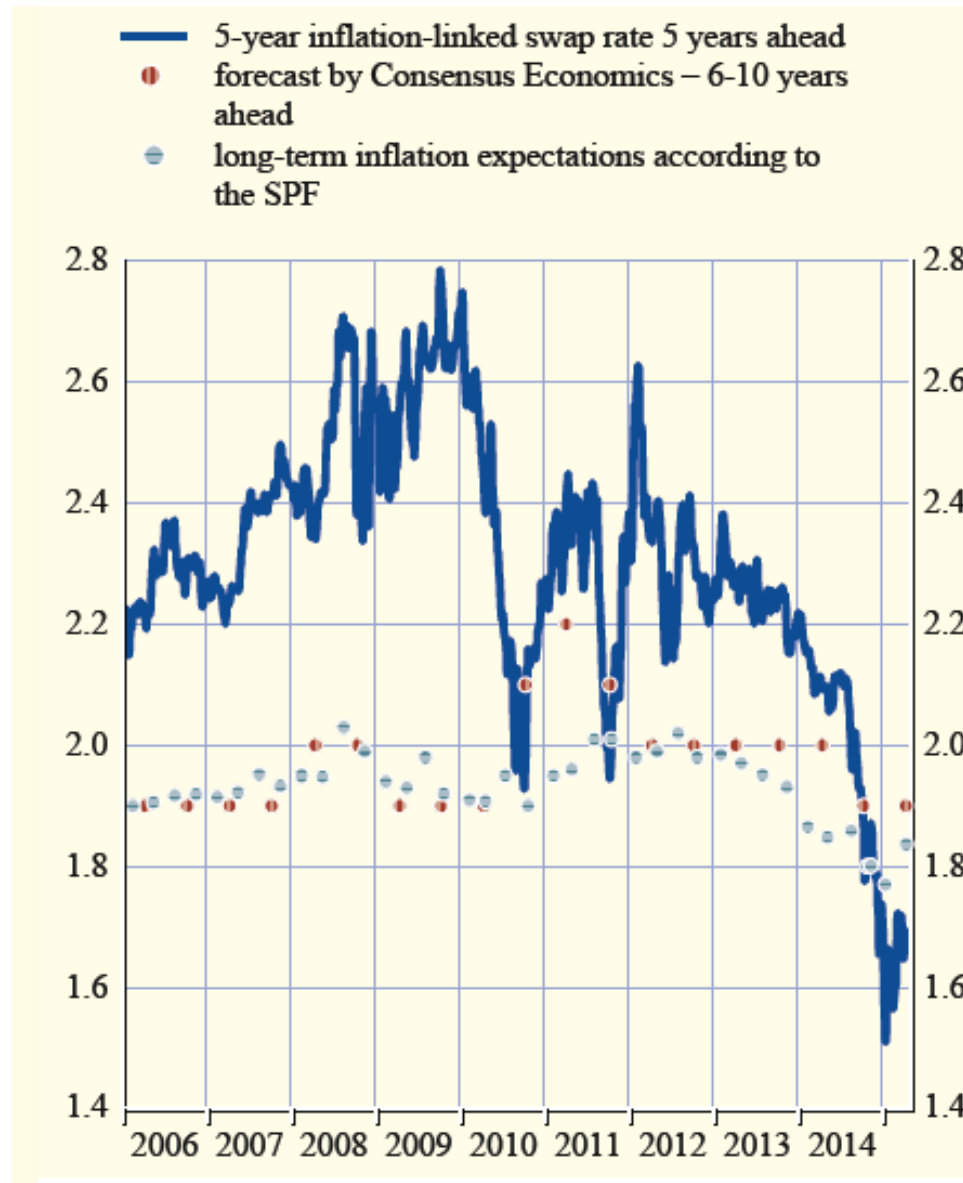
**Chart 5.7 Indicators of long-term inflation expectations in the euro area**

(annual percentage changes)

- ◆ Consensus Economics <sup>1)</sup>
- SPF five-years-ahead <sup>2)</sup>
- five-year forward break-even inflation rate five years ahead <sup>3)</sup>
- ten-year break-even inflation rate <sup>3), 4)</sup>



# Performance: Inflation Forecasts

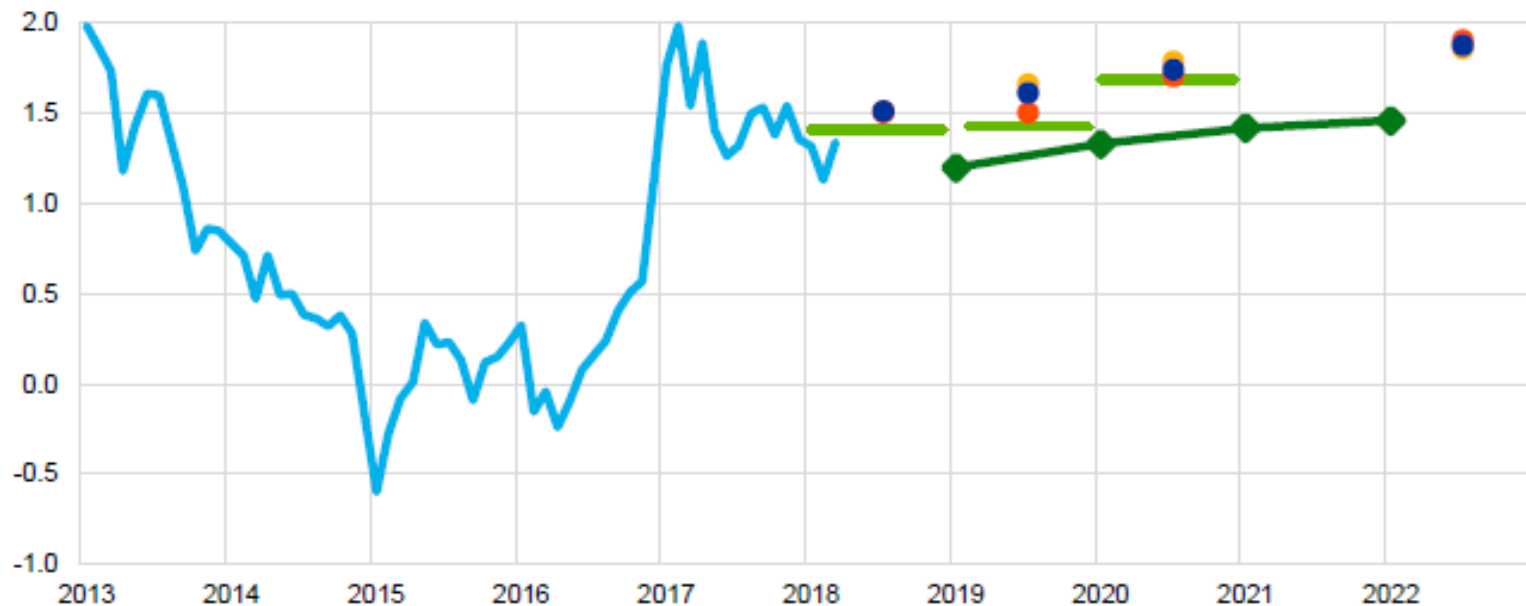


# Performance: Inflation Forecasts

## Market and survey-based measures of inflation expectations

(annual percentage changes)

