

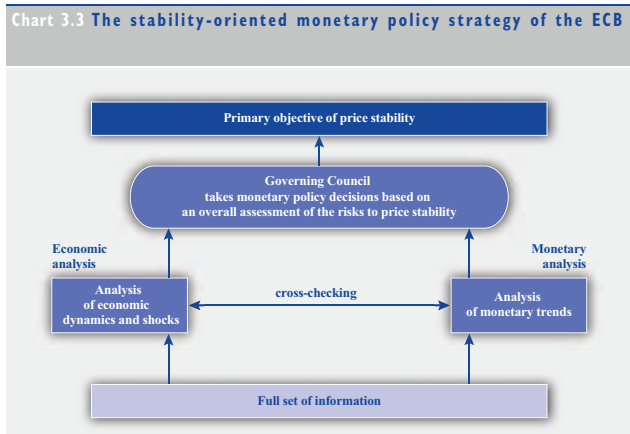
3. The monetary policy strategy of the ECB

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The two-pillar monetary policy strategy of the ECB



Source: The monetary policy of the ECB, 2011 (www.ecb.int)

The quantitative definition of price stability

On 8 May 2003 the Governing Council of the ECB clarified its definition of its primary objective of price stability:

- “as a year-on-year increase in the HICP for the euro area of below 2%”
- and that “price stability is to be maintained over the **medium term**”
- The Governing Council also clarified that the ECB aims to maintain the inflation **rate below, but close to**, 2% over the medium term.

The quantitative definition of price stability

The definition aims at:

- Providing a sufficient safety margin against the risks of deflation
- Address possible measurement bias in the HICP (can arise due to new goods, quality changes, substitution effects)
- Address the implications of inflation differentials within the euro area

Comparison with other central banks

	Eurosystem	Federal Reserve System	Bank of Japan	Bank of England
Monetary policy objective(s)	Price stability is the primary objective. Additionally, support the general economic policies of the Union	Multiple objectives: to promote maximum employment, stable prices and moderate long-term interest rates.	"contributing to the sound development of the national economy" "through the pursuit of price stability."	Price stability is the primary objective. Additionally, to support the Government's economic objectives.
Price stability	HICP below but close to 2% over the medium term	Not quantified	Positive CPI rate of change lower than 2%, over the medium to long-term (currently 1%)	CPI (HICP) of 2% (each year)

Potential benefits of inflation

Despite the preference of major central banks for low inflation objectives, some authors argue that having moderate inflation rates can be beneficial:

- “Grease the wheels” - Tobin(1972) argues that in the face of downward nominal wage rigidity, having higher inflation can help adjust real wages, even in response to sector-specific shocks
- Zero bound problem - a higher inflation rate in the objective would make it less likely that the zero bound of interest rates would be reached. Blanchard(2010) suggested a 4 per cent inflation objective.

The two-pillar strategy

Monetary policy decisions are based on a comprehensive analysis of the risks to price stability founded on a two pillar framework:

- **Economic analysis** - identifies short to medium-term risks to price stability
- **Monetary analysis** - aims at identifying risks to price stability in the medium to long-term horizons
- **Cross-checking** - the information coming from both pillars is cross-checked to infer risks to price stability

The economic analysis pillar

- This pillar focuses mainly on economic and financial developments that have an impact on inflation **in the short to medium-term**
- The main idea is to identify **the nature** of the shocks hitting the economy.
- Particularly important is to distinguish between shocks that may have a **short-lived** impact on inflation from **more permanent** effects.
 - Example: An oil price increase - typically a rise in oil prices that raises consumer prices does not warrant an immediate response from monetary policy, as it might revert in the future. However, if inflation expectations and wages start rising then there may be a more lasting threat to price stability.

The main indicators (non-exhaustive list)

- The external environment of the euro area
- Financial developments
- Prices and costs (including oil prices)
- Output, demand and the labour market
- Fiscal developments
- Exchange rate and balance of payments developments
- Banking
- Expectations regarding economic activity and inflation
- **Staff Projections**

The role of ECB/Eurosystem Staff projections

- Published four times a year (March, June, September, December)
- Projections are presented in terms of **ranges**, not point numbers
- They are done by staff and **do not represent** the views of the Governing Council
- They **do not have all the information** (e.g. information from monetary aggregates is excluded)
- **Expert judgment** is included
- Are based on a set of **technical assumptions** (e.g. interest rates, oil prices, exchange rates)

- Monetary analysis is based on the **quantity theory of money** and the past experience of successful central banks (Bundesbank)
- The quantity theory implies that there is a **long-run** link between money growth and inflation
- The so-called “Long-run money neutrality” implies that ultimately higher monetary growth ends up in inflation
- Thus, to be consistent with price stability, monetary growth should be **moderate**

