Money and Banking
Lecture 17
The European Central Bank

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Introduction

- ECB, Eurosystem (ECB + $NCB_{EU€}$), ESCB (Eurosystem + $NCB_{EUnon€}$), euro area

- Main responsibilities of the Eurosystem:
  - Define and implement monetary policy for the euro area
  - Conduct FOREX operations
  - Hold and manage the official foreign reserves of EU member states
  - Promote the smooth operation of the payment system (TARGET2, SEPA)

- In 2014, the ECB acquired new important responsibilities in the field of banking supervision in Europe. (Single supervisory mechanism part of the EU Banking Union) MOTLO

Structure

- Decision making bodies:
  - Governing Council = 6 (EB) + 19 ($GNCB_{EU€}$) takes monetary policy decisions by simple majority voting (consensus + rotating mechanism)
  - Executive Board = 1 (PECB) +1 (V-PECB) + 4 (M) prepares the meeting of the Governing council and implements monetary policy decisions
  - General Council = 1 (PECB) +1 (V-PECB) + 28 ($GNCB_{EU}$)

- The ECB's decision making bodies are independent from elected political authorities (goal, instrument, political independence)
  - Legal provisions to guarantee ECB's independence https://www.ecb.europa.eu/ecb/orga/independence/html/index.en.html

- Transparency and accountability as counterparts of independence
  - Transparency https://www.ecb.europa.eu/ecb/orga/transparency/html/index.en.html
  - Accountability https://www.ecb.europa.eu/ecb/orga/accountability/html/index.en.html

- Prohibition to finance the government budget deficit by monetary means as one of the main implications of central bank's independence from elected authorities

ECB’s primary objective

- Price stability is the ECB’s primary objective as established by the Maastricht Treaty. (Single mandate)
  - General definition of monetary policy: “Branch of economic policy aimed at influencing monetary and financial conditions in view of achieving specific macroeconomic goals”.
  - Single mandate vs. Dual mandate
  - ECB mandate “The primary objective of the European System of Central Banks (hereinafter referred to as "the ESCB") shall be to maintain price stability. Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union. The ESCB shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources, and in compliance with the principles set out in Article 119.”
  - FED mandate “"The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices and moderate long-term interest rates.“http://www.federalreserve.gov/faqs/money_12848.htm
- Financial stability as a parallel (and at times primary) goal of monetary policy

Financial stability

- Financial stability can be defined as a condition in which the financial system – intermediaries, markets and market infrastructures – can withstand shocks without major disruption in financial intermediation and in the effective allocation of savings to productive investment.

- The financial system can be said to be stable if it displays the following three key characteristics:
  - The financial system should be able to efficiently and smoothly transfer resources from savers to investors.
  - Financial risks should be assessed and priced reasonably accurately and should also be relatively well managed.
  - The financial system should be in such a condition that it can comfortably absorb financial and real economic surprises and shocks.

- If any one or a combination of these characteristics is not being maintained, then it is likely that the financial system is moving in a direction of becoming less stable, and at some point might exhibit instability.

- Understood this way, the safeguarding of financial stability requires identifying the main sources of risk and vulnerability such as inefficiencies in the allocation of financial resources from savers to investors and the mis-pricing or mismanagement of financial risks. This identification of risks and vulnerabilities is necessary because the monitoring of financial stability must be forward looking: inefficiencies in the allocation of capital or shortcomings in the pricing and management of risk can, if they lay the foundations for vulnerabilities, compromise future financial system stability and therefore economic stability.

