

Implementation of monetary policy in the euro area

Biswajit Banerjee

Chief Economist, Ministry of Finance of the Slovak Republic

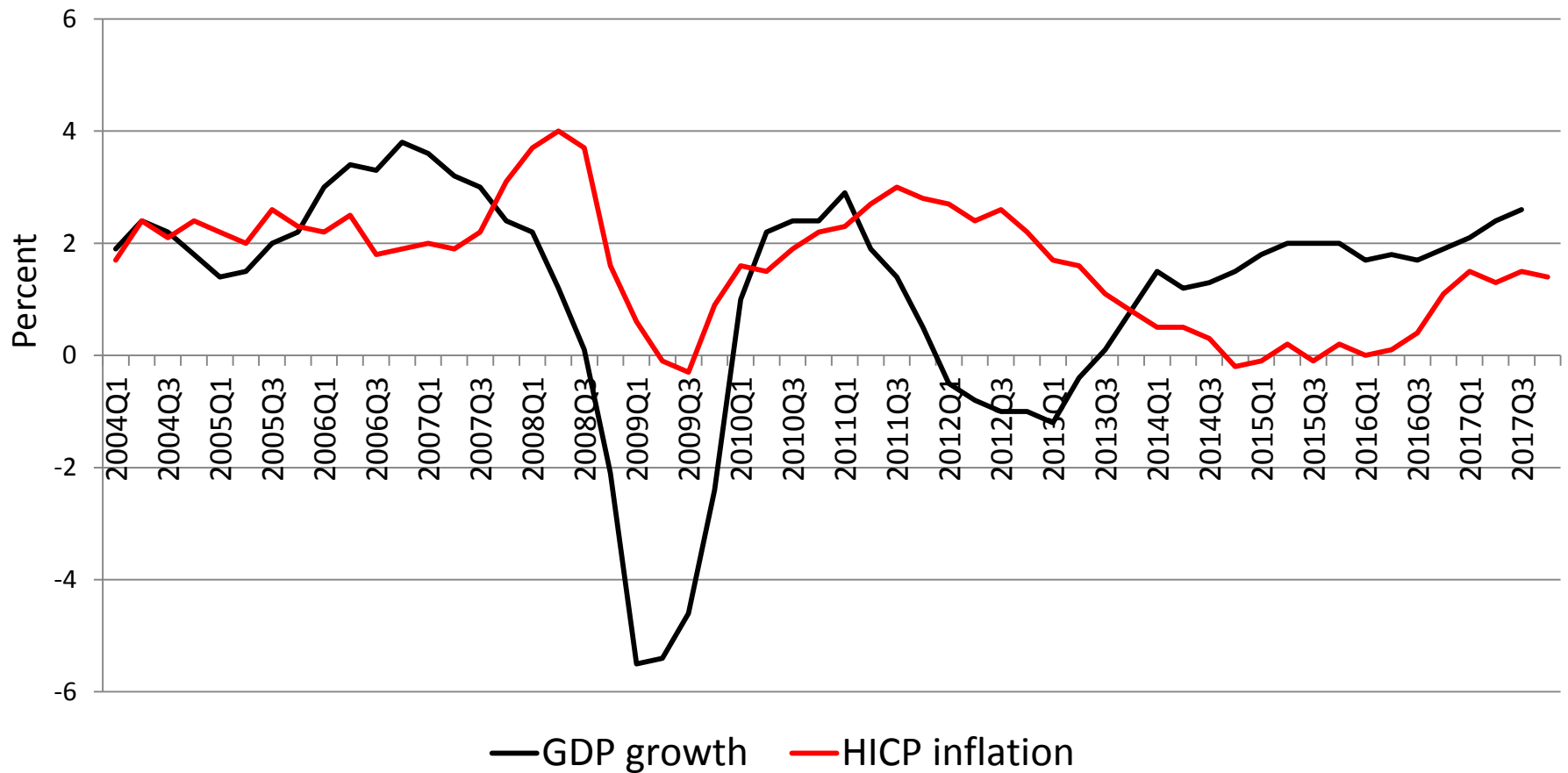
and

Professor of Economics, Ashoka University, Sonapat, Haryana, India

School of Public Policy, Central European University, Budapest

13 March 2018

**The Economic setting for ECB's monetary policy:
Real GDP growth and HICP Inflation in Euro Area
year-on-year % change**



Monetary policy transmission mechanism

- Monetary policy bears on aggregate spending via its effects on interest rates and interest-sensitive expenditures
- Transmission mechanism of monetary policy:
 - Money supply/official interest rate → interbank interest rates → lending rates → investments & consumption → total demand → output and inflation

ECB's monetary policy objective

- For a quarter of a century now, modern monetary policy has been understood as inflation targeting
- ECB's primary objective is to maintain price stability.
- Quantitative definition of price stability: a year-on-year increase in the Harmonized Index of Consumer Prices (HICP) for the euro area of below but close to 2 percent.

(Standard) Monetary Policy Instruments of ECB

(Standard) monetary policy instruments at the disposal of the ECB to steer short-term interest rates

➤ *Open market operations*

main refinancing operations: weekly auctions in which banks can bid for liquidity

longer-term refinancing operations: liquidity-providing transactions with a monthly frequency and a maturity of three months

fine tuning operations: executed on an *ad hoc* basis to manage the liquidity situation in the market and to steer interest rates

structural operations: through reverse transactions, outright transactions and issuance of debt certificates

➤ *Standing facilities*

marginal lending facility, which allows credit institutions to obtain overnight liquidity at pre-specified interest rate against eligible assets

deposit facility, which can be used by credit institutions to make overnight deposits at a pre-specified interest rate

➤ *Reserve requirements*

Credit institutions must keep a certain percentage of some of its own customer deposits in a deposit account with the relevant national central bank

What are non-standard monetary policy measures (NSMs) and why were they implemented?

- They are called "non-standard" as they are meant to be temporary in nature and as they deviate from the way monetary policy was conducted prior to the crisis.
- The non-standard monetary policy measures were motivated by a need to ensure the continued effectiveness of the transmission of monetary policy stance in an environment where the financial system was subject to considerable stress.
- These measures were intended to *complement standard interest rate* decisions, rather than substitute them.

Grouping of non-standard monetary policy measures

<p>Group 1:</p> <p>Refinancing operations</p> <p>Extension of maturity of liquidity-providing operations at fixed rate full allotment</p>	<ul style="list-style-type: none"> - full allotment of banks' demands for central bank liquidity at fixed rates (FRFA); - refinancing operations with longer maturities (LTROs): 1M, 3M, 6M and 12M; - VLTROs (3Y), TLTROs (up to 4Y), TLTRO-II
<p>Group 2:</p> <p>Currency swap arrangements</p>	<ul style="list-style-type: none"> - foreign currency swaps in USD and CHF - USD liquidity-providing operations against eligible collateral
<p>Group 3:</p> <p>Collateral requirements</p>	<ul style="list-style-type: none"> - extension of the list of assets accepted as collateral - adjustment of quality threshold for particular asset classes
<p>Group 4:</p> <p>Securities purchase programmes</p>	<ul style="list-style-type: none"> - CBPP1, CBPP2 - Securities Markets Programme (SMP), Outright Monetary Transactions (OMT; not used) - EAPP: CBPP3, ABSPP, PSPP, CSPP
<p>Group 5:</p> <p>Introducing negative deposit rate and forward guidance</p>	<ul style="list-style-type: none"> - negative deposit facility rate and negative remuneration of excess reserves - forward guidance

Non-standard monetary policy measures: chronology with key underpinnings / goals

- **Phase 1 - Addressing the global financial and liquidity crisis (October 2008 - April 2010):**
Non-standard measures aimed at improving bank financing conditions and addressing specific market impairments.
- **Phase 2 - Addressing the sovereign crisis and fragmentation (May 2010 – 2013):**
Non-standard measures aimed at addressing market segmentation and restoring impaired functioning of transmission mechanism.

In phases 1 & 2, the increase of Eurosystem balance sheet was mainly exogenous and a consequence of banks' need for liquidity and their drawing of lending operations.

- **Phase 3 – Increasing monetary stimulus for enhancing transmission mechanism and securing price stability (2013 →):**
Non-standard measures aimed at actively increasing monetary stimulus by introducing further balance sheet measures in the context of de-anchored inflation expectations and zero lower bound environment.

In phase 3, the Eurosystem made a shift to an active use of balance sheet to increase the monetary base and influence inflation and ultimately lending through various channels (for example through portfolio rebalancing, bringing down risk premia, increasing risk taking, flattening yield curve, signalling, shifting expectations).

