Advanced Macroeconomics II: Monetary Policy in Practice

Jordi Galí and Lorenza Rossi
University of Pompeu Fabra
June 2014
The European Central Bank

- BCE, Eurosystem and the European System of Central Banks

- Members of the Euro area: 18
  - 11 initial members

- UK and Denmark clause "opt-out"

- Sweden: de facto 'opt-out' (no ERM II)
"Convergence Criteria"
- Inflation < 1.5% + average three members with lower inflation
- Deficit/GDP < 3%
- Debt/GDP < 60% (or approaching)

Exchange rates: two years in ERM II without devaluation. ±15% from an unchanged central rate.

Long-term interest rates <2% + average three members with lower inflation

Decision-making
- Executive Board (6 members: P + VP +4)
- Board of Governors: EC + BCN Euro
- General Board: CE + BCN + UE
ECB: Executive Board

- Mario Draghi
  President of the ECB

- Vítor Constâncio
  Vice-President of the ECB

- Benoît Cœuré

- Sabine Lautenschläger

- Yves Mersch

- Peter Praet
• Mandate of the ECB (Treaty Art. 127):
• **Primary objective:** price stability
• support policies that contribute to EU objectives (Article 3): sustainable growth, price stability, highly competitive social market economy, full employment ...
• Initially: no direct powers of supervision and financial regulation
  ◦ "Tracking" euro area financial stability risks ensure liquidity in the event of financial shocks payment system
• **Banking Union**
  • Nov. 2014: BCE banking supervisor euro zone
  • Resolution banks, deposit insurance.
• **Strategy (October 1998)**

• **Quantitative definition of price stability**: annual increase in HICP euro area <2%, to be achieved in the medium term. Review 2003: below, but close to, 2%

• **Analysis of risks to price stability based on "two pillars":**
  
  • **Monetary Analysis**
    • until 2003, "prominent role of money," reflected in a reference value for M3 growth (4.5%).
    • From 2001, M3 not stable
    • revision in 2003: becomes the second pillar, medium and long term perspective.

  • **Economic Analysis**: factors affecting inflation in the short term
    • activity, demand, labor market, exchange rate, fiscal policy ...
    • projections SPF (survey of professional forecasters)
    • “Cross-checking”
Chart 5 M3 growth

(percentage changes; adjusted for seasonal and calendar effects)

- M3 (annual growth rate)
- M3 (six-month annualised growth rate)
- M3 (three-month centred moving average of the annual growth rate)

Source: ECB.

Source: Monthly bollettin ECB, 2014
Implementation

- **“Main Refinancing Operations” (MRO)**
  - “repo” one week
  - official rate = minimum rate auction: fixed rate, full allotment
- **Longer-Term Refinancing Operations (LTRO)**
  - From three months to three years (2)
- Others: fine-tuning, “outright transactions”
- **Marginal lending facility**: overnight liquidity from the ECB (now + 0.75%)
- **Marginal deposit facility** (now 0) overnight deposit with the ECB
- **Rates corridor**: The interest rates on the marginal lending and deposit facilities normally provide a ceiling and a floor for the overnight market interest rate.
Chart 4.2 Key ECB interest rates and the EONIA since 1999

(percentages per annum; daily data)

- marginal lending rate
- deposit rate
- EONIA
- main refinancing/minimum bid rate

Source: ECB.

1) Before 28 June 2000 MROs were conducted as fixed rate tenders. Starting with the operation settled on 28 June 2000, and until the operation settled on 15 October 2008, MROs were conducted as variable rate tenders with a pre-announced minimum bid rate. Since the operation settled on 15 October 2008, MROs have been conducted as fixed rate tenders with full allotment. This procedure is scheduled to remain in place at least until the maintenance period ending on 12 July 2011. The minimum bid rate refers to the minimum interest rate at which counterparties may place their bids (see Section 4.4).