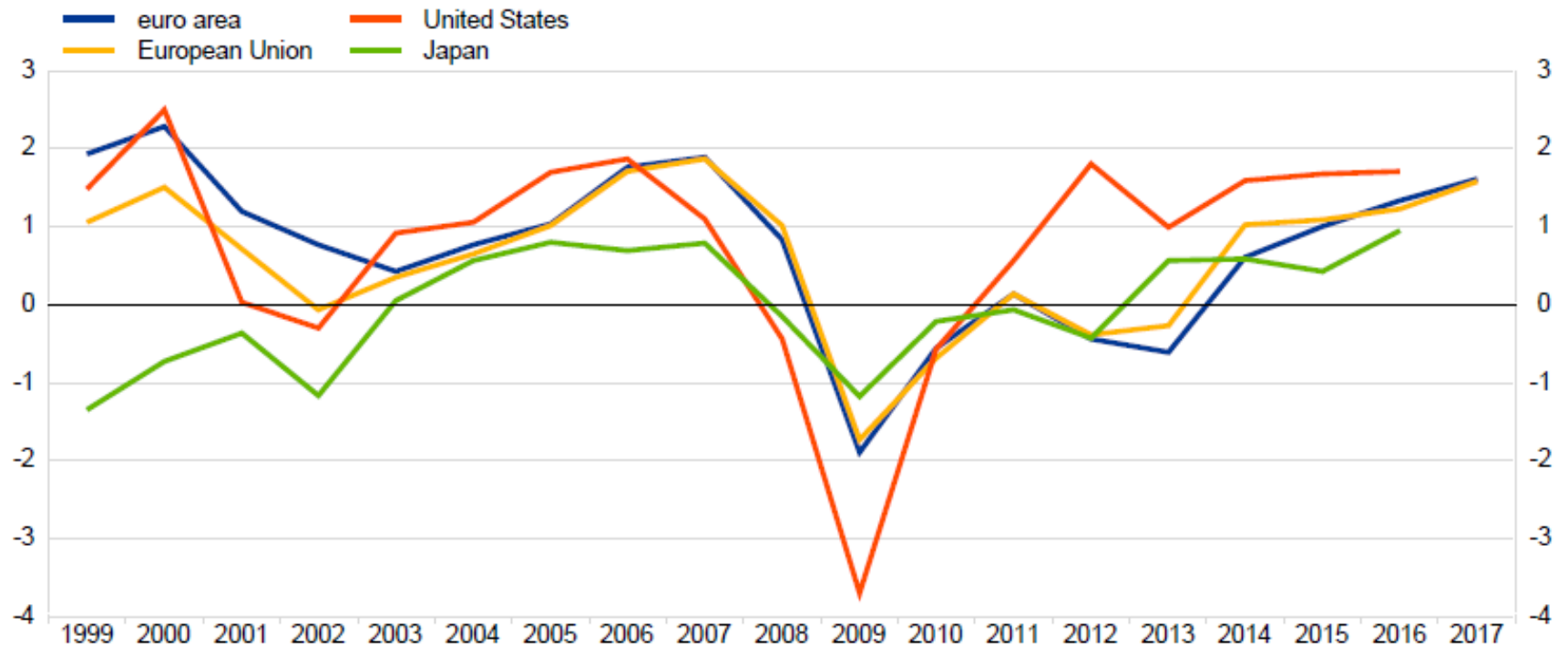
- SPF Q2 2018
- SPF Q1 2018
- Consensus Economics forecasts (April 2018)
- ECB staff macroeconomic projections (March 2018)
- ◆ market-based measures of inflation expectations (April 2018)
- HICP



# Performance: Employment

Chart 2.9 Employment

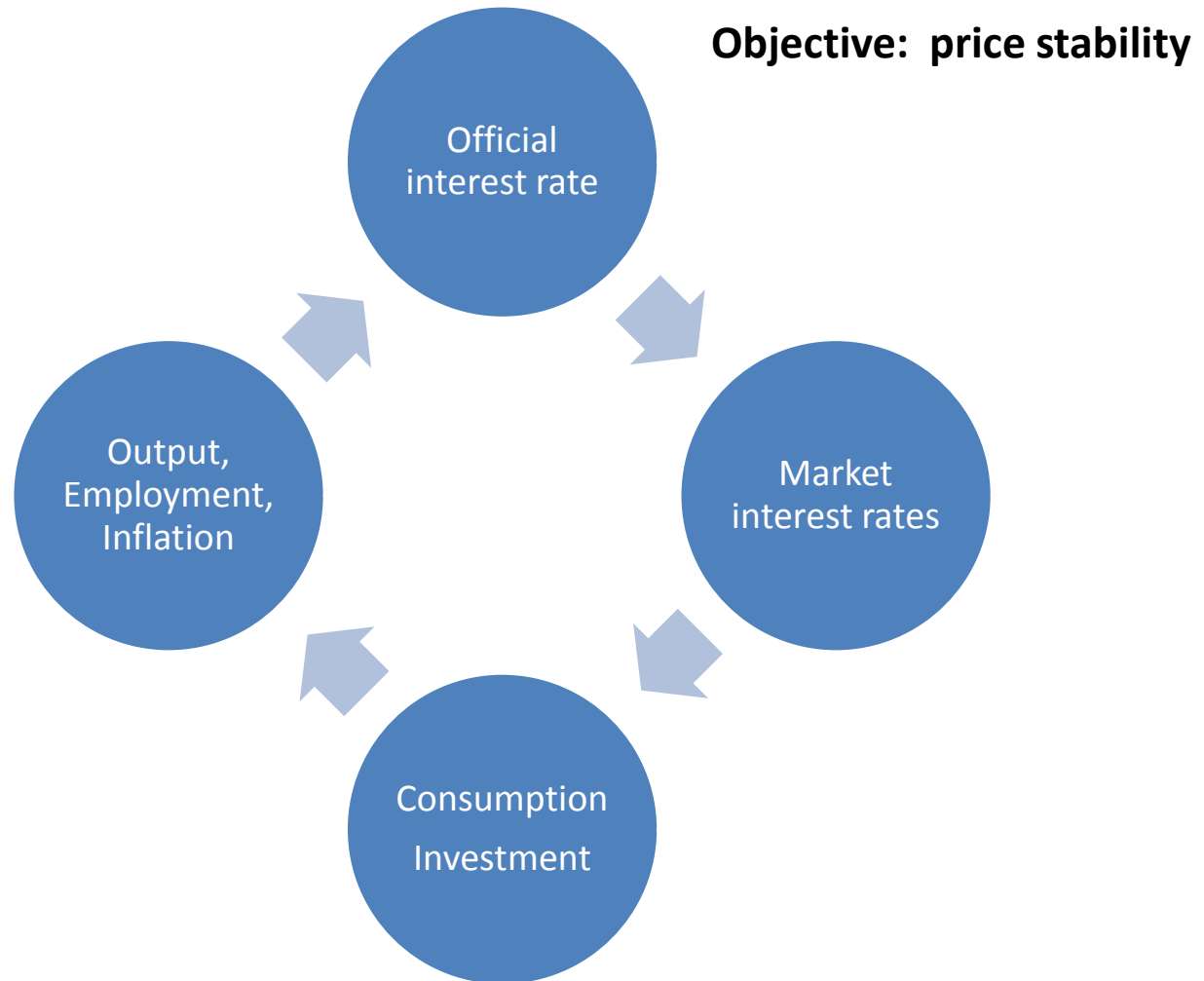
(persons employed; annual percentage changes)