Classification of NSMs by the phases of their introduction (I)

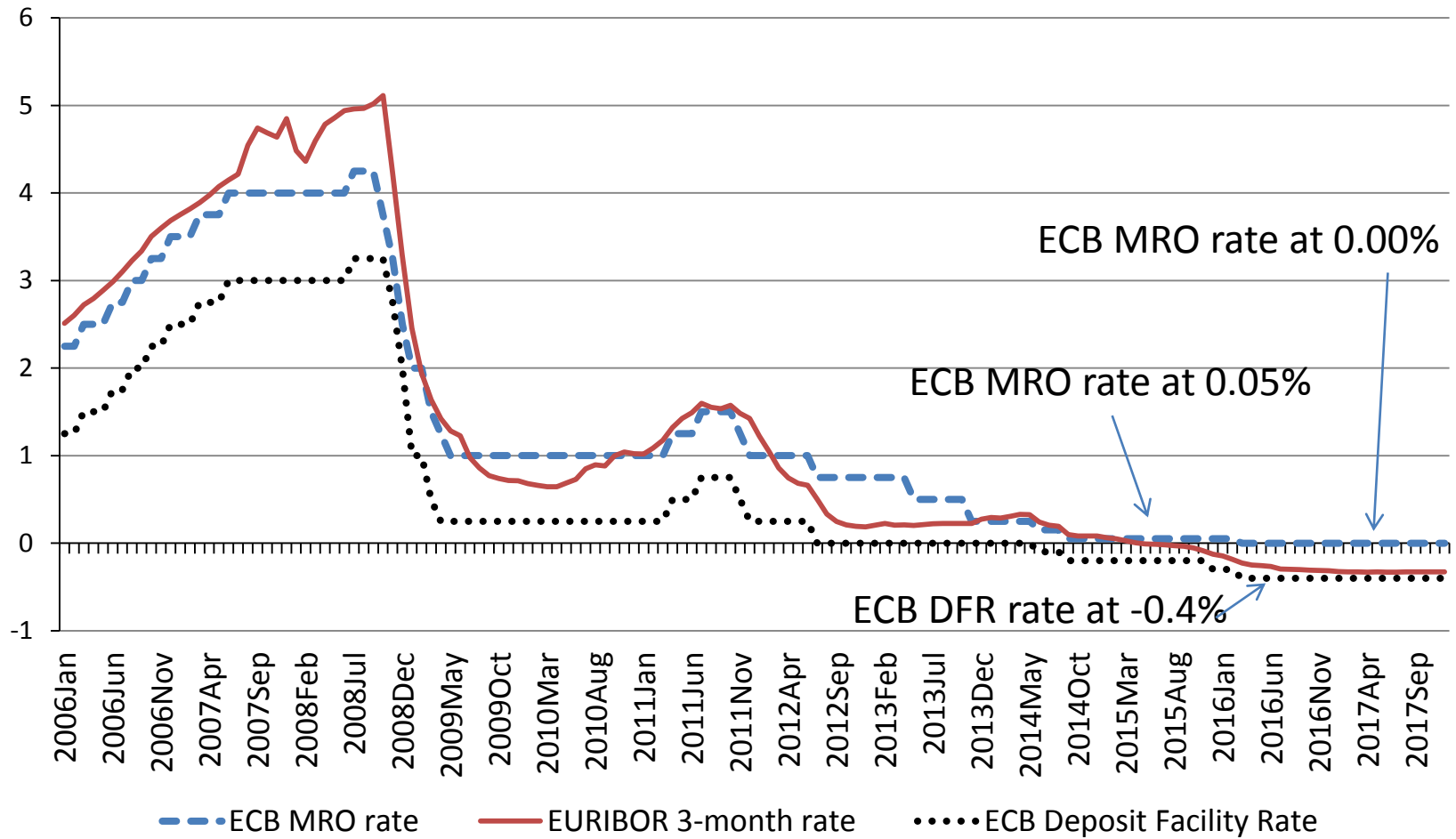
[illegible]

Phase 1: Addressing global financial and liquidity crisis, Phase 2: Addressing sovereign crisis and fragmentation, Phase 3: Increasing monetary stimulus to secure price stability. Orange bars indicate that NSMs were being conducted (e.g. operations) or were in effect (e.g. FRFA, collateral measures) in specific quarter.

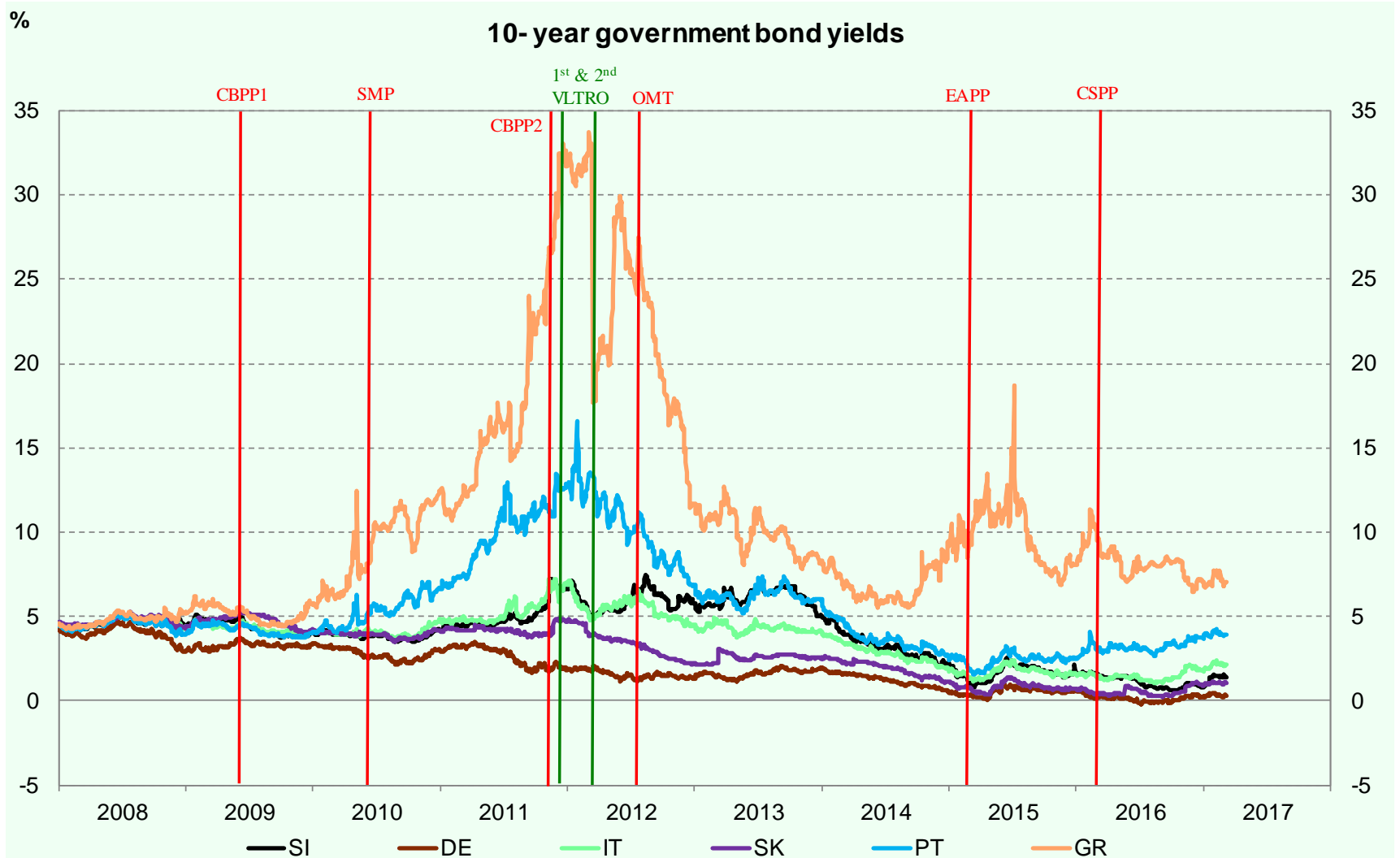
Classification of NSMs

- FRFA – Fixed Rate Full Allotment
- LTRO – Long-Term Refinancing Operation
- VLTRO – Very Long-Term Refinancing Operation
- TLTRO – Targeted Long-Term Refinancing Operation
- ACC – Additional Credit Claims
- CBPP – Covered Bond Purchase Programme
- SMP – Securities Market Programme
- OMT – Outright Monetary Transactions
- APP – Asset Purchase Programme
- EAPP – Extended Asset Purchase Programme
- ABSPP – Asset-Backed Securities Purchase Programme
- PSPP – Public Sector Purchase Programme
- CSPP – Corporate Sector Purchase Programme

Policy and Market Interest Rates (%)



Sovereign bond yields in the euro area



Source: Bloomberg

Principles of Money Supply Determination

- Three groups affect the money supply
 - The ECB is responsible for monetary policy. The central bank actions can impact the monetary base and the money multiplier.
 - Depository institutions (banks) accept deposits and make loans. The money multiplier may be influenced by behaviour of banks.
 - The public (people and firms) holds money as currency and coin or as bank deposits. The money multiplier may be influence by the behaviour of the public.

Money multiplier when banks hold excess reserves

$$\text{Money} = \text{CU} + \text{DEP}$$

$$\text{Monetary base (Reserve money)} = \text{CU} + \text{Required Reserves} + \text{Excess Reserves}$$

If r_d is the required reserves ratio, and r_e is the excess reserves of banks as ratio to deposits, then:

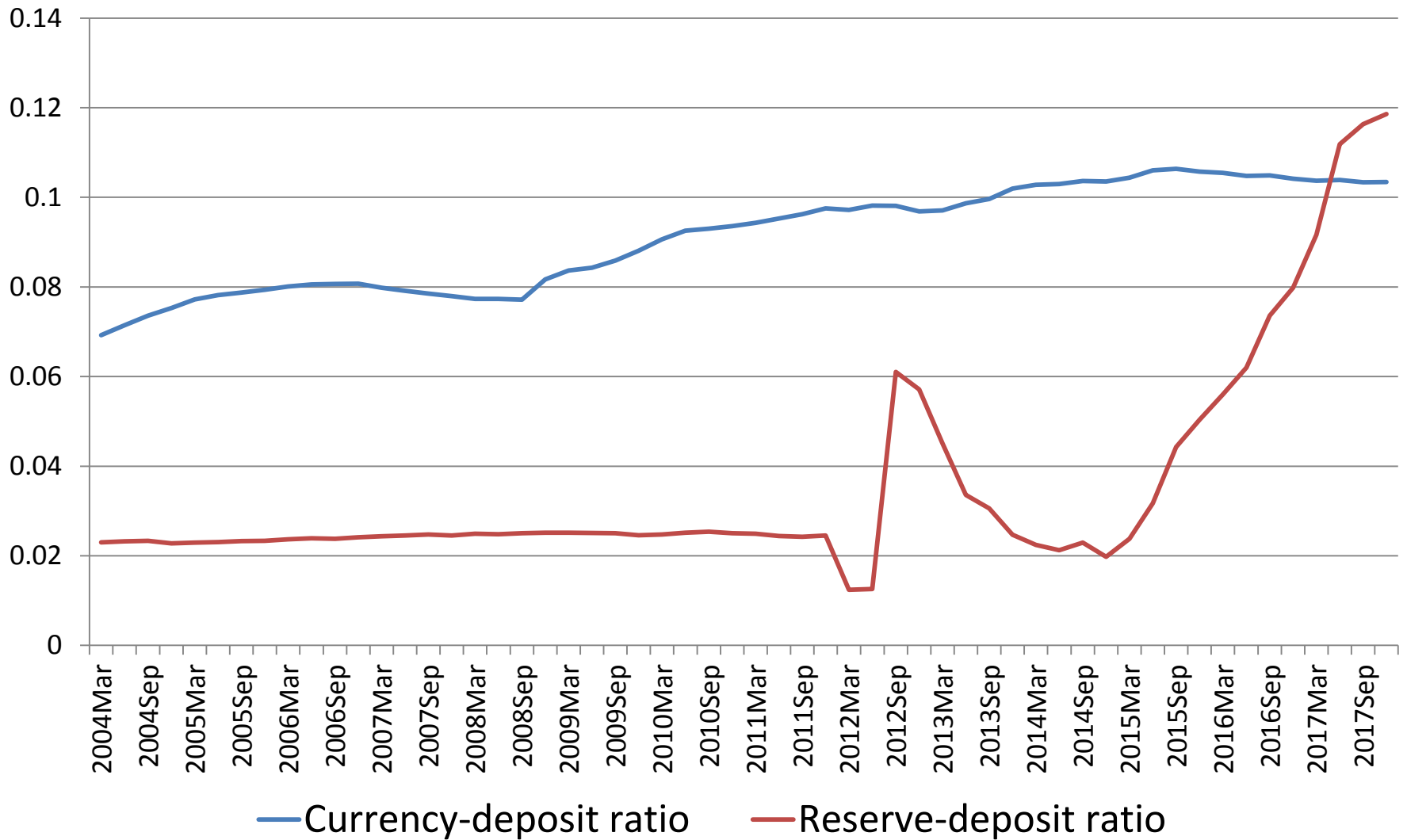
$$RM = CY + r_d D + r_e D$$

Then we can write the money multiplier as:

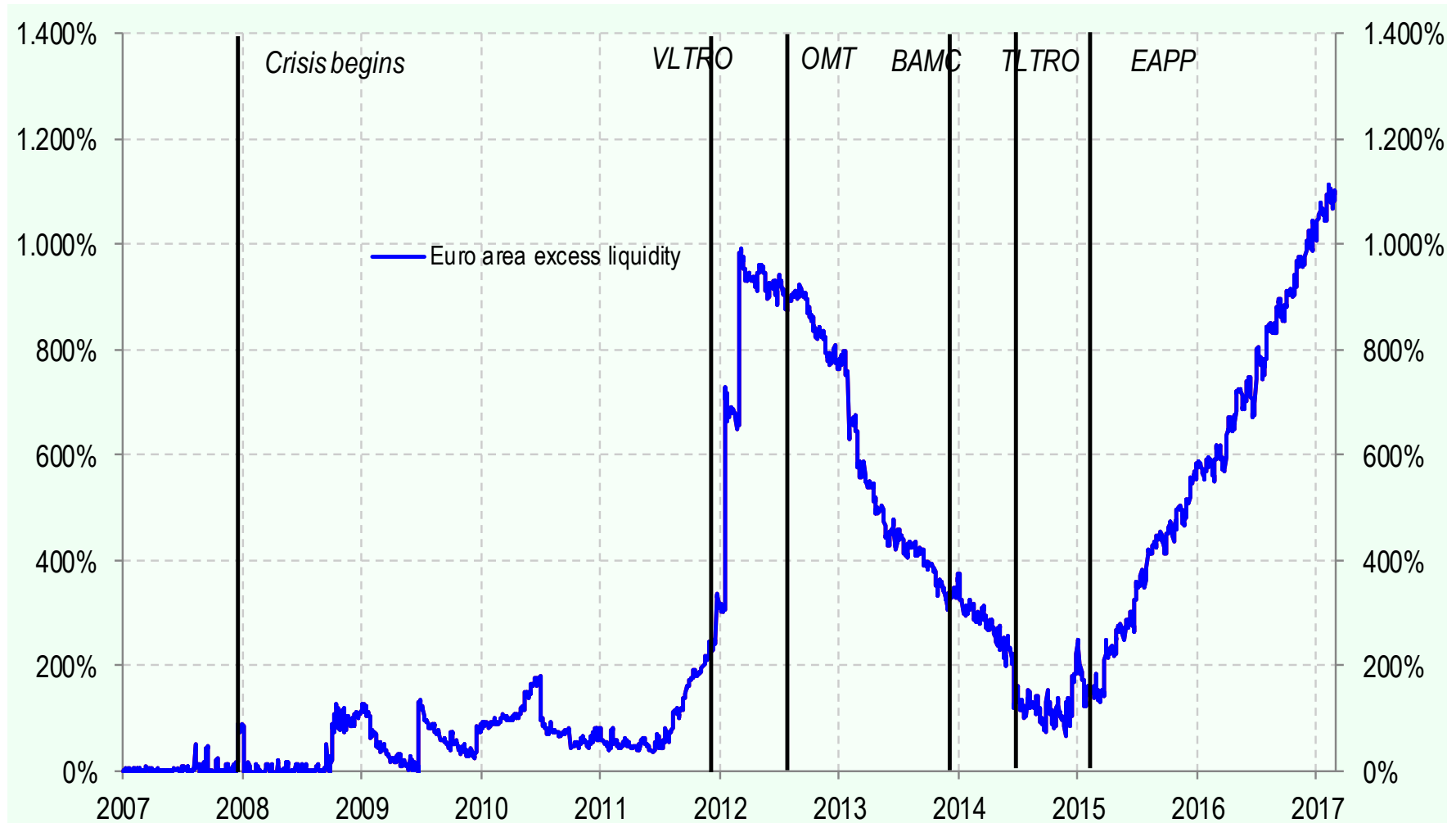
$$mm = \frac{c+1}{c + r_d + r_e}$$

- Thus, mm reflects behaviour of three types of agents:
 - The monetary authority who set required reserves ratio
 - DMBs who decide how much to hold in excess reserves
 - The nonbank public who decide how much of the money stock to hold in the form of currency as opposed to deposits (c)
- Thus the monetary authority do not fully control money supply
- If mm is stable, then monetary authority can set Reserve Money so that the targeted level of money supply (M) is attained.

Currency-deposit ratio and Reserve-deposit ratio in euro area

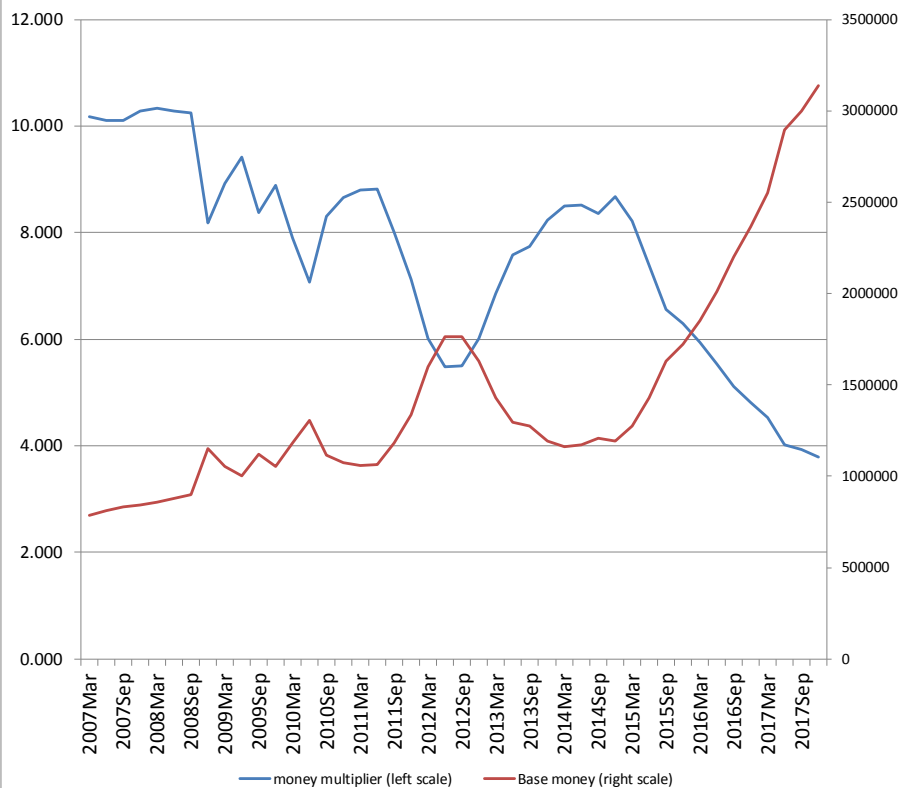


Excess liquidity in euro area (relative to required reserves)

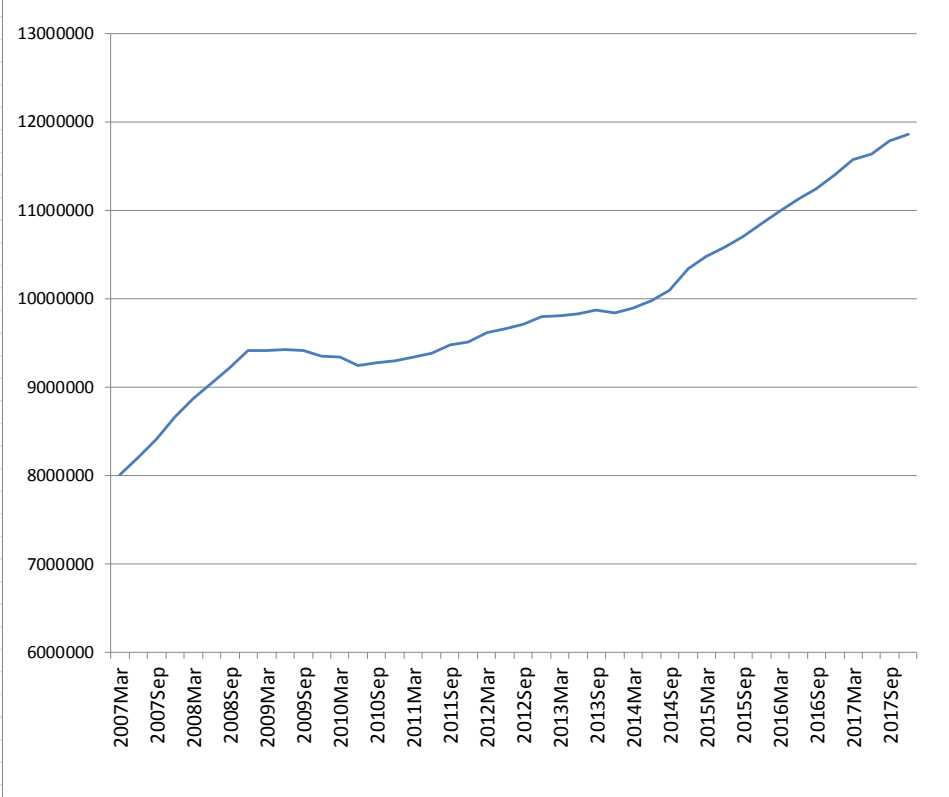


Note: Excess liquidity = Excess reserves in banks' accounts or placed with the Eurosystem