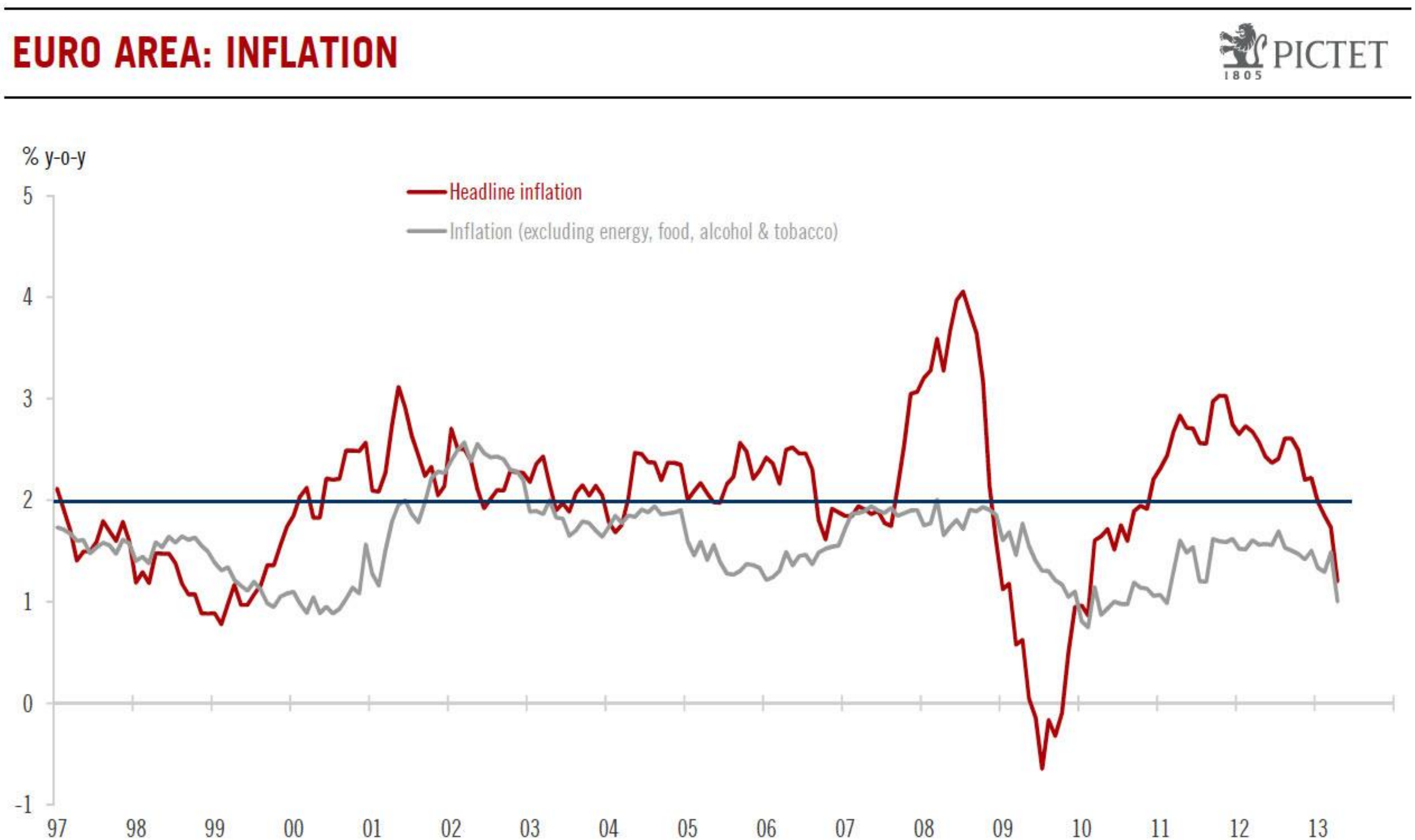
- Source: https://www.ecb.europa.eu/pub/fsr/html/index.en.html

Quantitative definition of PS

- The ECB's quantitative definition of price stability «Year on year increase in the HICP for the euro area as a whole below but close to 2 % to be maintaned in the medium run»
  - Why Price stability? Improving the transparency of the price mechanism (relative prices). Reducing inflation risk premia in interest rates. Avoiding unproductive activities to hedge against the negative impact of inflation or deflation. Reducing distortions of inflation or deflation, which can exacerbate the distortionary impact on economic behaviour of tax and social security systems; preventing an arbitrary redistribution of wealth and income as a result of unexpected inflation or deflation; and contributing to financial stability.
  - Why HIPC and not GDP deflator? Ordinary people pay HICP
  - Why below but close to 2% and not zero? Observed inflation overestimates the "real" inflation rate.
  - Why the medium run? What is the medium run?