# The Federal Reserve

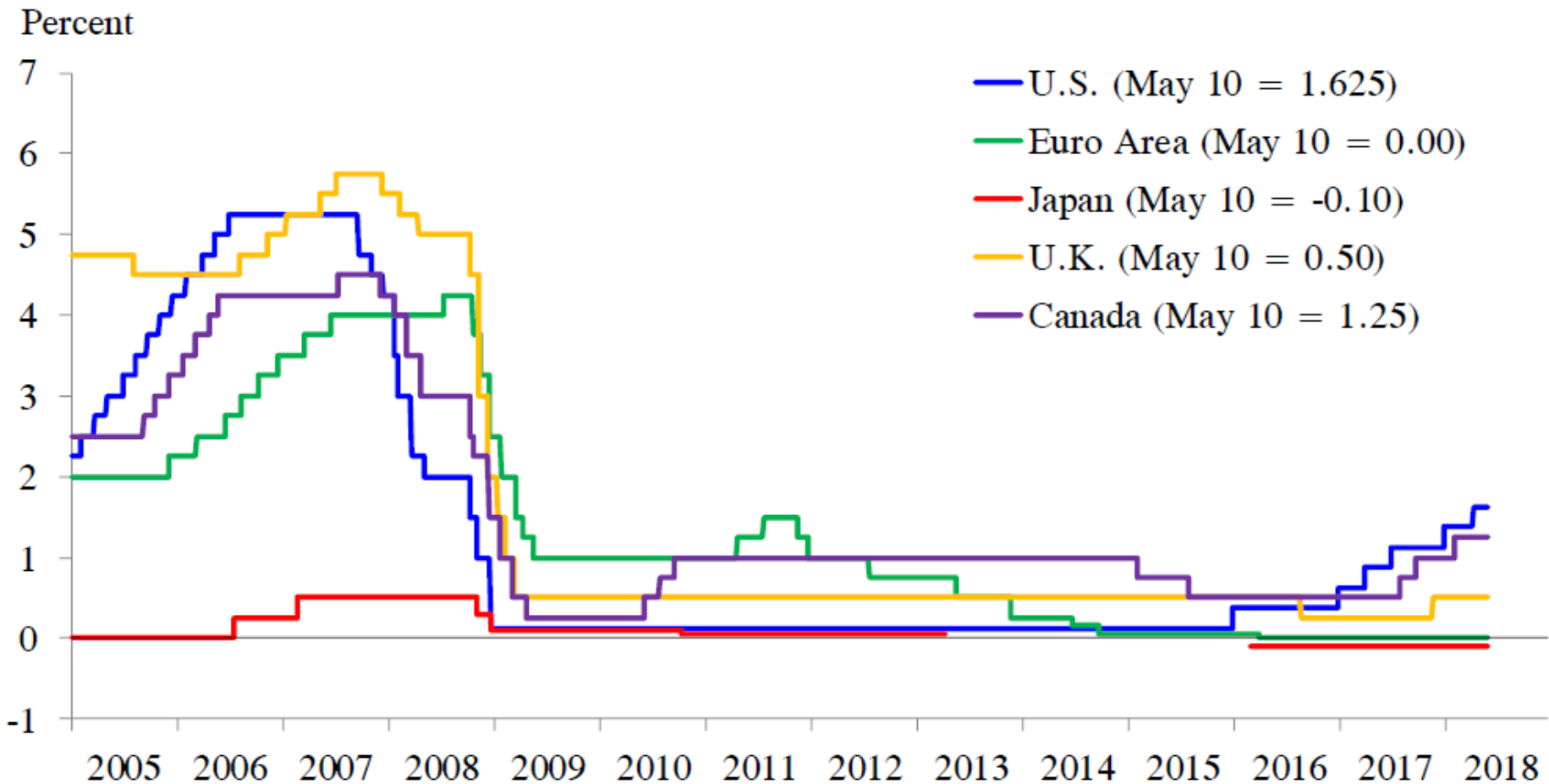
- Federal Open Market Committee:
  - 7 Governors (Chairman+VC +5)
  - 5/12 Presidents de Regional Feds (NY Fed fixed)
- “Dual mandate” (Federal Reserve Act):
  - maximum employment
  - Price stability (since January 2012: 2%)
- Implementation
  - Open market operations
  - Interest rate on reserves