Monetary base and money multiplier in euro area

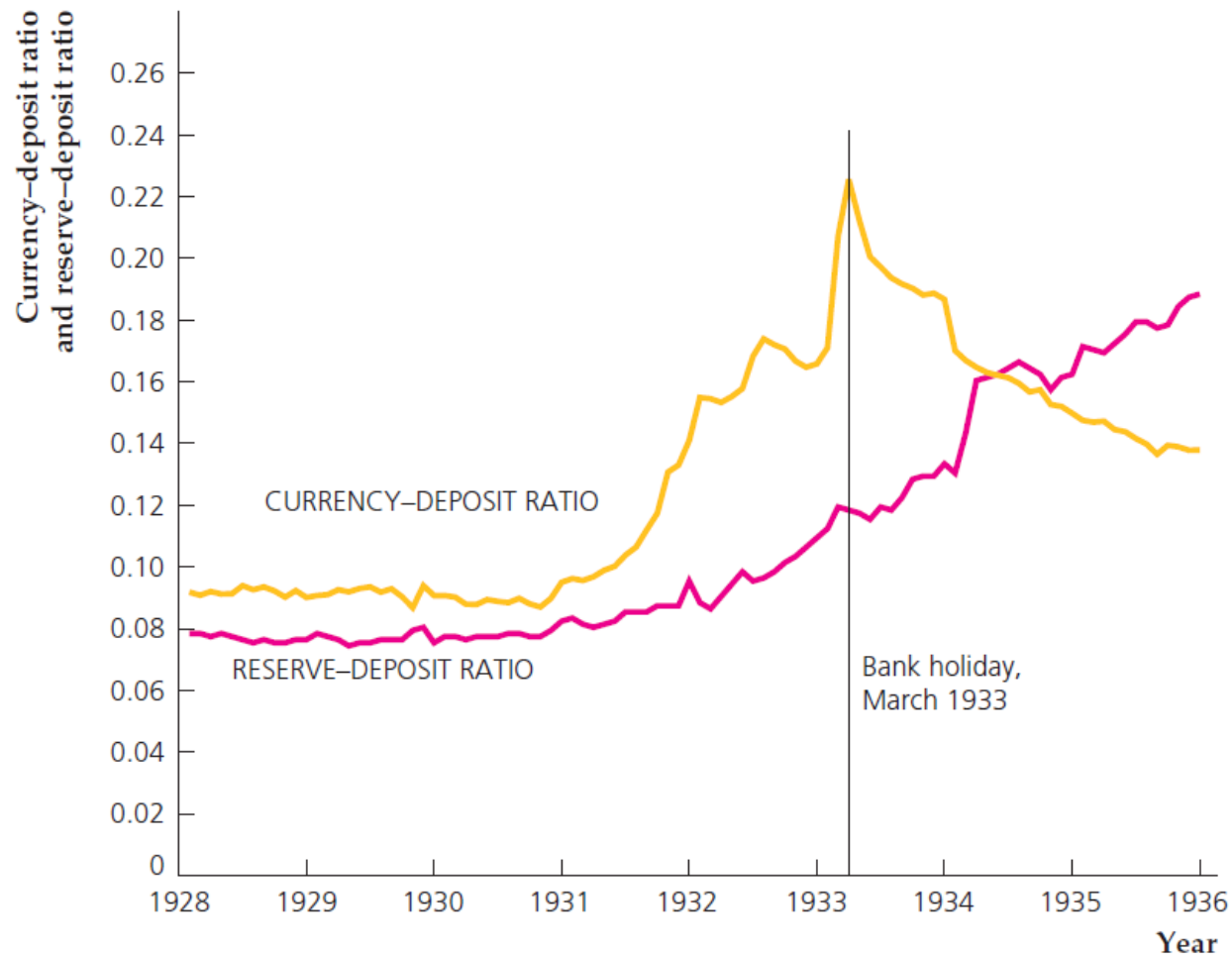


Money supply (M3), in millions of euro



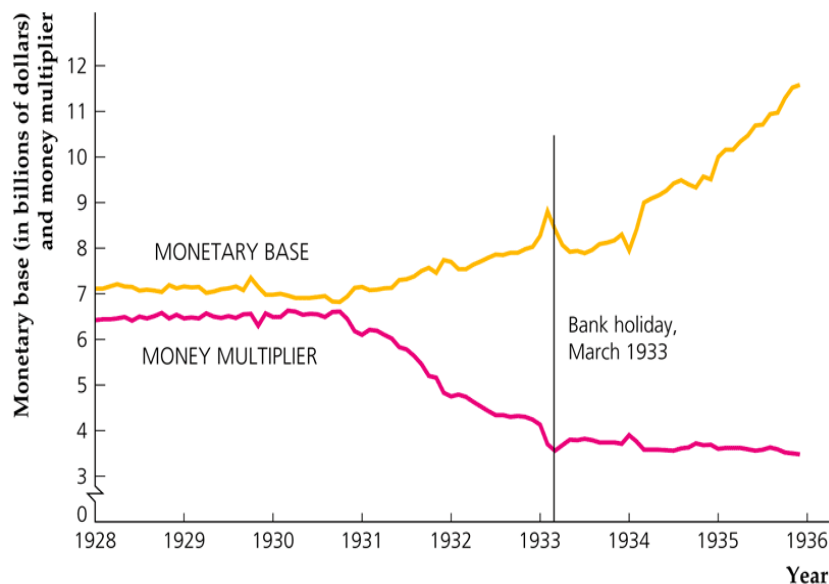
Comparison of base money and money multiplier developments in euro area with that in the United States during the Great Depression and the Financial crisis of 2008

Currency-Deposit and Reserve-Deposit Ratios during Great Depression

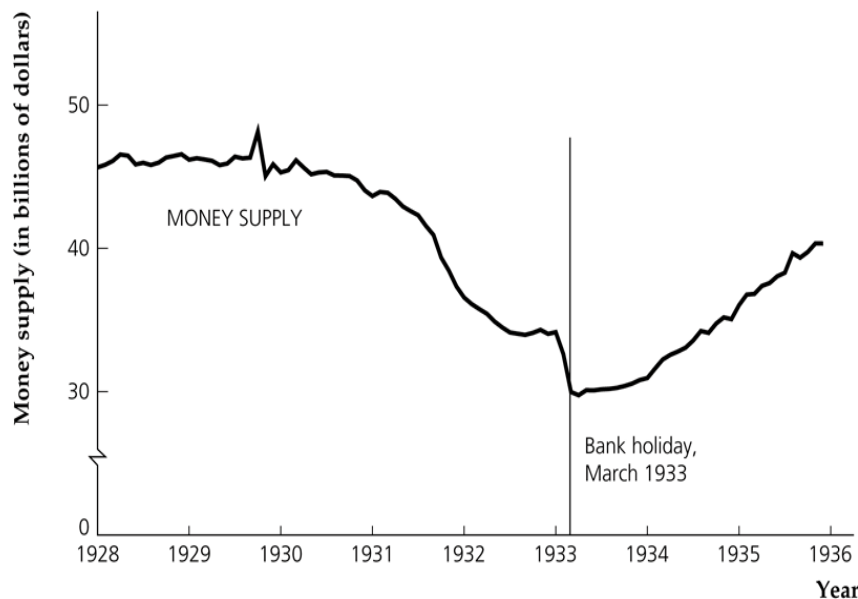


The currency-deposit ratio increased because people became mistrustful of banks. Banks held more reserves, in anticipation of bank runs, which raised the reserve-deposit ratio

