The monetary policy of the European Central Bank

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Transmission Impairments

Policy-controlled interest rates

Liquidity channel

Inflationary expectations

Wage and price setting

Credit supply, bank interest rates

Supply and demand in goods and labour markets

Price developments

Interest rate channel

Long-term interest rates, asset prices

Exchange rates

Import prices

Price developments

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Policy-controlled interest rates
A Model of the Transmission Mechanism

- **Long-term Interest Rates:**
  - Expectation of Future Monetary Policy Interest Rate
  - Plus a Risk Premium

\[
i_t^L \approx \text{average} \left( i_t^{MP} + E_t i_{t+1}^{MP} + E_t i_{t+2}^{MP} + \ldots + E_t i_{t+L}^{MP} \right) + pr_t
\]

- **Monetary Policy Interest Rate:**
  - Inflation Objective

\[
i_t^{MP} \approx r^* + \pi^* + \alpha (E_t \pi_{t+1} - \pi^*) + \lambda m_t
\]

- **Risk Premium:**
  - Volatility of Inflation and Volatility of Real GDP
  - Credit Risk Premium

\[
pr_t \approx \beta \text{var} (\pi_t) + \gamma \text{var} (y_t) + d_t
\]
Inflation

Source: Eurostat
Note: Annual percentage changes in headline HICP; monthly data not seasonally adjusted

long-term inflation average currently at 2.04
Inflation volatility falls despite larger energy price volatility

Larger energy price volatility boosts inflation volatility
Inflation / Growth Volatility Space

Source: ECB calculations.
Note: Inflation expectations are BEIR. Last observation: October 2010.
GDP per capita growth

Stability in euro area achieved with comparable average per-capita growth performance to the US.

Money Market Segmentation

3-m EURIBOR and EONIA/OIS
(in percentage points)

Cross-country standard deviation of unsecured interbank lending rates
(61-day moving average; basis points)

Sources: ECB, Bloomberg

Source: ECB Financial Integration Report April 2009, page 14
Bank Funding Stress

Access to wholesale funding

Notes: Figures indicate the percentage of banks reporting that access to particular sources of wholesale funding have been hampered.
Monetary Policy in the First Phase of the Crisis

Post-Lehman: Monetary Policy Response

Note: data in percent. The lower and the upper bound are the deposit facility and the marginal lending facility rate respectively. Last observation: 19 March 2012.
Transmission Plumbing

Policy-controlled interest rates

Liquidity channel
- Inflationary expectations
- Credit supply, bank interest rates
- Supply and demand in goods and labour markets
- Wage and price setting
- Price developments

Interest rate channel
- Long-term interest rates, asset prices
- Exchange rates
- Import prices

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Transmission Plumbing
Monetary Policy Measures in the Euro Area

First Phase of the Crisis:

• Full accommodation of liquidity needs at a fixed rate
• Extended range of collateral for open market operations with stringent risk control
• Extended range of maturities for open market operations up to 1 year
• Provision of foreign currency denominated liquidity
• Outright purchases of covered bonds
External Financing for Non-financial Corporations

Source: ECB Monthly Bulletin April 2009
Note: Breakdown of the sources of external financing of non-financial corporations, in percent, average 2004 – 2008
Monetary Policy in the First Phase of the Crisis

The Eurosystem Balance Sheet

- Beginning of the financial turbulence: 9 Aug 2007
- Intensification of the financial turbulence: 15 Sep 2008
- Initiation of gradual phasing out: 3 Dec 2009
- Start of the sovereign debt crisis: 7 May 2010
- Introduction of 3-yr LTROs: 22 Dec 2011

EUR bn

Source: ECB. Last observations: 11 March 2012.
Monetary Policy in the First Stage of the Crisis

Post-Lehman: Free fall and stabilisation

Sources: Eurozone Barometer and ECB calculations. Last observation: November 2010
Second Phase of the Crisis: Credit Risk Shocks

Credit Risk: Sovereign Bond Spreads

Sources: Bloomberg, Thomson Reuters Datastream and ECB calculations. Note: bond yield spreads are vis-à-vis the German 10-year government bond, end-of-day data (last value 16 Mar 2012, 17:00 CET).
Sample: EA countries excluding Cyprus, Luxembourg, Malta, Slovenia and Slovakia, for which data is not comparable and therefore not shown here.
Transmission with Credit Risk Shocks

Sovereign Credit Risk and Bank CDS

Annual change in individual bank CDS in 2011 and exposure to stressed sovereigns
(in b.p.; portfolio share)

Source: EBA (8 December), Datastream, ECB calculations. – Notes: Annual changes in banks’ CDS (x-axis) vs. proportion of banks’ sovereign exposure to countries under stress relative to their overall direct sovereign exposures (y-axis). – 43 EU banks from Dec’11 EBA sample (correlation 66%).
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Second Phase of the Crisis:

- Securities Markets Programme: Interventions in dysfunctional segments of the securities debt market
- Lower minimum reserve requirements
- Further extension of collateral for open market operations with stringent risk control
- Refinancing operations with a maturity of 3 years
Monetary Policy in Second Phase of the Crisis

The Eurosystem Balance Sheet

<table>
<thead>
<tr>
<th>Event Description</th>
<th>Date</th>
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<tbody>
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Source: ECB. Last observations: 11 March 2012.
Euribor-OIS Spread and Stock Market Volatility

Implied stock market volatility in the euro area

3 month Euribor-OIS spread (basis points)

Sources: ECB, Bloomberg

Source: Bloomberg
Euro Area Corporate Bond Spreads

**Financials (basis points)**

![Graph showing financial bond spreads]

**Non-Financials (basis points)**

![Graph showing non-financial bond spreads]

Source: Thomson Financial Datastream

Note: Bonds with maturities of over one year are included in the indices. Benchmark is the EMU AAA government bond index calculated by Merrill Lynch. The last observation is dated 16 March 2012.
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