# Monetary Policy in “Normal Times”

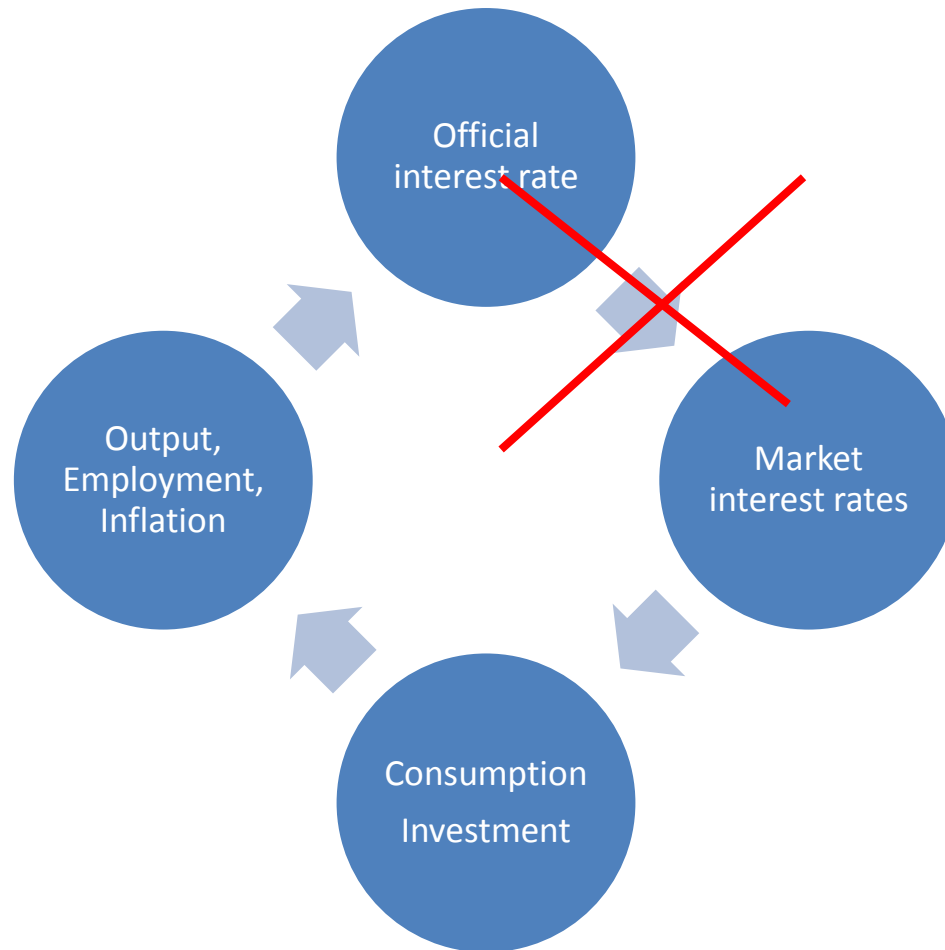




# Monetary Policy and the Financial Crisis: Policy Rates

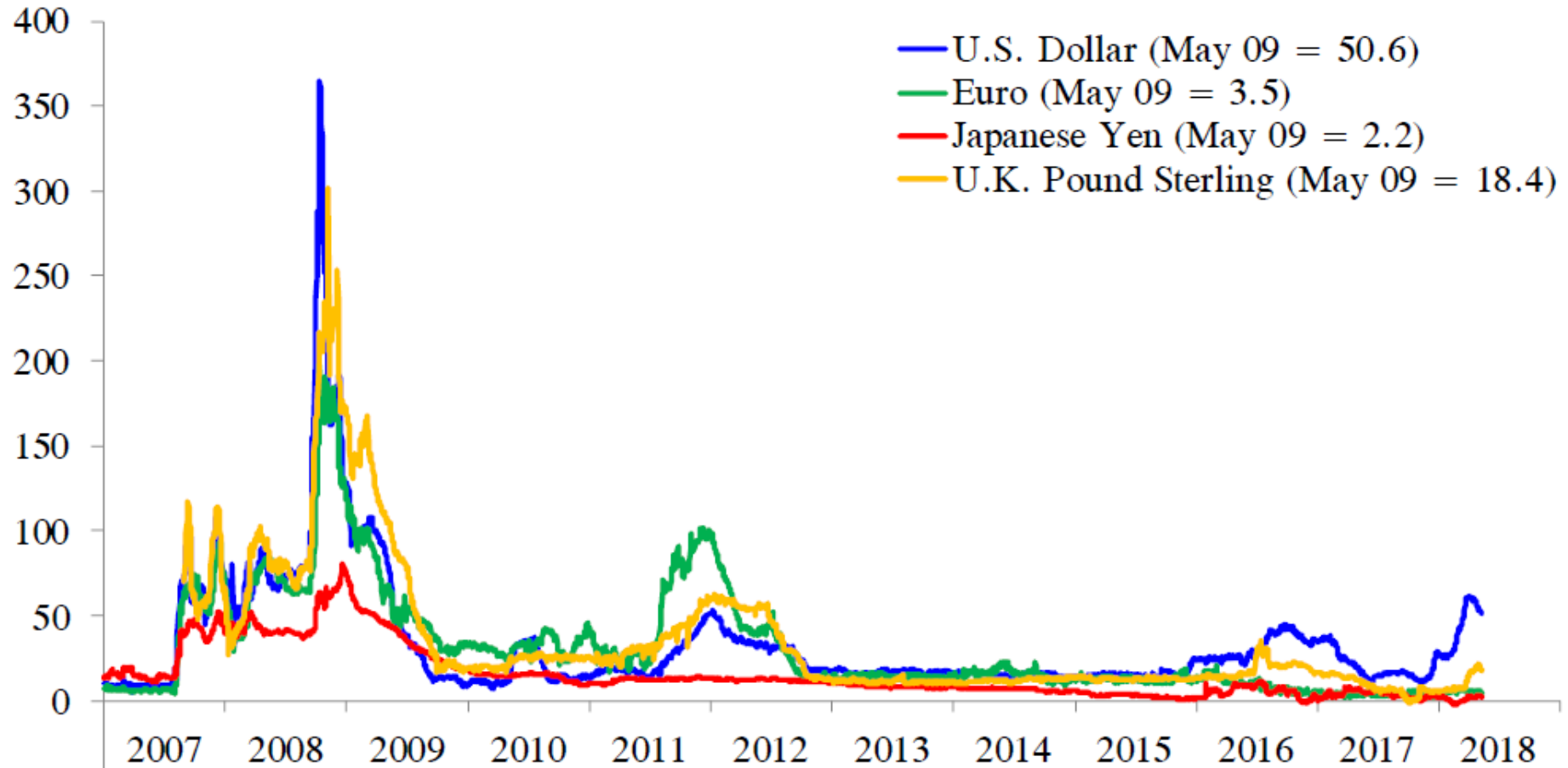


# Monetary Policy during the Crisis



# Interest rate differentials: money markets (Euribor – OIS)

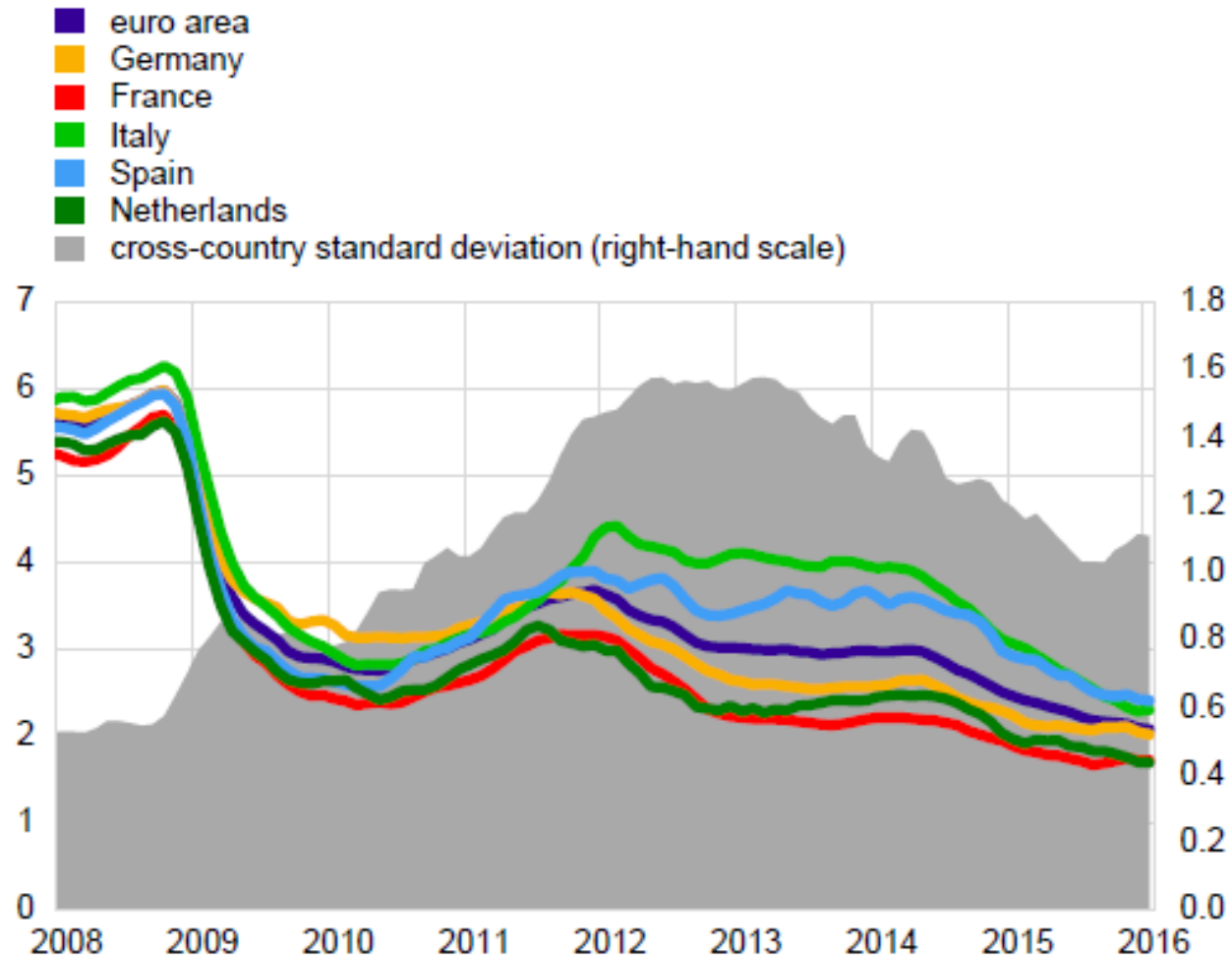
Basis Points



# Interest rate differentials: Loans to NFCs

## Composite lending rates for NFCs

(percentages per annum; three-month moving averages)