Monetary variables in the Great Depression



(a) The monetary base and the money multiplier in the Great Depression



(b) The money supply in the Great Depression

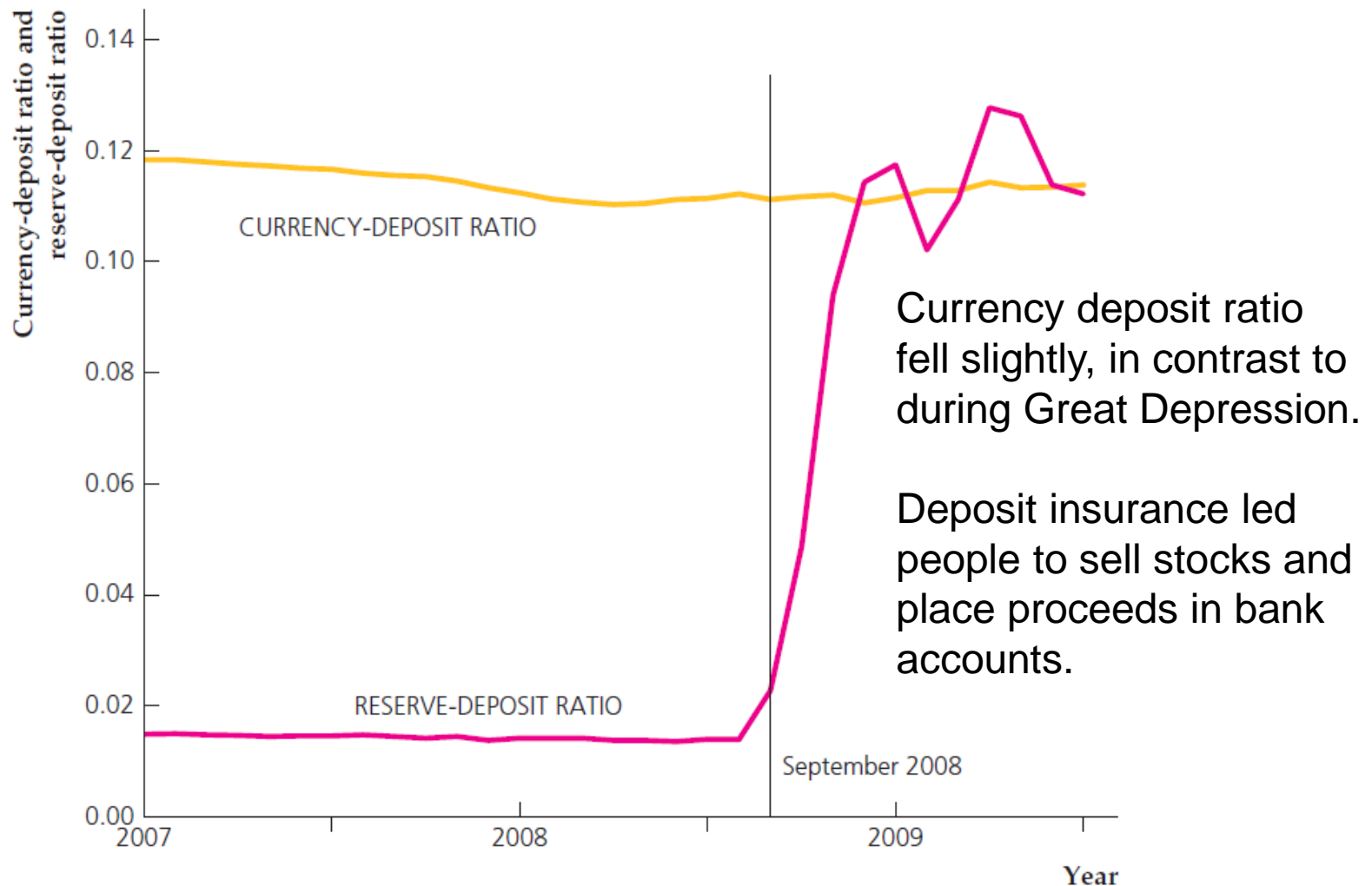
March 1930—March 1933:

Money multiplier fell from 6.6 to 3.6; Monetary base grew by 20%

Therefore, money supply fell by 35%

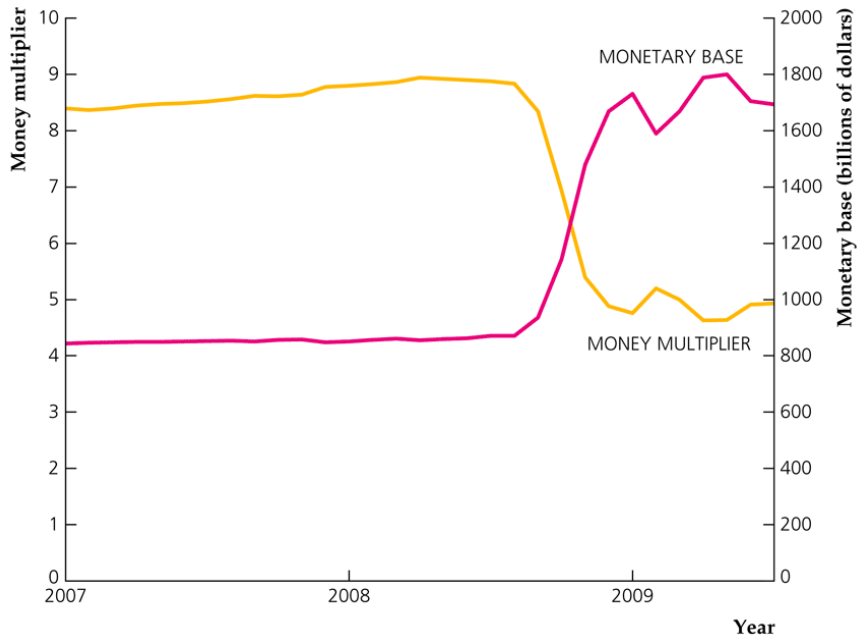
As a result, the price level fell sharply (nearly one-third) and there was a decline in output

Currency-Deposit and Reserve-Deposit Ratios during Financial Crisis of 2008

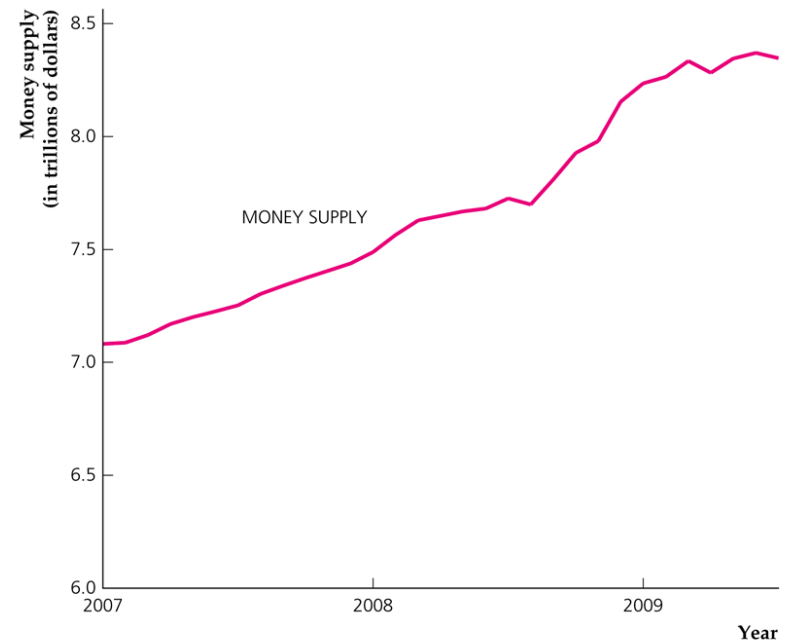


Reserve-deposit ratio rose sharply. Reasons: (a) Fed began paying interest on reserves to foster liquidity in banking system; (b) the large cash inflows to banks from Fed's OMO were added to reserves because of few good lending opportunities.

Monetary variables in the financial crisis of 2008



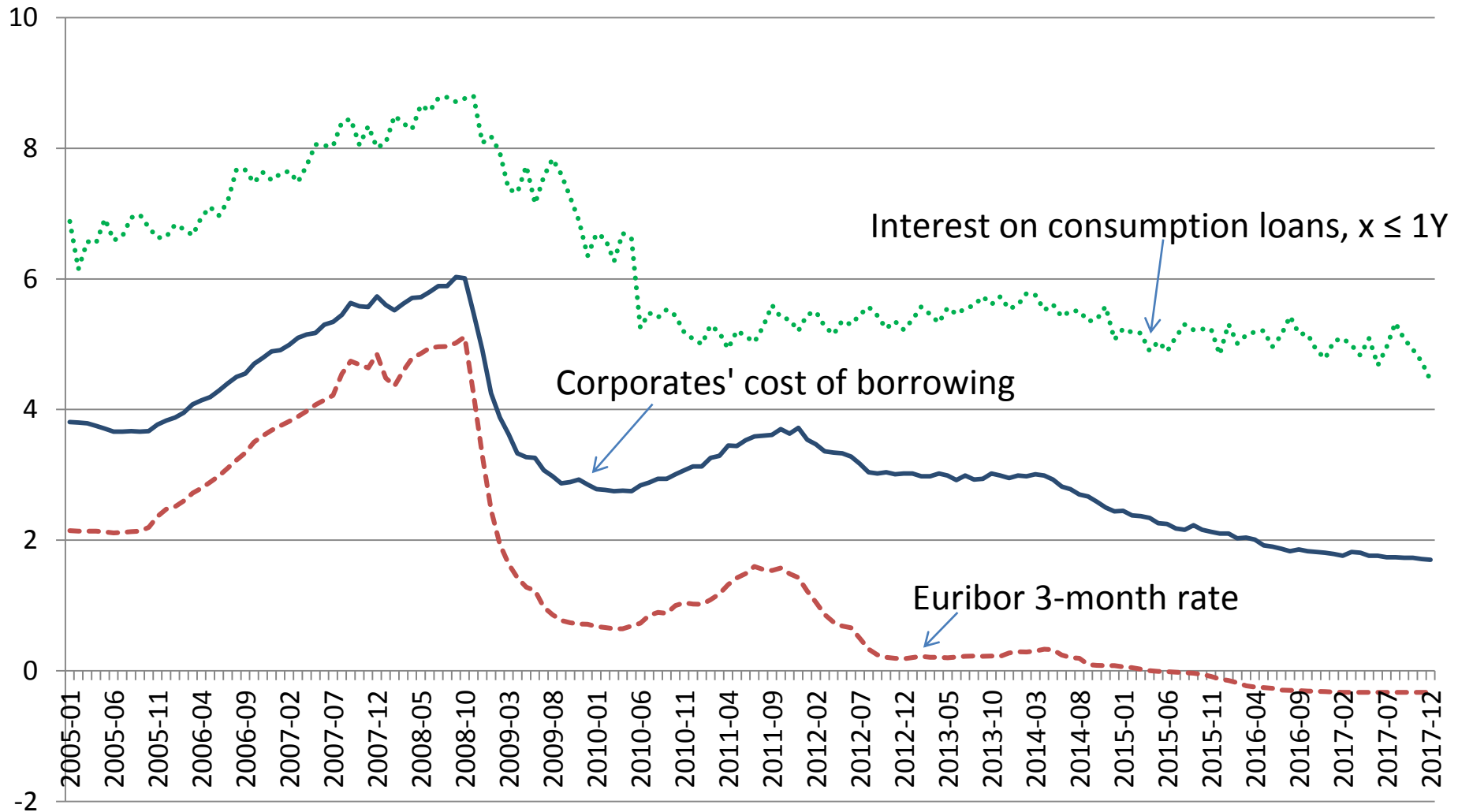
(a) The money multiplier and the monetary base, 2007–2009