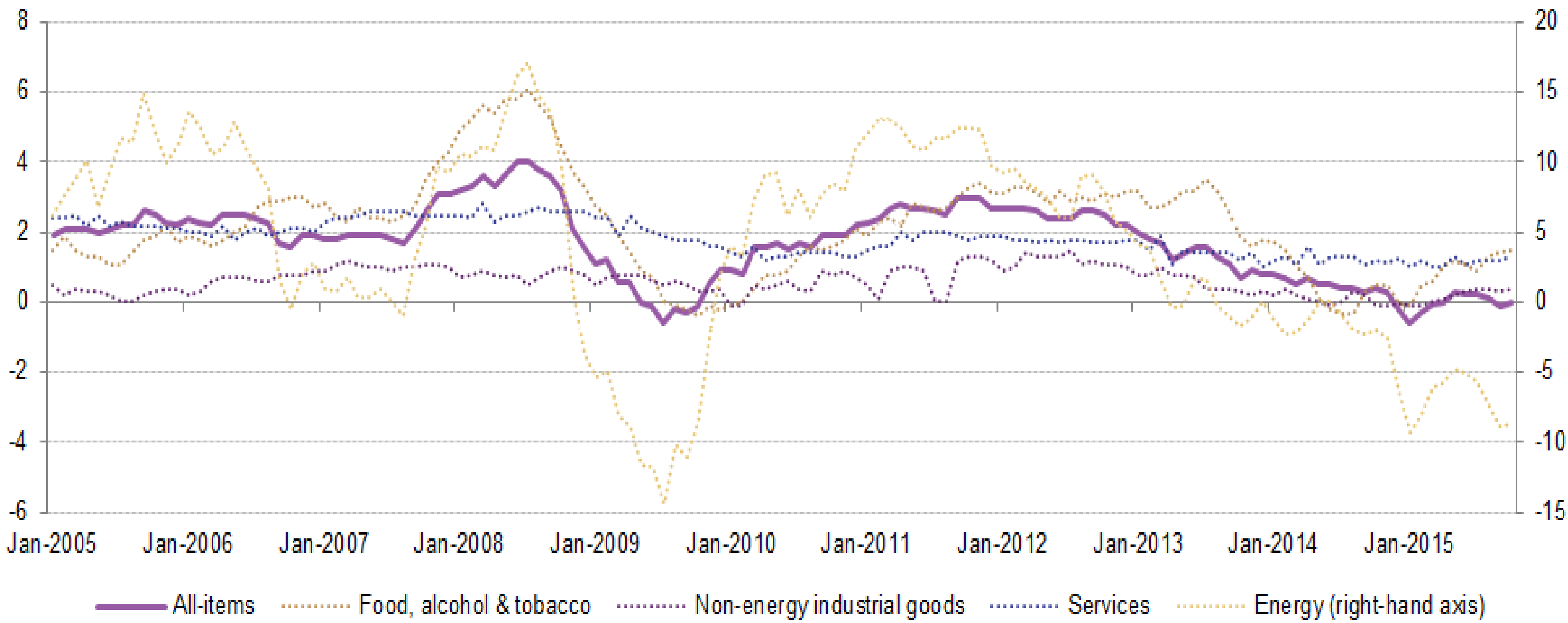
- The quantitative definition of price stability works as an anchor for expectations: long-run inflation expectations and short-run expectations about ECB's monetary policy decisions.

Euro area inflation



Euro area annual inflation and its main components, 2005-October-2015

source: Eurostat



Monetary policy strategy (general considerations)

- Typically central banks take their MP decisions on the basis of a MP strategy: a comprehensive framework that connects MP goals (expressed in terms of the macroeconomic variables the central bank aims to influence) to MP instruments (economic variables set by the central bank in view of achieving its MP goals)

- MP strategies make the process of formulating and implementing MP more effective and transparent. This is particularly important in view of the fact that

  "There is much evidence that monetary changes have their effect only after a considerable lag and over a long period and that the lag is rather variable". (Milton Friedman)

- General MP strategy: Final goals, Intermediate targets, Operative targets, Instruments
  - Intermediate targets: variables which the central bank may wish to target not for their own sake but because of their specific characteristics: close connection to final goals, more frequent observability with respect to final goals, better controllability by means of MP instruments.
  - Operational targets: market-determined variables which the central bank may wish to target because of their primary importance in setting off the monetary policy transmission process. (e.g the US Fed Fund rate)