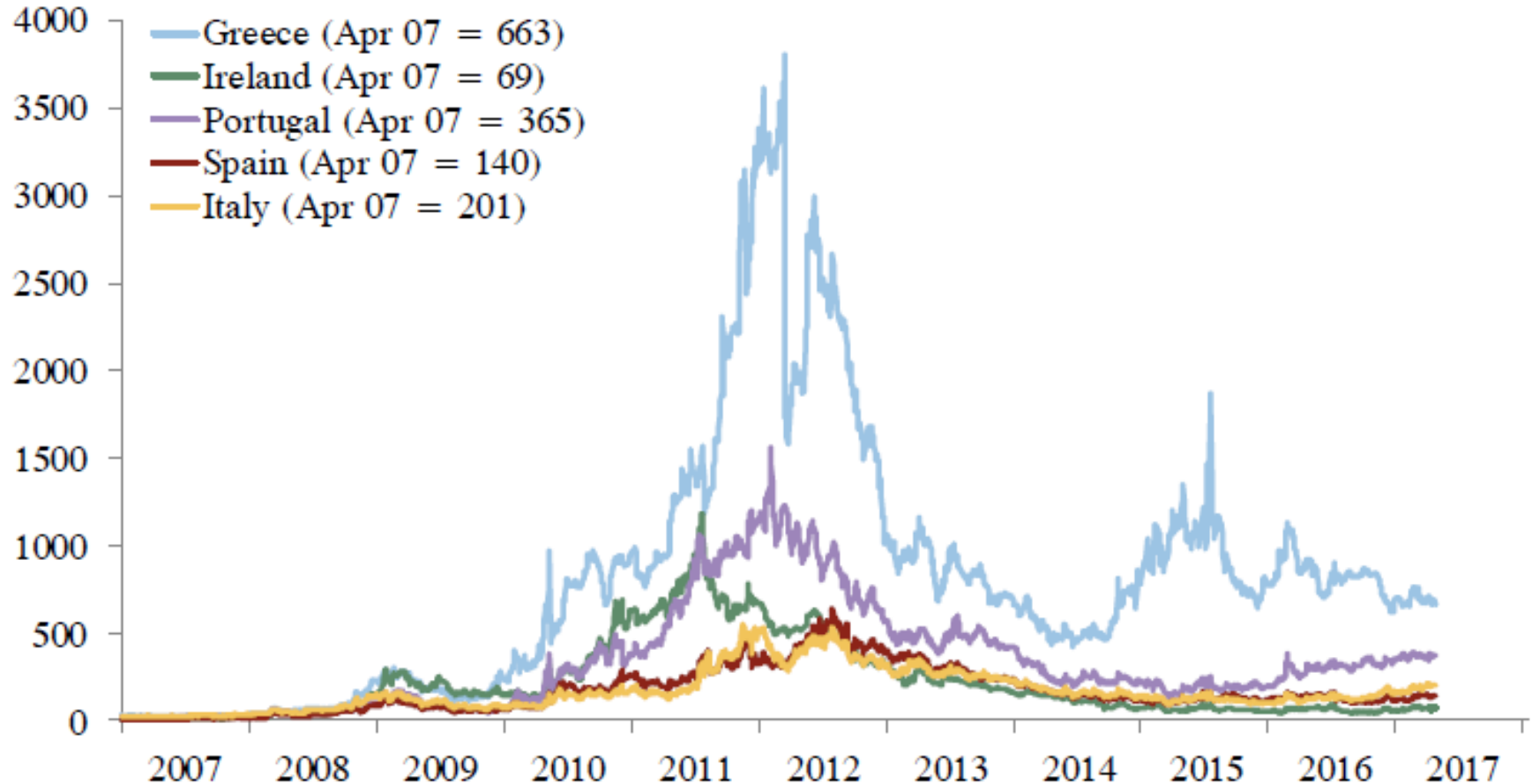


Source: ECB

Font: ECB, Economic Bulletin

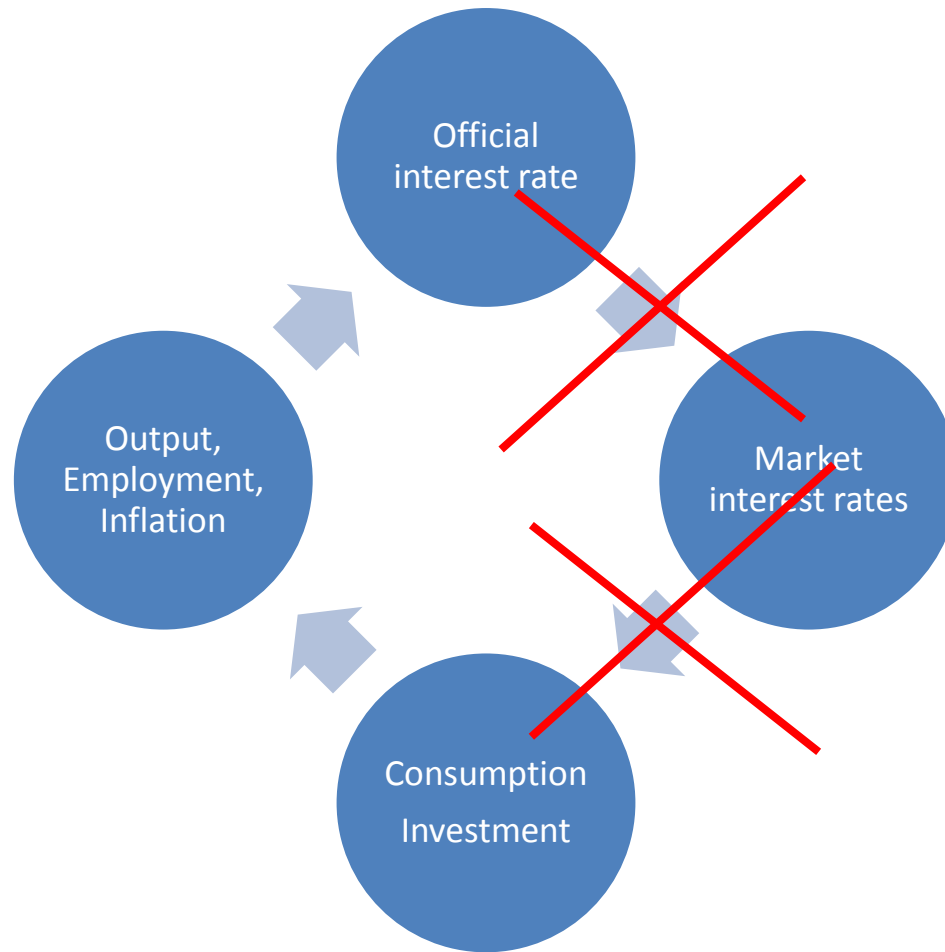
# Interest rate differentials: Government Debt

Basis Points



NOTE: The chart shows the spread, or difference, in interest rates between 10-year government bonds for various countries and German 10-year government bonds.