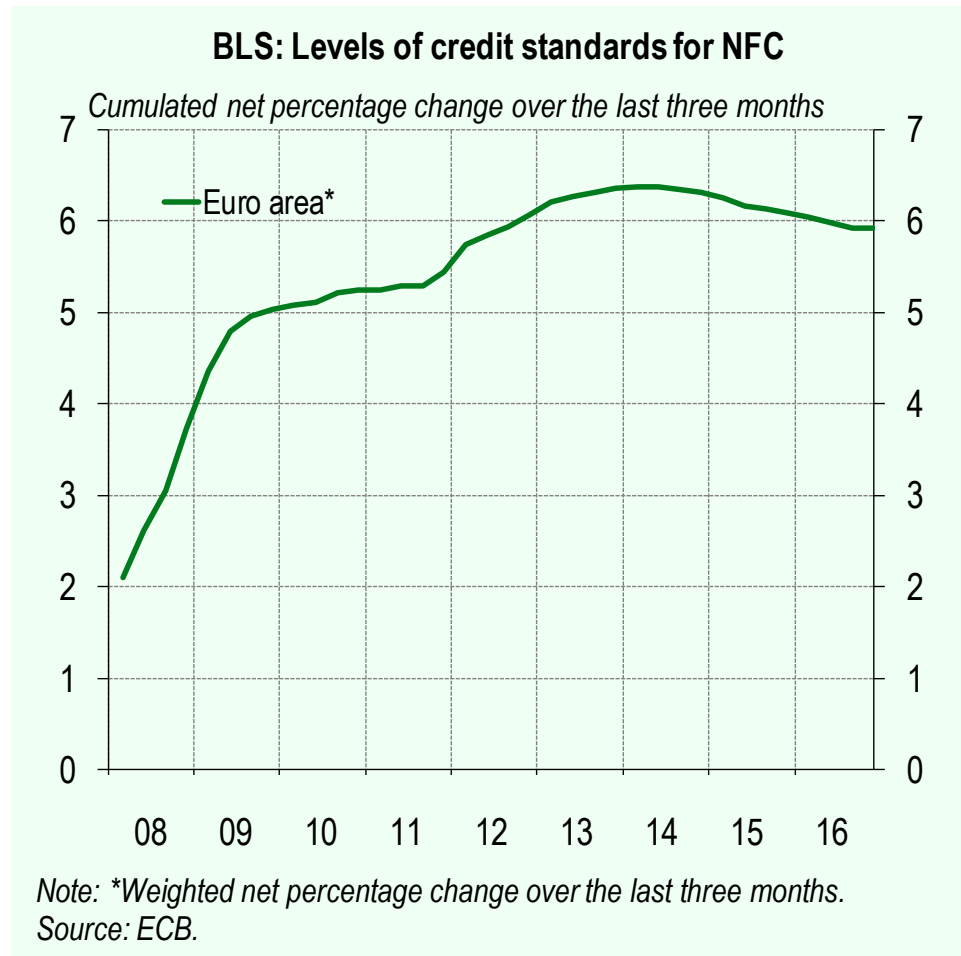
(b) The money supply, 2007–2009

Money multiplier declined sharply. But, money supply increased because the Fed significantly increased the monetary base by more than the decline in the money multiplier.

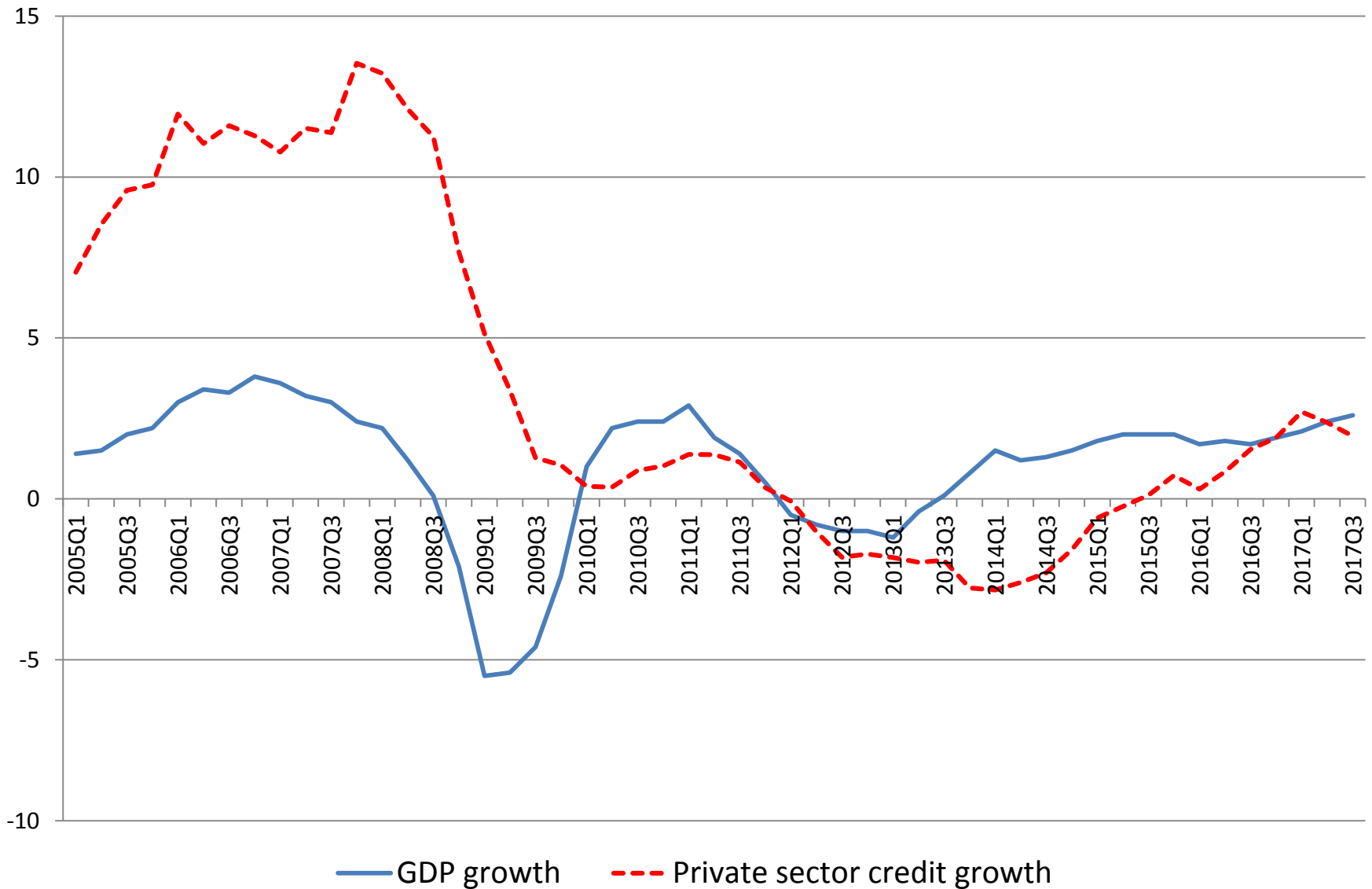
Interest rate on consumption loans and corporates' composite cost of borrowing, %