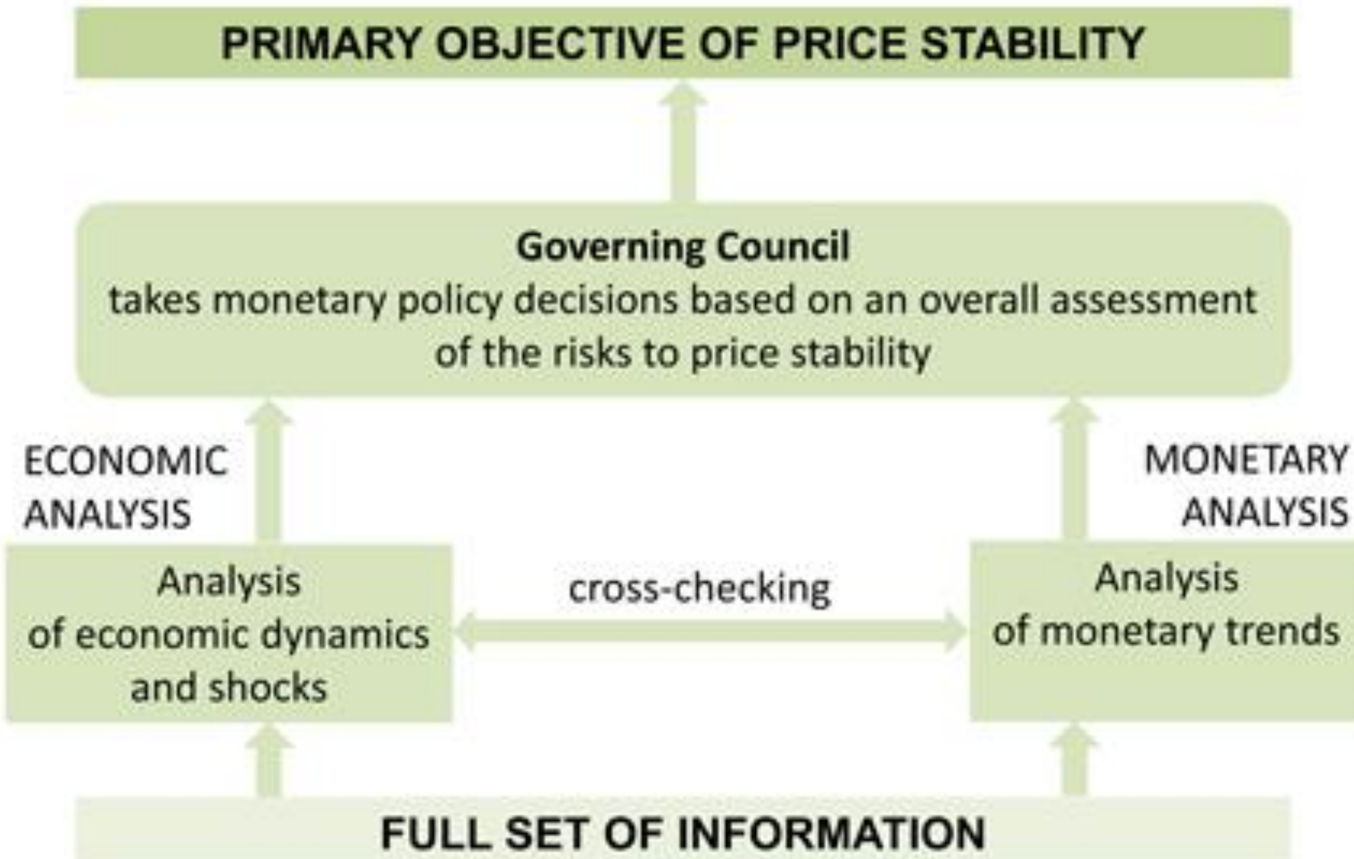
The ECB's two-pillar strategy

- Antecedents to the ECB's MP strategy: Monetary targeting and inflation targeting*
  - Monetary targeting involves three key elements: 1) reliance on the information conveyed by a monetary aggregate to conduct monetary policy; 2) announcement of targets for monetary aggregates; 3) some accountability mechanism to preclude large and systematic deviations from monetary targets.
  - Inflation targeting: involves five key elements1) Public announcement of medium-term numerical targets for inflation; 2) an institutional commitment to price stability as the primary, long-run goal of monetary policy and a commitment to achieve the inflation goal; 3) an information inclusive strategy in which many variables and not just monetary aggregates are used in making decisions about monetary policy; 4) increased transparency of the monetary policy strategy through communication with the public and the markets about the plans and objectives of monetary policymakers; and 5) increased accountability of the central bank for attaining its inflation objectives.

- The ECB's two-pillar strategy (compromise between the MT and IT)
  - Quantitative definition of price stability (the basis)
  - The Economic analysis pillar (analysis of economic dynamics and shocks)
  - The Monetary analysis pillar (analysis of monetary trends)
  - Cross-checking and overall assessment of the risks to price stability leading to monetary policy decisions (once every six weeks)

* Mishkin 2000 https://www0.gsb.columbia.edu/faculty/fmishkin/PDFpapers/00BOMEX.pdf)