Quantity theory of money

The quantity theory of money in its original form prescribed that:

$$MV = PT \quad (1)$$

where M is the stock of money, V the velocity of money, P the price level and T the real value of transactions. It is usual to use real GDP (Y) as a measure of transactions, so that the quantity theory can be written as:

$$MV = PY \quad (2)$$

Implications of the quantity theory

Starting with

$$M_t V_t = P_t Y_t \quad (3)$$

taking logarithms and differencing yields

$$\Delta m_t + \Delta v_t = \Delta p_t + \Delta y_t \quad (4)$$

After solving for money growth (Δm_t) we get:

$$\Delta m_t = \Delta p_t + \Delta y_t - \Delta v_t \quad (5)$$

The reference value for M3 growth

To arrive at the reference value, the ECB computed the implied monetary growth assuming that the variables are at equilibrium values.

$$\Delta m_t^* = \Delta p_t^* + \Delta y_t^* - \Delta v_t^* \quad (6)$$

- the inflation rate (Δp_t^*) should be $< 2\%$
- trend or potential GDP (Δy_t^*) was computed at between 2 and 2.5 %
- trend in the change in money velocity (Δv_t^*) was between -0.1 and -0.5 %

This calculation led to a the reference value for M3 growth consistent with price stability of 4 1/2 %.

The role of the reference value

- The reference value should be interpreted as an **indicator**, not a **target**
- A **higher** (lower) monetary growth than the reference value signals **upward** (downward) risks to prices
- The insights from money are valid in the **medium to long-term**

Criticisms of the monetary analysis pillar

The Monetary Analysis has been subject to several criticisms. In 1999 the ECB defined that, to be used in policy the chosen monetary aggregate had to fulfill the following conditions:

- 1 A stable long-run relationship with its traditional determinants (**money demand**)
- 2 **Leading indicator properties** regarding future inflation in the medium term

1. Money demand

A simple money demand function is given by:

$$m = p + \alpha_1 + \alpha_2 y - \alpha_3 i \quad (7)$$

where i represents the opportunity cost of money, $\alpha_i (i = 1, 2, 3)$ are parameters.

Problem: in the euro area money demand became unstable (especially after 2005):

- Portfolio shifts into and out of money disturbed the relation (e.g. to and from the stock markets)
- Financial innovation also can lead to unstable money demand over time

Consequence: the information content of money for inflation became impaired

2. Leading indicator properties

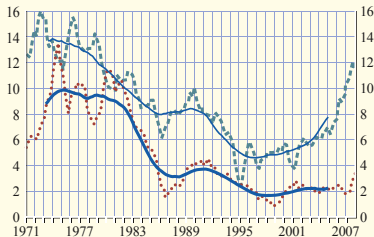
- Money should help to **predict future trends** in inflation
- However, the link between money and inflation can only be established **in the very long-run**
- In addition, it has become difficult to establish a **causal** relation from money to inflation
- Thus, the traditional monetary analysis has become challenging

Money and inflation in the long-run

Chart 1 Relationship between the HICP and M3 in the euro area

(annual rates of growth, low-frequency component reflects periodicity > 10 years)

- HICP low-frequency component
- ... HICP
- - - M3 corrected for the estimated impact of portfolio shifts
- M3 low-frequency component



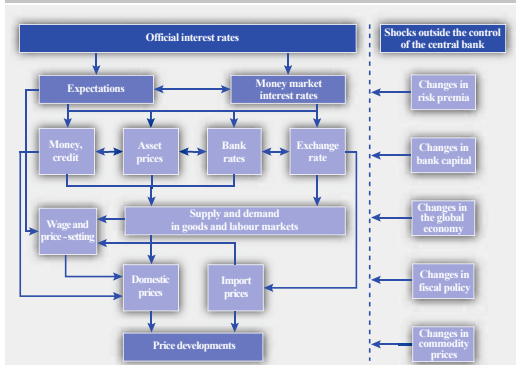
Notes: Low-frequency components derived from a symmetric fixed-length Christiano-Fitzgerald band-pass filter applied to the annualised quarter-on-quarter rates of growth. The peak of money growth leads inflation by eight to twelve quarters.

Monetary analysis today

- In response to criticism, monetary analysis has been enhanced
- Nowadays, monetary analysis is interpreted in a **broad sense**, including the analysis of the behaviour of various monetary aggregates but also of credit and households and firms' balance sheets. It now encompasses the analysis of the overall financing in the economy
- Monetary analysis remains indispensable to capture important channels in the **transmission mechanism of monetary policy**, in particular financial ones
- Monetary variables may provide helpful information for understanding the state of the economy, aggregate demand, asset prices, banking and financial conditions, not just inflation

The monetary policy transmission mechanism

Chart 3.1 A stylised illustration of the transmission mechanism from interest rates to prices



Source: The monetary policy of the ECB, 2011 (www.ecb.int)