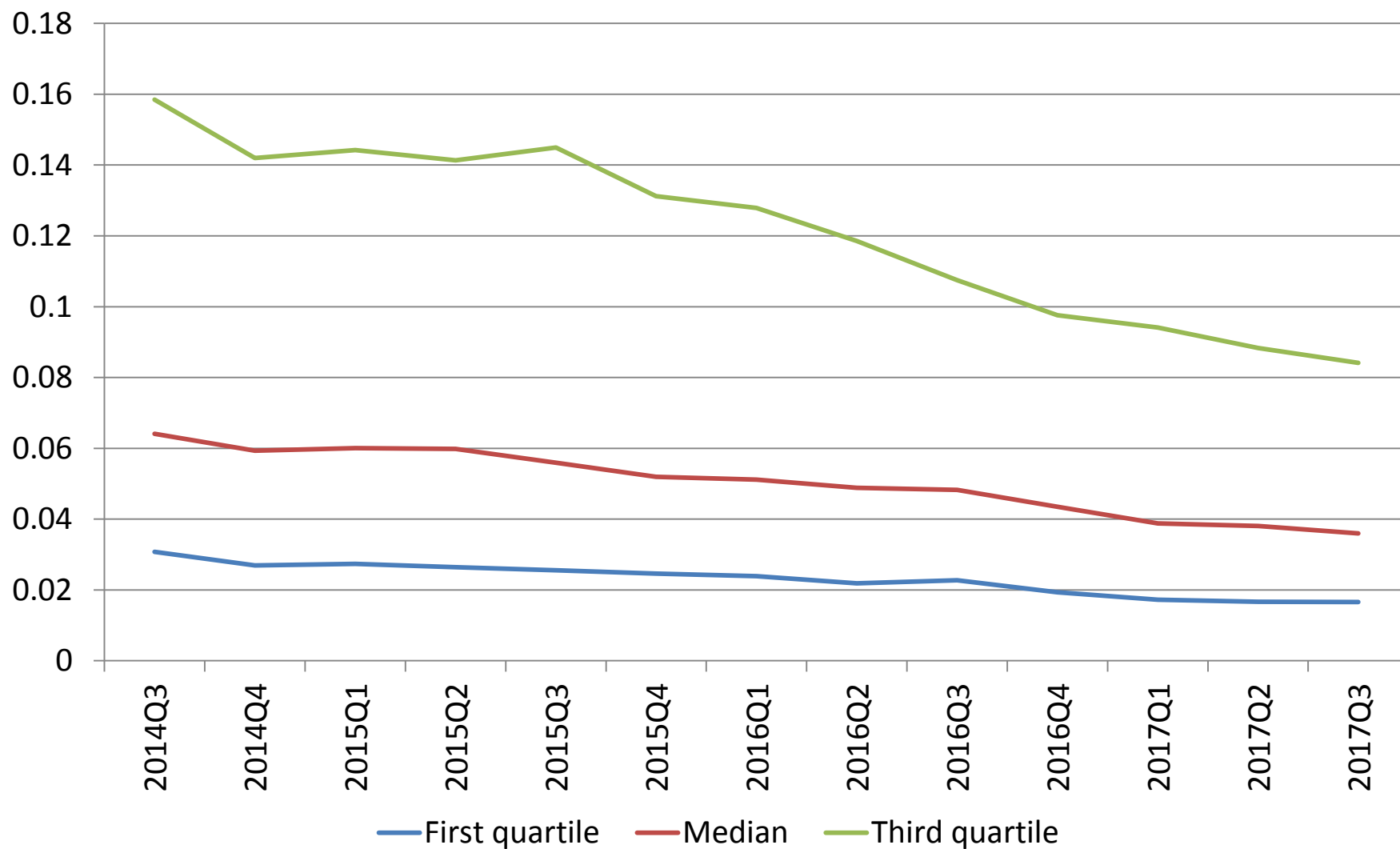
Lending standards in euro area



GDP growth and private sector credit growth in euro area, %

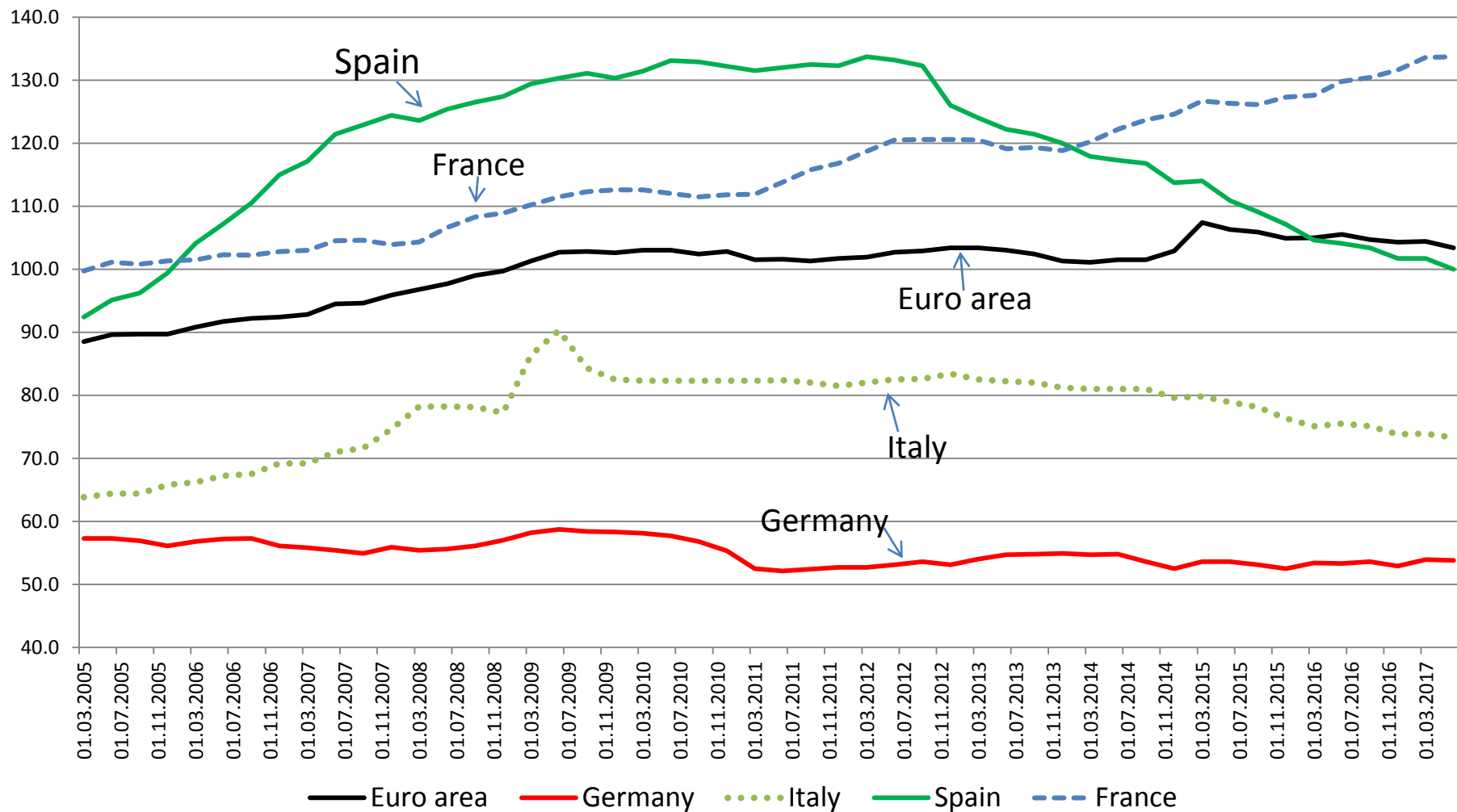


Ratio of Nonperforming Loans to Total Gross Loans and Advances

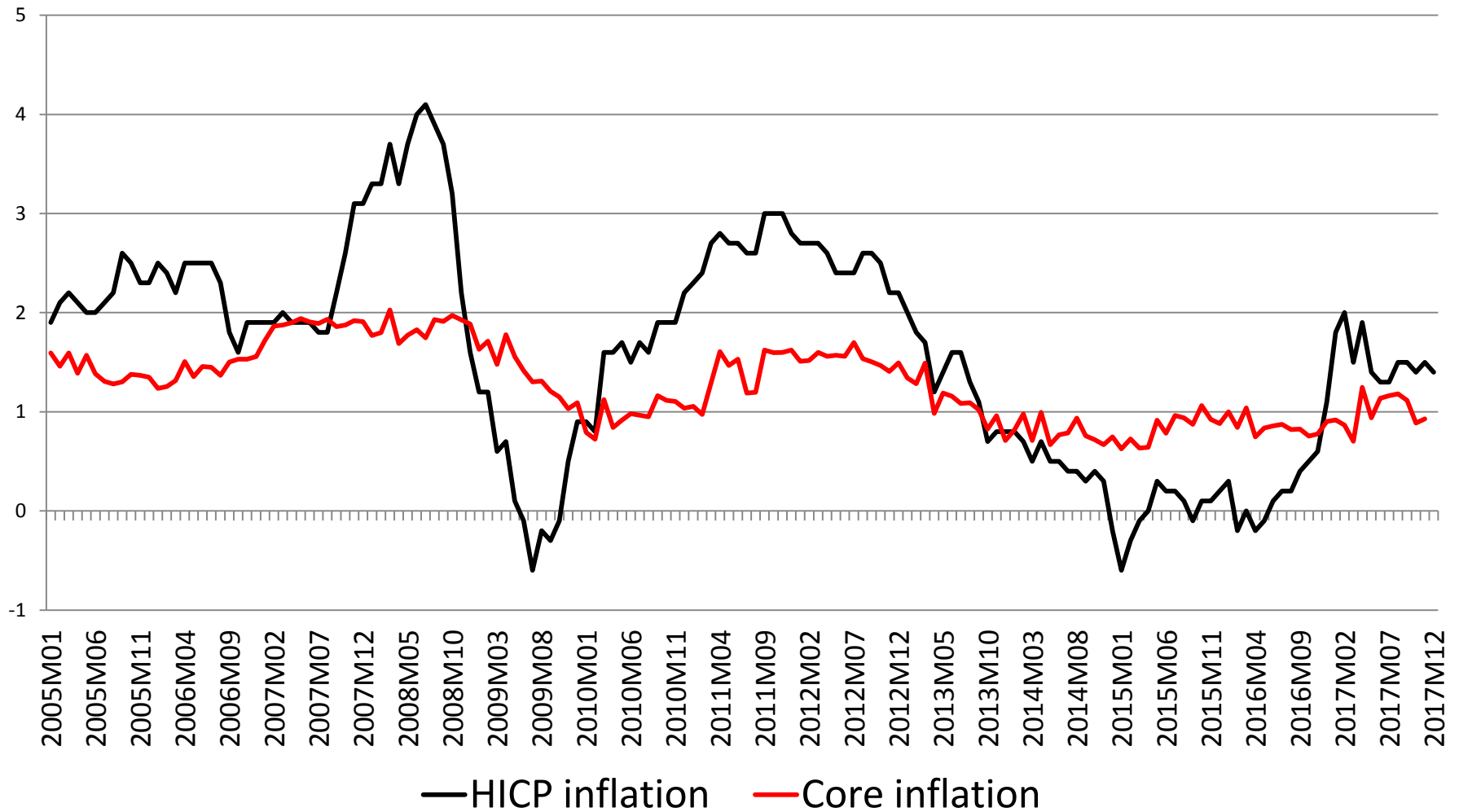


Source: EBA

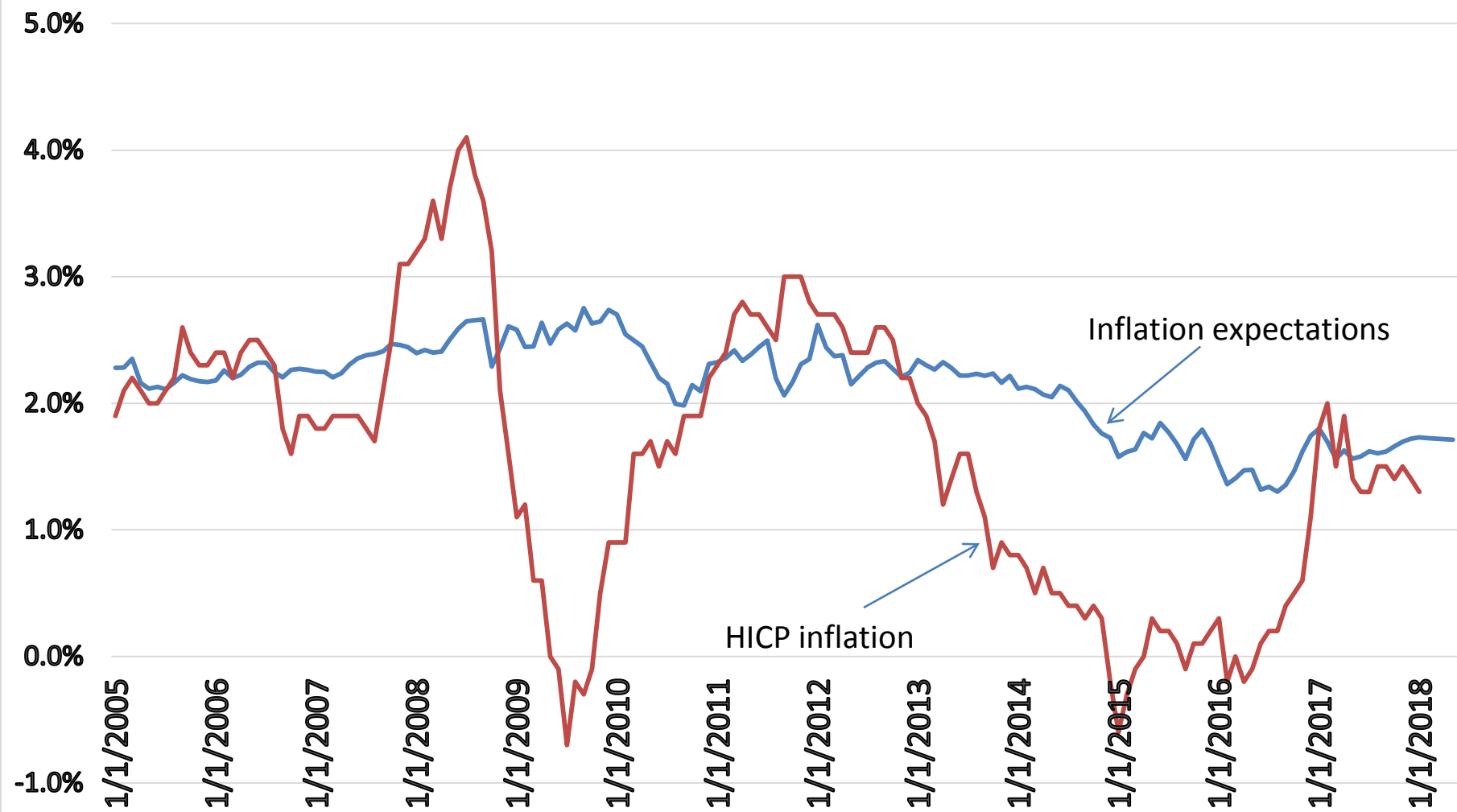
Debt to GDP ratio of Non-Financial Corporations across the euro area, %



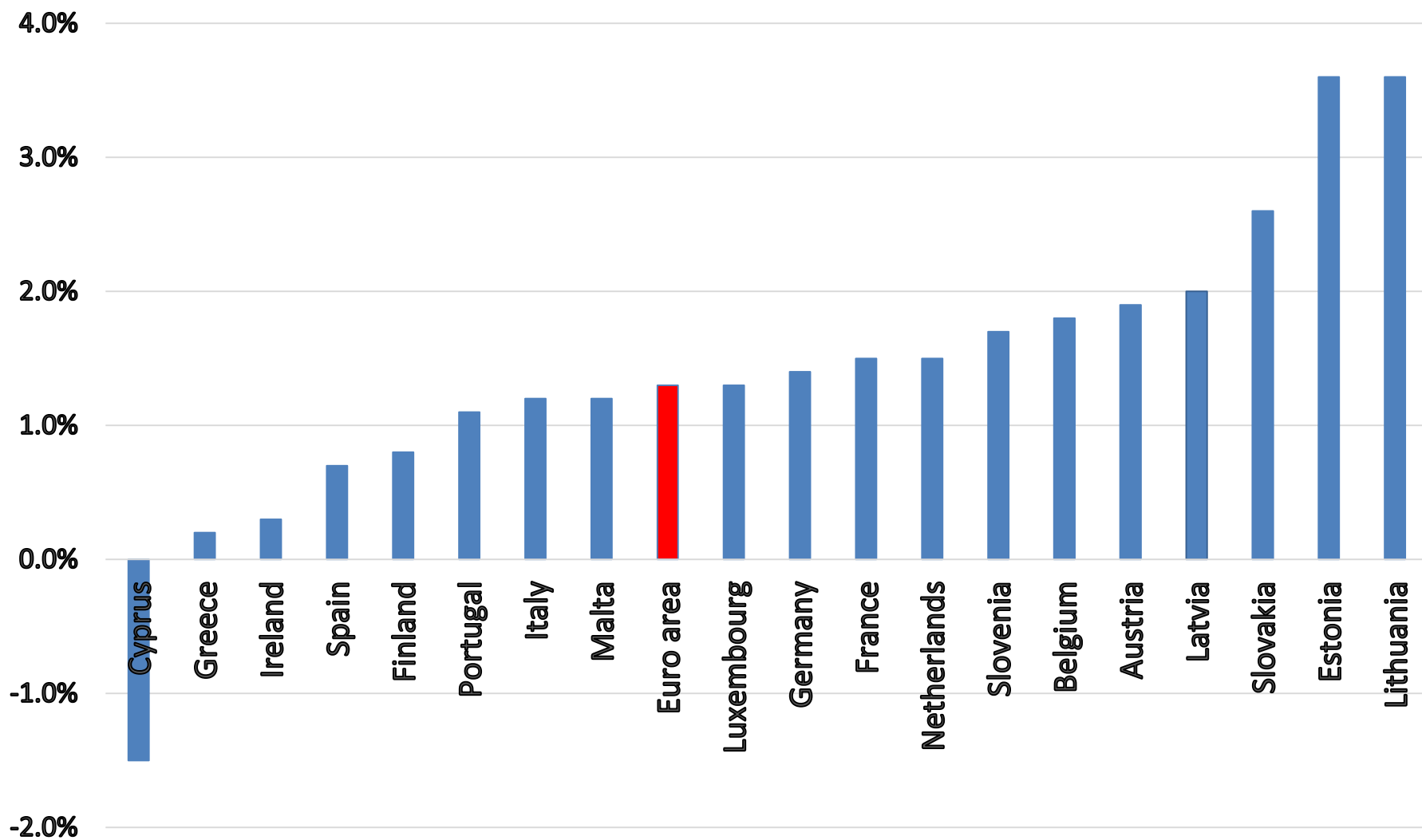
HICP inflation and core inflation in euro area, %



Inflation expectations and HICP inflation in euro area



HICP Inflation, January 2018



Assessment of non-standard measures in the concluding remarks by Vítor Constâncio, Vice-President of the ECB, at the ECB Workshop “Monetary Policy in Non-Standard Times”, 11-12 September 2017

- “The non-standard measures that the ECB had to use in order to face the challenges of the crisis and the threat of too low inflation have been successful to avoid the worst for the European Monetary Union. From innovative liquidity facilities to asset purchase programmes and negative deposit rates, non-standard measures proved crucial to avoid deflation and foster the economic recovery. We have not yet achieved our main goal of inflation being below but close to 2 percent. We share with other advanced economies the puzzle of wage and prices not responding to strong growth as usual. By keeping a sufficient degree of monetary policy accommodation we can be confident that our goal will eventually be reached, in accordance with our mandate.”
- “Non-standard measures are going to be part of our toolkit for some time to come, and some of them might even be deemed standard measures at some point...”.

Where we now stand: Draghi's views on inflation outlook

Introductory Statement by Mario Draghi, President of the ECB, at the Committee on Economic and Monetary Affairs of the European Parliament, Brussels, 26 February 2018

- Inflation has yet to show more convincing signs of a sustained upward adjustment.
- Given the uncertainty surrounding the measurement of economic slack, the true amount may be larger than estimated, which could slow down the emergence of price pressures. This is particularly visible in the labour market, where wage growth has remained subdued despite strong employment gains. Nonetheless, these factors should wane....