The ECB's two-pillar strategy



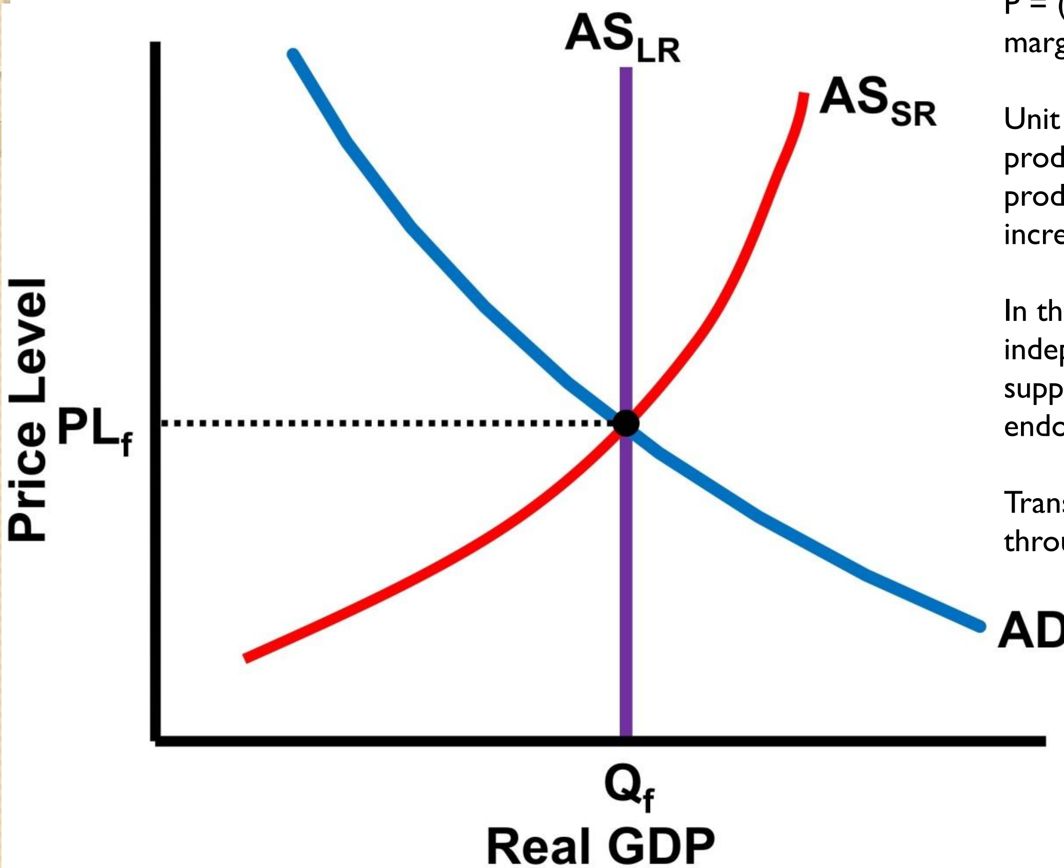
Source: ECB

The economic analysis pillar

- Underlying economic theory: mark-up pricing + AD-AS model

- Analysis of economic and financial variables that may influence euro area inflation in the short and medium-term
  - GDP , output gap, total factor productivity
  - Aggregate demand and its components
  - Capital and labour market conditions
  - Price and cost indicators
  - Developments in the exchange rate
  - Developments in the global economy
  - Balance of payments
  - Financial market indicators
  - Macroeconomic staff projections (published every three months)

The economic analysis pillar



P = (Unit cost of labour + other costs)(1 + profit margin)(1+VAT)

Unit cost of labour = Nominal wage/Labour productivity; In the short-run Average labour productivity is assumed to decline as real GDP increase

In the long-run real GDP is assumed to be independent of the price level and to depend on supply factors only (technology, factor endowments, preferences)