# Monetary Policy during the Crisis

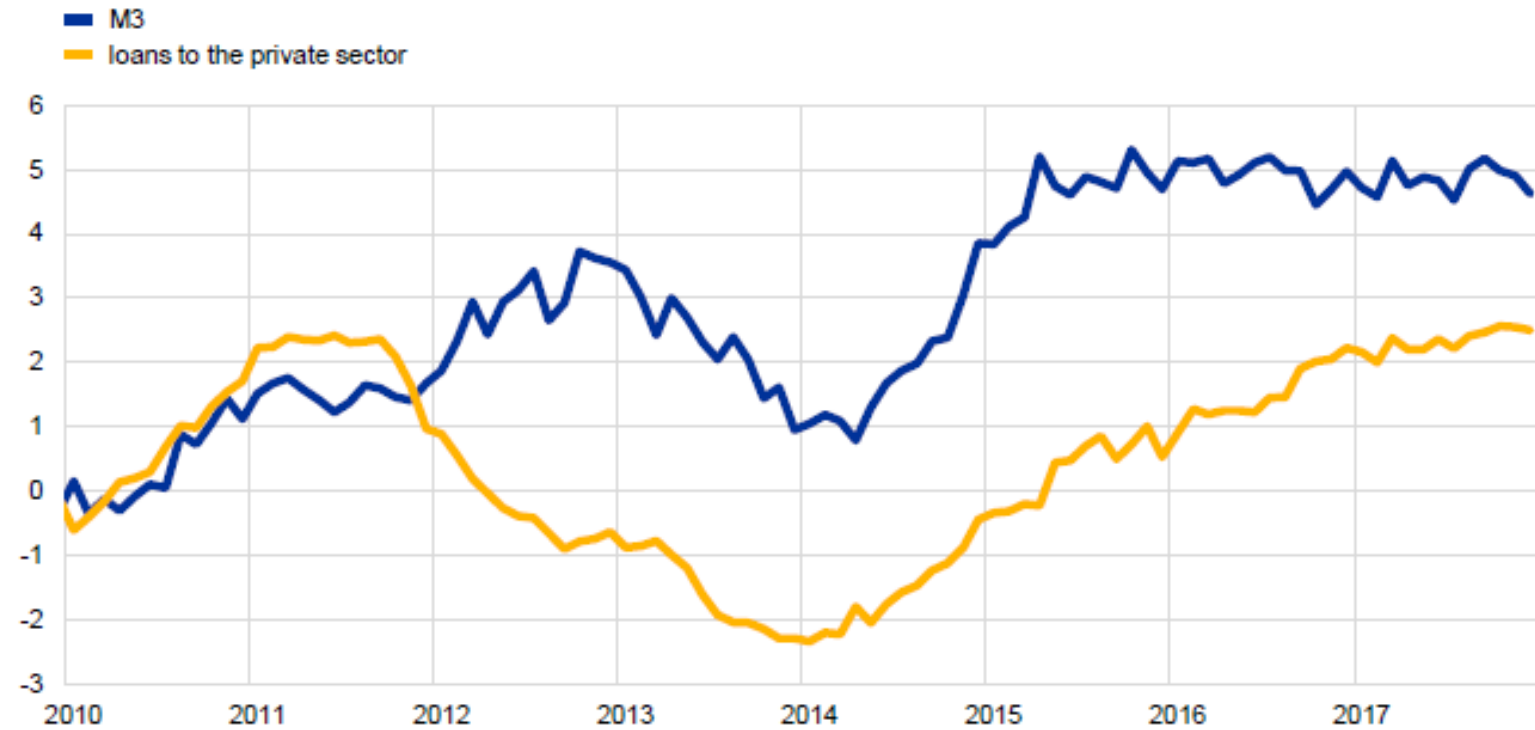


# Loans to Private Sector

## M3 and loans to the private sector

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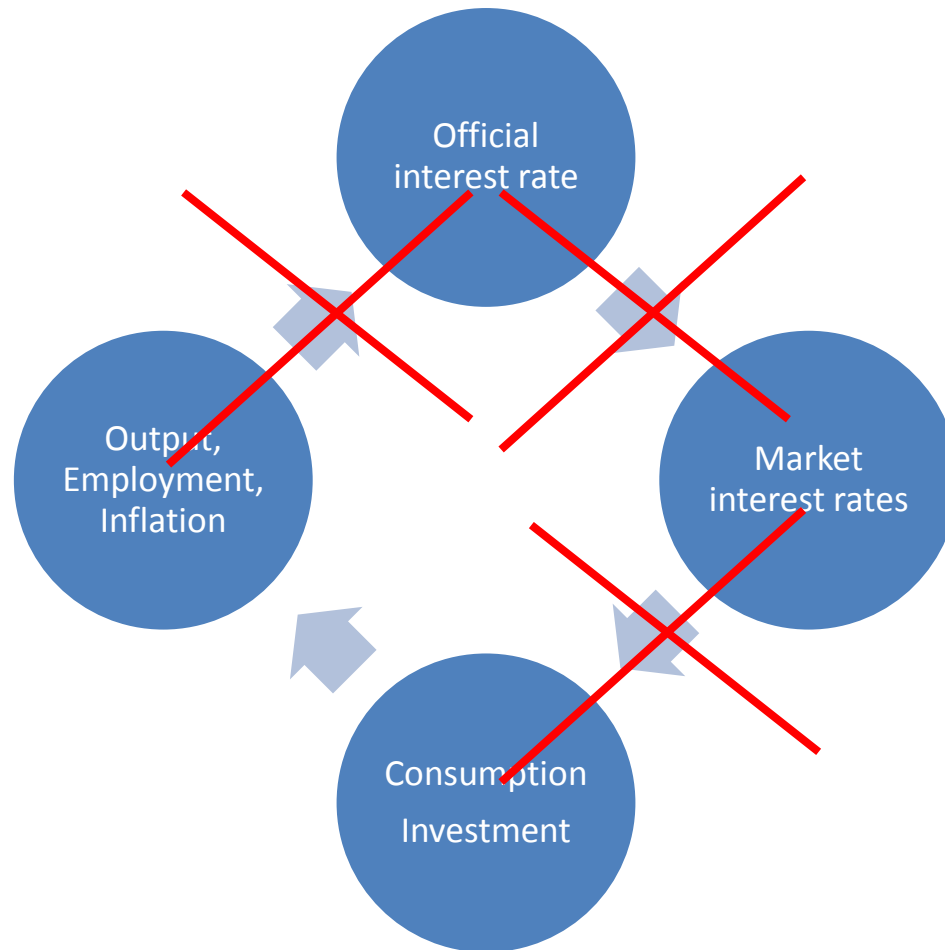
(annual percentage changes)



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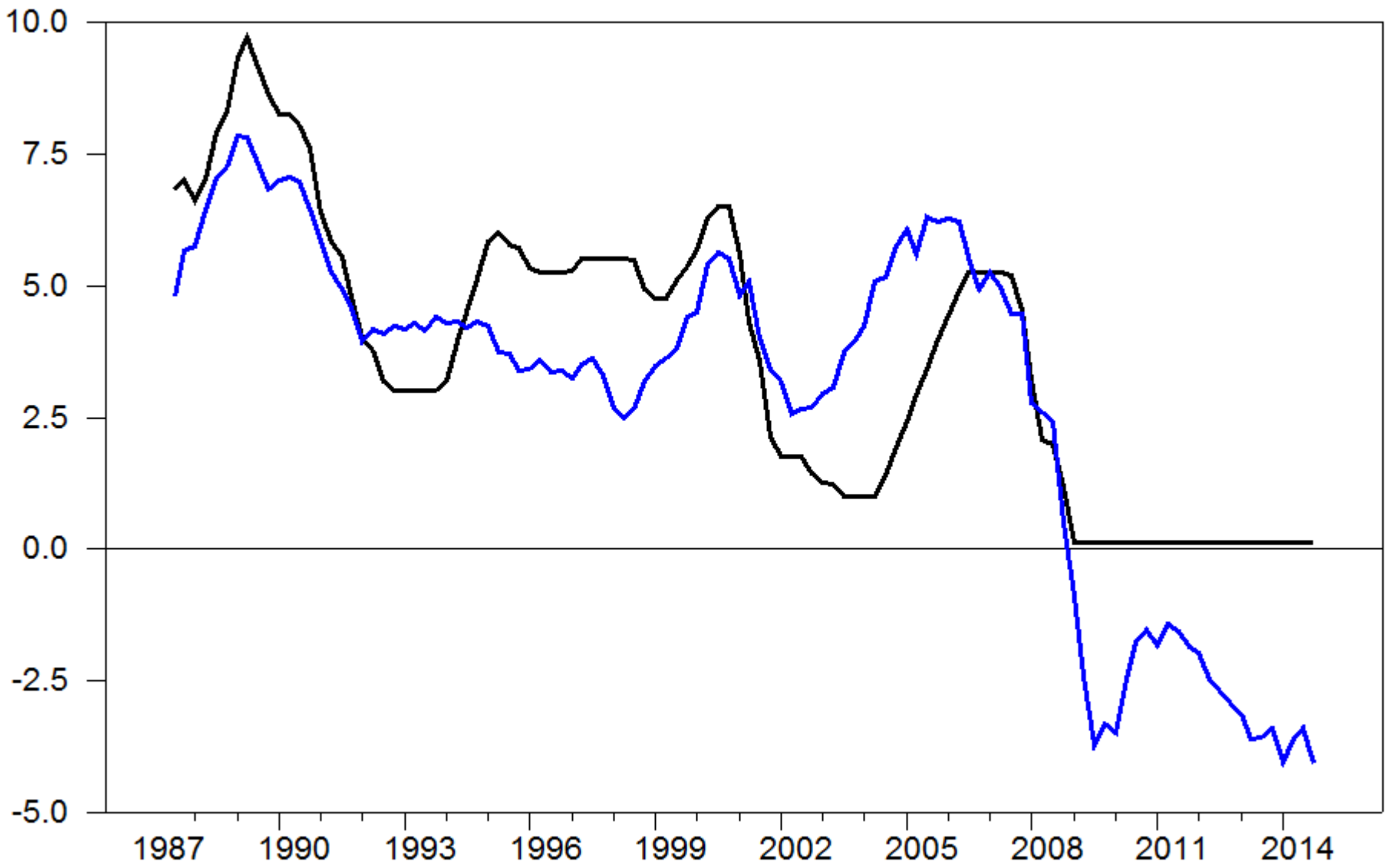
Source: ECB.