- On the structural side, globalisation may have reduced the responsiveness of inflation to domestic cyclical condition. Other potential factors include demographic trends or changes in behaviour triggered by technological developments, which may contain price pressures, for instance through increased price transparency. However, ... these factors ... should still not exert a permanent impact on inflation.
- Looking ahead, it is anticipated that headline inflation will resume its gradual upward adjustment, supported by monetary policy measures. At the same time, uncertainties continue to prevail [on account of volatility in financial markets, particularly in the exchange rate].
- While the strong momentum of the euro area economy has clearly strengthened the confidence in the inflation outlook, patience and persistence with regard to monetary policy is still needed for inflation to sustainably return to levels of below, but close to, 2%.

Where we now stand:

Monetary policy decisions, 8 March 2018

- The interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 0.00%, 0.25% and -0.40% respectively.
- 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.
- Regarding non-standard monetary policy measures, the Governing Council confirmed that the net asset purchases, at the current monthly pace of €30 billion [reduced in January 2018 from €60 billion earlier] ,are intended to run until the end of September 2018, or beyond, if necessary, and in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation aim.

[Until now, the ECB has stated that it stands ready to increase the level of bond purchases it makes in both duration and/or size, in case the economic outlook deteriorates in the euro zone. But it removed such statement from its communication on 8 March, following a monetary policy meeting, indicating that stimulus in the region could come to an end in the near future. This sentence was introduced in end-2016, when ECB announced a cut in its monthly purchases from €80 to €60 billion. ECB President Mario Draghi has said that the solid economic recovery in the region supported the decision to remove the so-called easing bias.].

- The Eurosystem will reinvest the principal payments from maturing securities purchased under the asset purchase programme for an extended period of time after the end of its net asset purchases, and in any case for as long as necessary. This will contribute both to favourable liquidity conditions and to an appropriate monetary policy stance.

Discussion