Transition from the short to the long-run works through price expectations

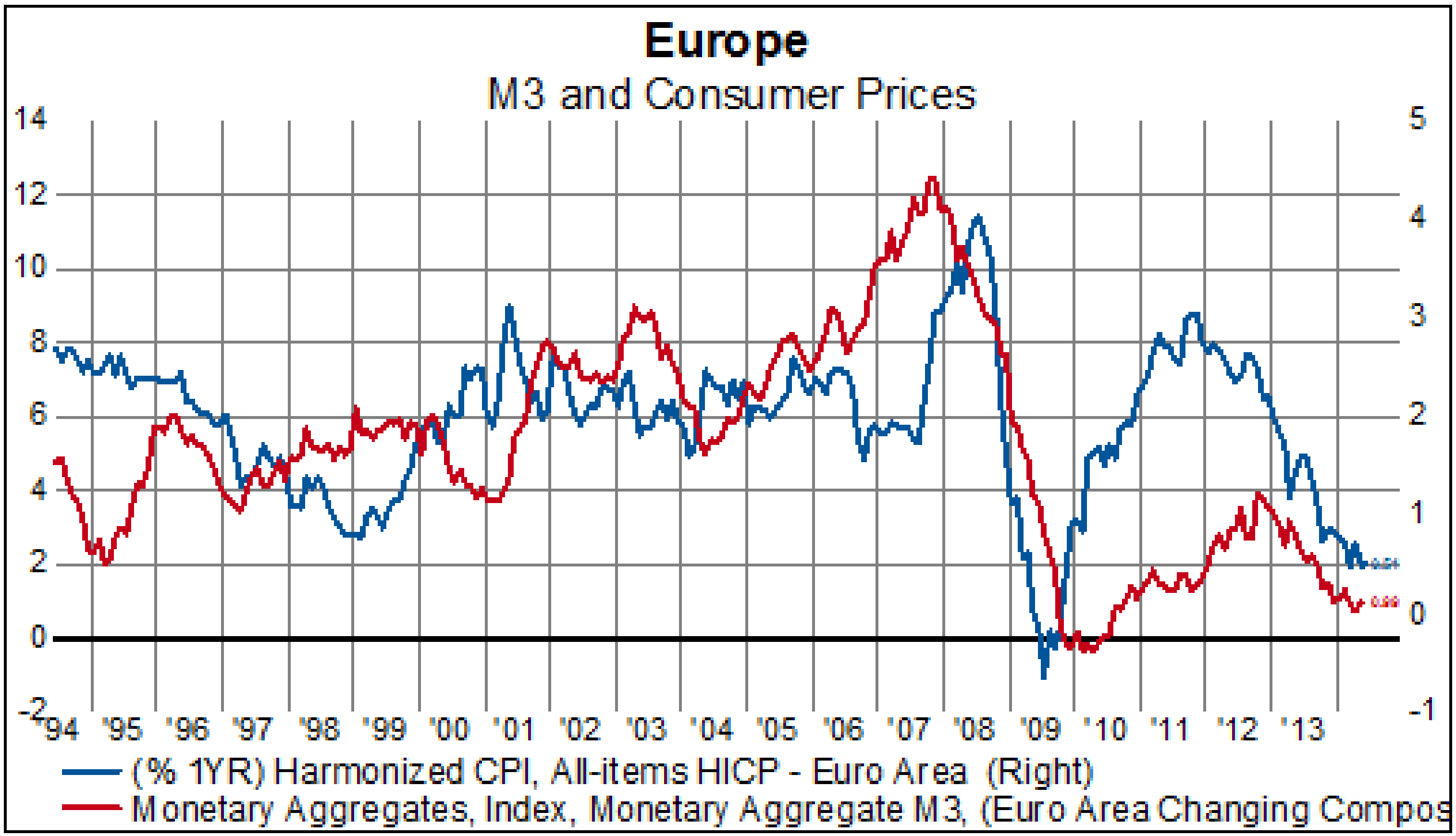
Y= C + I + G + EX – IM
Any factor affecting each of the components of AD influences P in the short and in the long run

The monetary analysis pillar

- Underlying economic theory: quantitative theory of money: $MV = YP$
  - In the long-run Y is assumed to be independent of M, V and P (see graph on the slide above)
  - Any permanent change in M (or in V) only affects the pprice level proportionally and in the same direction.

- Based on these concepts, the analysis of monetary trends may contain relevant information on the euro area inflation rate in the long-term
  - M1, M2, M3
  - Credit counterparts
  - Reference value for M3 growth rate

The monetary analysis pillar



Source: gavekalcapital.com

Cross-checking

- As the ECB may observe conflicting signals about risks to price stability, cross-checking is important to evaluate those risks correctly.
- For example, a large and persistent capital outflow may cause the euro to depreciate relative to other currencies and domestic credit to contract.
- As the euro depreciates, prices of imports rise and so do net exports, aggregate demand and GDP, with potential upside risks to price stability.
- Simultaneously, the credit crunch is likely to have a dampening impact on aggregate demand and GDP both in the short and in the long-run (as bank credit falls so does money supply), increasing downside risks to price stability.
- If the ECB expects the two effects to balance each other exactly, it may wait before changing its MP stance.
- If the ECB expects the first effect to outweigh the second, it might choose to tighten its MP stance, rising MP rates to try and stem the capital outflow and the depreciation of the euro.
- If the ECB expects the second effect to prevail over the first one, it might choose to soften its MP stance, lowering MP rates to reinforce the depreciation of the euro.