# Monetary Policy during the Crisis

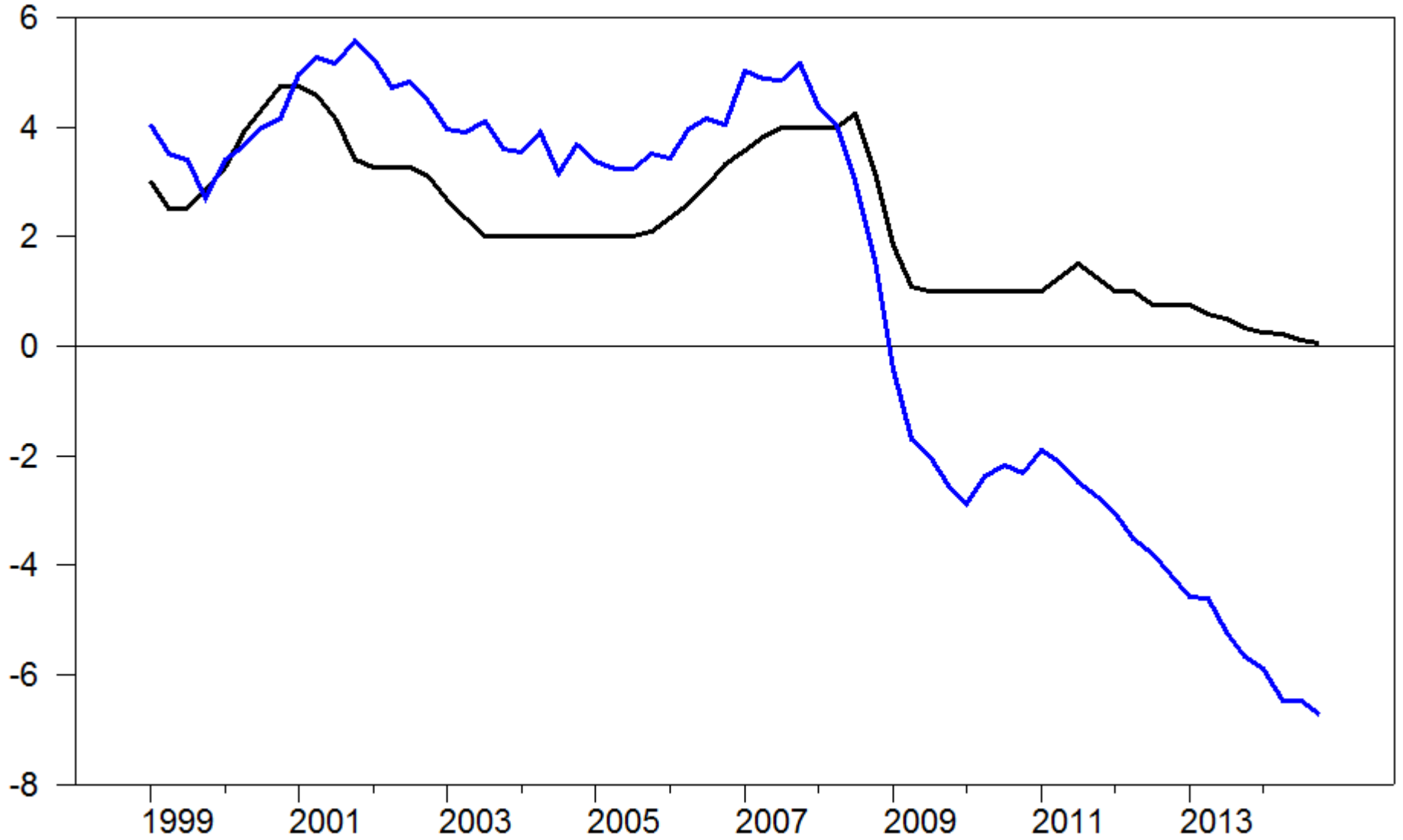




# Monetary Policy and the Taylor Rule: U.S. (1987-2014)



# Monetary Policy and the Taylor Rule: Euro Area (1987-2014)



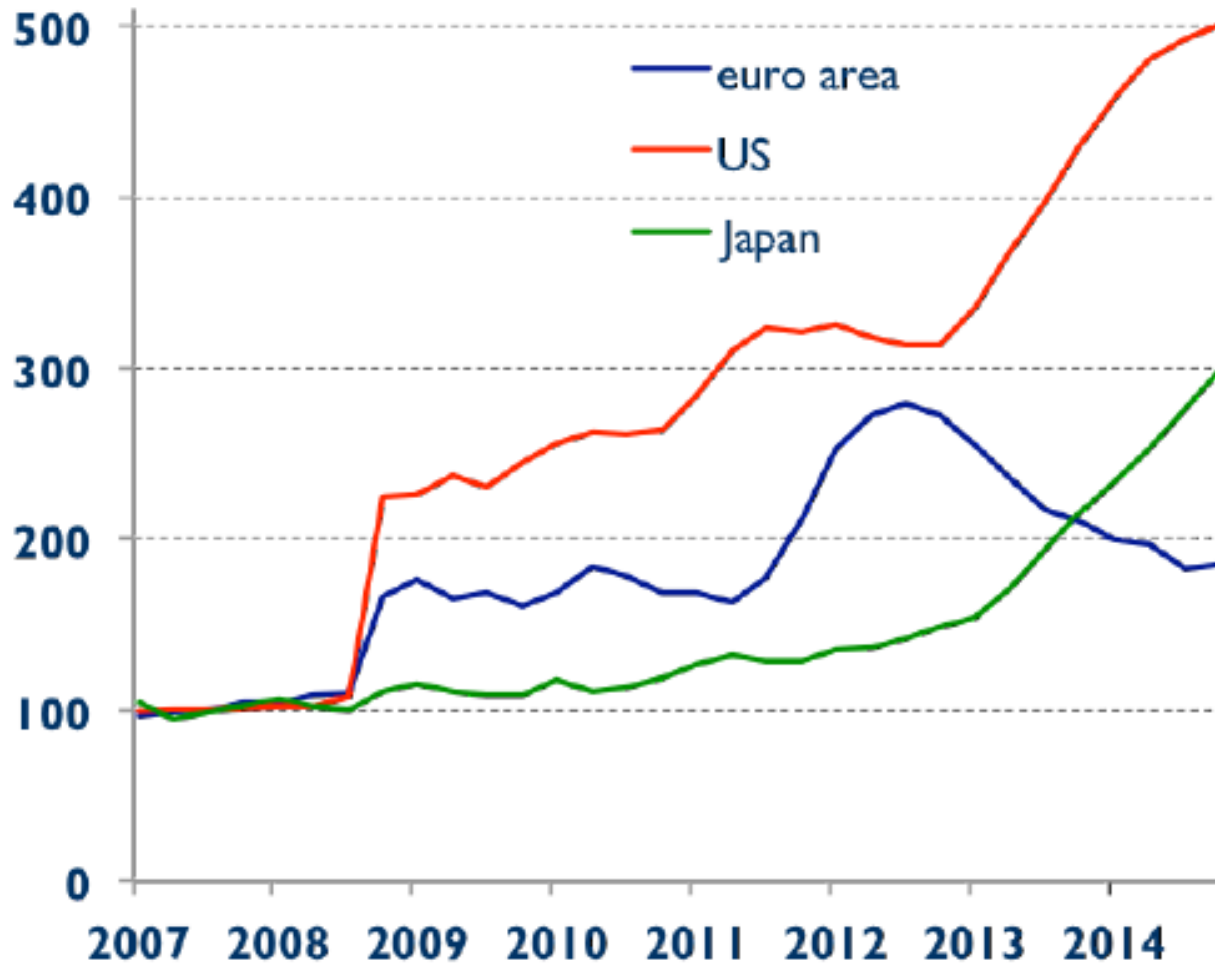
# Responses: ECB

- Extraordinary injections of liquidity to the banking sector
  - 2 three year LTROs (Dec. 2011, Feb. 2012)
  - Targeted Long Term Refinancing Operations (TLTROs) (June 2014)
- Asset Purchase Programs:
  - Securities Market Programme (May 2010)
  - Outright Monetary Transactions (OMT) (Sept. 2012)
  - Asset Purchase Programme (APP)
    - Covered bonds (CBPP3), October 2014
    - Asset-Backed securities (ABSPP), November 2014
    - Public Debt (PSPP), March 2015
    - Corporate debt (CSPP), June 2016
    - Monthly purchases: initially 80bn, 60bn (April 2017), 30bn (Jan 2018)
    - “intended to run until September 2018, or beyond, if necessary”
- “Forward Guidance” (since July 2013):
  - “The key ECB interest rates will remain at present or lower levels for an extended period of time” (Mario Draghi, Press conference, July 2013)
  - “The Governing Council expects the key ECB interest rates to remain at their present levels for an extended period of time, and well past the horizon of the net asset purchases.” (GC Press release, April 2018)

# Responses: Federal Reserve

- “Quantitative easing” (QE, QE2, QE3)
  - Des. 2013: beginning of “tapering”
  - Oct. 2017: end of purchases
- “Operation Twist”
- “Forward guidance”
  - Des. 2012: “threshold guidance” (u=6.5%, inf=2.5%)
- December 2015: first increase in policy rate