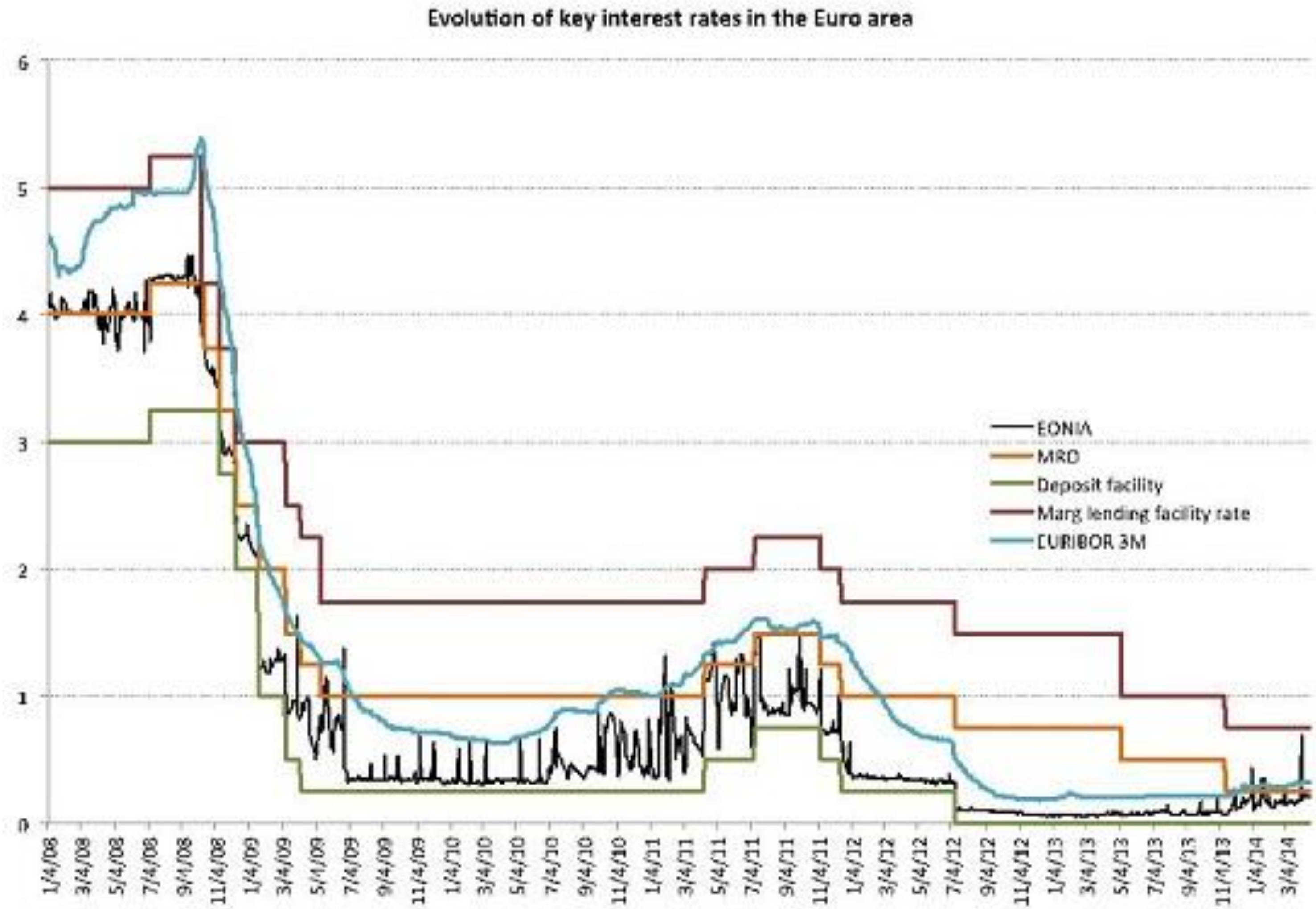
ECB's conventional MP tools

- Standing facilities (available to banks on their own initiative)
  - Marginal lending (ON + Collateral)
  - Marginal deposit (ON)
  - The corridor of ON rates

- Open market operations (normally reverse transactions conducted on the initiative of the ECB)
  - MROs (one week liquidity provision)
  - LTROs (three months liquidity provision)
  - FTOs (non-standardised maturity to smooth the effects of unexpected liquidity fluctuations)
  - SOs (Outright purchases and sales of assets, FOREX swaps, Issuance fo ECB debt certificates)

- Minimum reserve requirements to increase the structural liquidity shortage of the euro area banks (1% , averaging provisions, maintenance period, positive rate)

ECB's conventional MP tools



Source: breugel.com

ECB's unconventional MP tools

- Monetary policy in response to the crisis
  - Start of the global financial crisis in Sept 2008
  - Start of the euro crisis in May 2010
  - Euro crisis 2.0 + banking sector strain
  - Declining inflation and growth from 2013 on

- At first, conventional response to the crisis (lower rates) + Enhanced Credit Support
  - Change in liquidity tender procedures from variable rate fixed allottment to fixed rate full allotment (unlimited liquidity provision given collateral)
  - Broadening of collateral requirements (larger range and proportion)
  - Extension of the maturity of liquidity provision measures (maximum maturity of LTRO extendend to 12 months)
  - Currency swap agreements (to offset liquidity shortages on the US money market)
  - Covered bond purchase programme

ECB’s unconventional MP tools

- Securities Market Programme (1 – 2010; 2 – 2011)
  - Widespread confidence crisis in the securities issued by some euro area governments (PIGS) lead interest rates on those securities to raise sharply impairing monetary policy transmission and weakening banks. Therefore the ECB decied to intervene purchasing corporate and governments bonds (in the secondary markets) snd sterilizing the monetary interventions.

- Further unconventional measures
  - LTROs (Dec. 2011, February 2012, 36 months, €490 billions to 523 banks, €530 billions to 800 banks) + Reduction in the required reserve ratio
  - OMTs (purchase of government securities in the secondary market + strict conditionality attached to a EFSF/ESM programme)
  - TLTROs (liquidity loans conditional on the amount lent by each bank to euro-area non-financial private sector excluding loans for house purchase) – scheduled until 2018

ECB’s unconventional MP tools

- Quantitative easing based on purchases of ABS, covered bonds, government securities purchased in secondary markets
  - Impact of QE on ECB’s balance sheet
  - Main aim of QE, break the liquidity trap and bring liquidity to “rings” 4 (financial markets) and 5 (non-monetary financial intermediaries) of the financial system and not only to ring 3 (banks). By-passing the markets, reduce long-term interest rates, enhance security price
  - Sustain asset values and solvency
  - Is QE compatible with CB independence?

- Up to €60 billion of public and private-sector securities every month until mid-September 2016, issuer limit (33%), issue limit (25%) with maturities ranging between 2 and 30 years
- Risk-sharing among the central banks participating in the euro area (linked to capital keys defined in the context of prudential bank regulation)
- Effectiveness depends on the response of long-term interest rates (already quite low in the euro area before QE started)

ECB communication policy

- Communication contributes to the accoutability of the central bank and it helps the central bank in managing expectations (idea about the future that influence the present)

- Expectations on short-term interest rates
  - Inflation expectations
  - Growth / Profit expectations

- If the central bank is better informed about its reaction function and/or about the economic outlook than the general public and /or if the public is unable to fully anticipate the central bank's intention than communication becomes and additional MO instrument

Forward guidance on short-term interest rates

- Communication about future monetary policy rates, aimed at influencing long-term interest rates when the curren short-term interest rates are equal to or very close to zero (ZLB)

- Odyssean forward guidance (commit to maintaining interest rates at a given level even if the central bank may have an incentive to deviate from this problem – problem of time incostincy)

- Delphic forward guidance: qualitative or open-ended, calendar-based, threshold base (state contingent)

Communication tools

- Press conference after each monetary policy decision (every six weeks) introductory statement of the President of the ECB + Q&A (see next slide)
- Publication of minutes of the Governing Council's meeting (4 weeks after the meeting took place)
- Economic bulletin
- Testimony of the ECB's president to the European parliament
- Speeches and interviews on monetary policy

Communication tools (Example)

- Based on our regular economic and monetary analyses, and in line with our forward guidance, the Governing Council decided to keep the **key ECB interest rates** unchanged. As regards **non-standard monetary policy measures**, the asset purchases are proceeding smoothly and continue to have a favourable impact on the cost and availability of credit for firms and households.
- The Governing Council has been closely monitoring incoming information since our meeting in early September. While euro area domestic demand remains resilient, concerns over growth prospects in emerging markets and possible repercussions for the economy from developments in financial and commodity markets continue to signal downside risks to the outlook for growth and inflation. Most notably, the strength and persistence of the factors that are currently slowing the return of inflation to levels below, but close to, 2% in the medium term require thorough analysis. In this context, the degree of monetary policy accommodation will need to be re-examined at our December monetary policy meeting, when the new Eurosystem staff macroeconomic projections will be available. The Governing Council is willing and able to act by using all the instruments available within its mandate if warranted in order to maintain an appropriate degree of monetary accommodation. In particular, the Governing Council recalls that the asset purchase programme provides sufficient flexibility in terms of adjusting its size, composition and duration. In the meantime, we will continue to fully implement the monthly asset purchases of €60 billion. These purchases are intended to run until the end of September 2016, or beyond, if necessary, and, in any case, until we see a sustained adjustment in the path of inflation that is consistent with our aim of achieving inflation rates below, but close to, 2% over the medium term.

Source https://www.ecb.europa.eu/press/pressconf/2015/html/is**151022.**en.html