# Central Banks' Balance Sheets

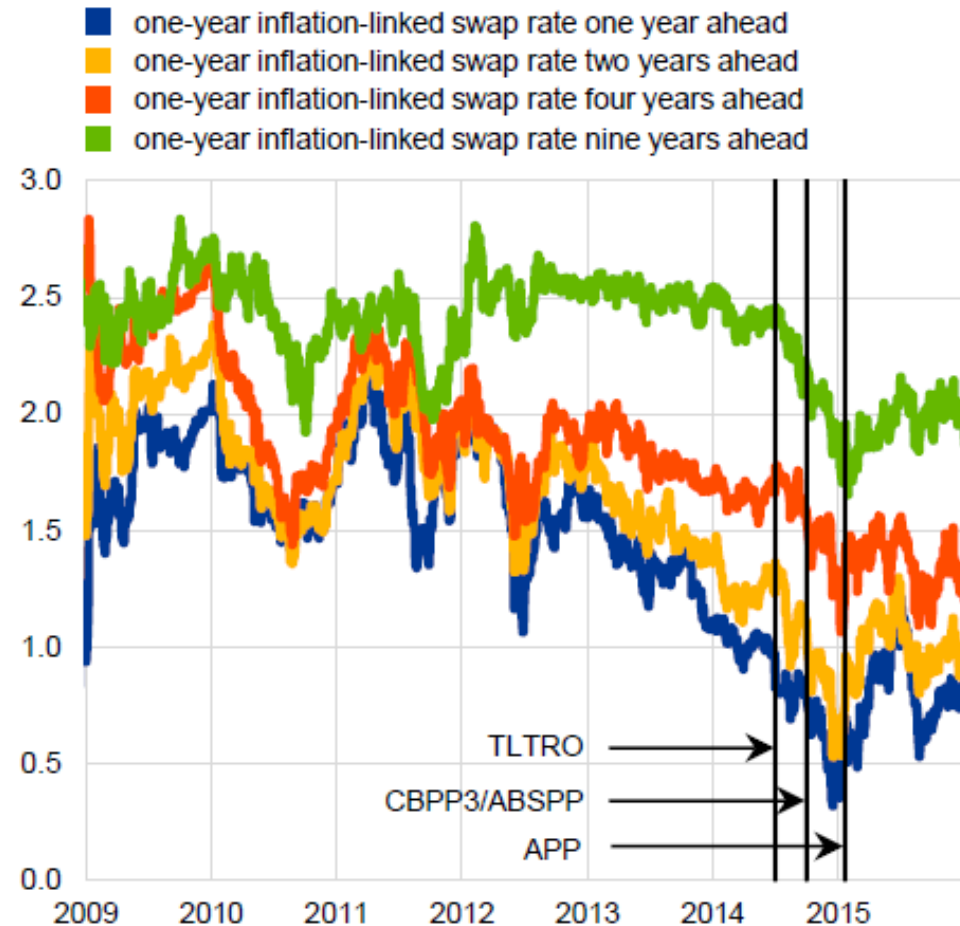


Sources: ECB, Federal Reserve Board, Bank of Japan and ECB staff

# Effects of Unconventional Policies

## Market-based inflation expectations

(implied forward inflation-linked swap rates in percentages per annum)



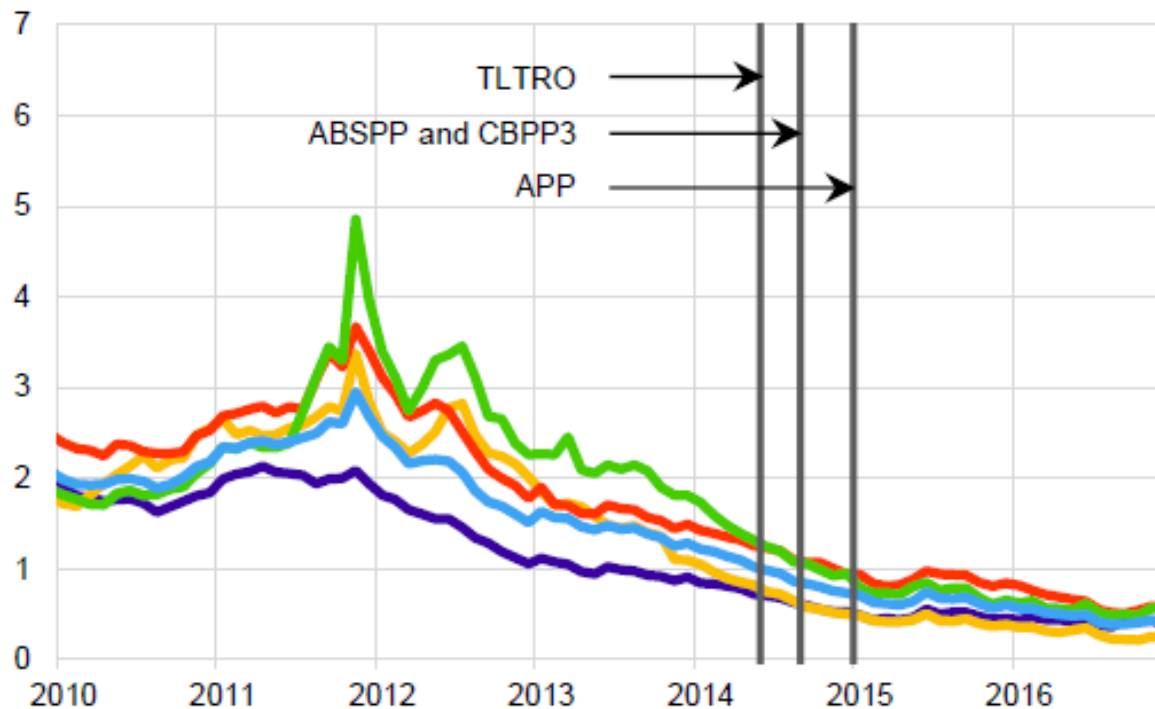
Sources: Reuters and ECB calculations

# Effects of Unconventional Policies

## Composite cost of debt financing for banks

(composite cost of deposit and non-secured market debt funding; percentages per annum)

- Germany
- Spain
- France
- Italy
- euro area



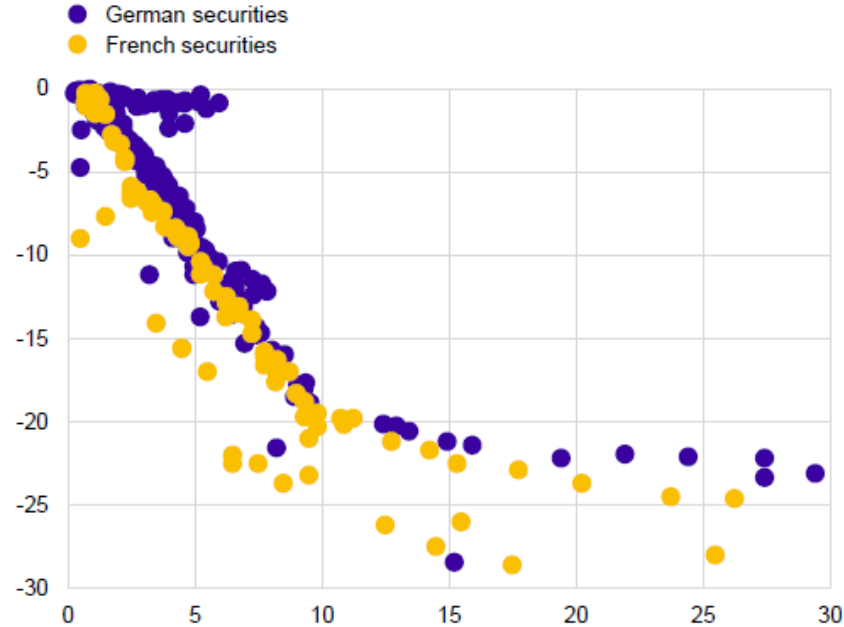
Sources: ECB, Merrill Lynch Global Index and ECB calculations.

# Effects of Unconventional Policies

## Chart D

Changes in yields of German and French securities following the announcement of the APP on 22 January 2015

(basis points; years to maturity)

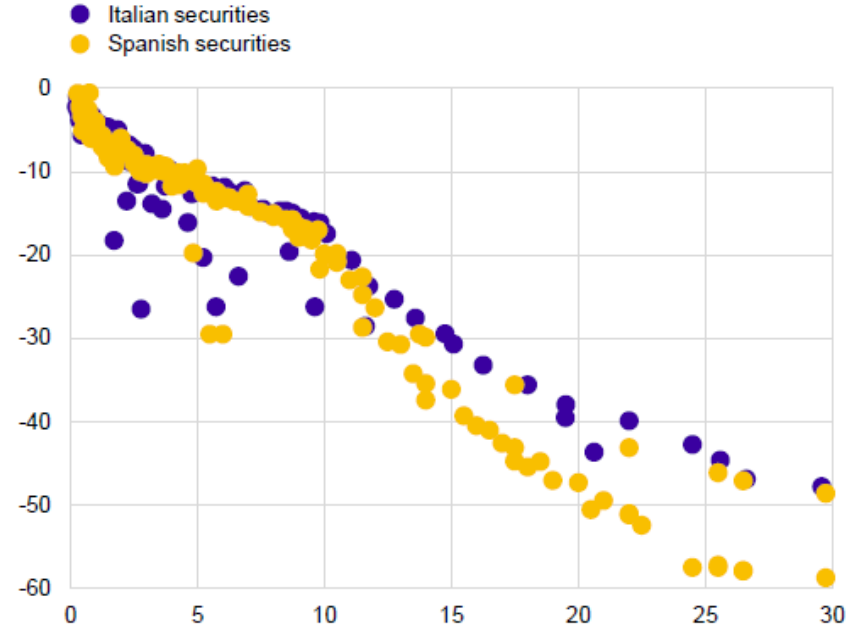


Source: ECB calculations.

## Chart E

Changes in yields of Italian and Spanish securities following the announcement of the APP on 22 January 2015

(basis points; years to maturity)



Source: ECB calculations.