Source: The Monetary Policy of the ECB, 2011
Chart 1 ECB interest rates and the overnight interest rate

(percentages per annum; daily data)

- interest rate on the main refinancing operations
- interest rate on the marginal lending facility
- interest rate on the deposit facility
- overnight interest rate (EONIA)

Sources: ECB and Thomson Reuters.
Results (I): Inflation

Font: The Monetary Policy of the ECB, 2011
Results (II): Inflation Expectation

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

Consensus Economics
SPF five-years-ahead
five-year forward break-even inflation rate five years ahead
ten-year break-even inflation rate

Font: The Monetary Policy of the ECB, 2011
Results (III): Growth

Euro area: GDP growth (q-to-q)
Federal Reserve

- Federal Open Market Committee:
  - 7 Governors (Chairman+VC +5)
  - 5/12 Presidents of Feds Regionals (NY fix)

- Mandate (Federal Reserve Act):
  - Max employment
  - Price stability (Inflation target: 2% from January 2012)
  - in long-term moderate

- Implementation
  - Open market operations
Monetary Policy in “Normal Times”

Objective: Price Stability

- Official Interest Rates
- Market Interest Rate
- Aggregate demand (consumption, investment…)
- Production, Employment, Inflation
Monetary policy during the crisis

- U.S. (May 05 = 0.125)
- Euro Area (May 05 = 0.25)
- Japan (Apr 03 = 0.05)
- U.K. (May 05 = 0.5)
- Canada (May 05 = 1.0)

Font: FRB Dallas
Monetary Policy during the crisis

- Official Interest Rates
- Market Interest Rates
- Production, Employment, Inflation
- Aggregate demand (consumption, investment...)

The diagram shows the interrelations among these components during a crisis, with a highlighted cross indicating a possible adjustment or focus in policy.
Interest rate differentials in the Monetary market: Euribos - OIS

NOTE: The chart plots the spread, or difference, between 3-month interbank offered rates (Libor for the dollar, yen and pound sterling; Euribor for the euro) and the overnight index swap rate for each currency.

Font: FRB Dallas
Interest rate differentials bank credit

Font: Banco de España, Informe Mensual
Interest Rates Differential - European debt

**Basis Points**

- Greece (May 05 = 475)
- Ireland (May 05 = 131)
- Portugal (May 05 = 214)
- Spain (May 05 = 153)
- Italy (May 05 = 159)

**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.

Font: FRB Dallas
Monetary policy during the crisis

- Official Interest Rates
- Market Interest Rates
- Production, Employment, Inflation
- Aggregate demand (consumption, investment…))
Growth Rate of credit in Spain (2007-2010)

Font: Banco de España, Informe Mensual
Monetary policy during the crisis

- Official Interest Rates
- Market Interest Rates
- Production, Employment, Inflation
- Aggregate demand (consumption, investment...)

[Diagram showing the interrelations between monetary policy variables]
U.S. Monetary Policy with Greenspan and Bernanke

Source Galí (2011)
U.S. Monetary Policy with Greenspan and Bernanke

Source: Galí (2011)
Monetary Policy in the Euro Area

Source: Galí (2011)
Responses

• **BCE:**
  - Extraordinary liquidity injections to the banking sector
  - Program to buy government bonds:
    - Securities Market Programme
    - Outright Monetary Transactions (OMT)

• **Fed:**
  - “Quantitative easing” (QE, QE2, QE3)
  - “Operation Twist”
  - Management of expectations (“forward guidance”)

ECB Balance Sheet (Assets)

Chart A Simplified Eurosystem balance sheet: assets

(EUR billions)

- net foreign assets
- first covered bond purchase programme
- main refinancing operations
- USD Term Auction Facility
- second covered bond purchase programme
- domestic assets
- longer-term refinancing operations
- marginal lending facility and fine-tuning operations
- Securities Markets Programme

Source: ECB.
Note: Data up to 14 February 2014.

Font: ECB, Annual Report 2013
ECB Balance Sheet (Liabilities)

Chart B Simplified Eurosystem balance sheet: liabilities

(EUR billions)

- banknotes
- other autonomous factors
- deposit facility
- liquidity-absorbing fine-tuning operations
- government deposits
- current accounts
- claims of foreign central banks

Font: ECB, Annual Report 2013
Federal Reserve Assets (Uses of Funds)

- Treasuries
- Short-Term lending to Financials
- Agency Debt & MBS
- Other
- Lending to Nonbank Credit Markets
- Currency Swaps

Source: Federal Reserve Board of Governors; Table 1: Factors Affecting Balances of Depository Institutions of the H.4.1 release.

Note: “Other” = Other assets, float, gold stock, SDRs, currency outstanding, holdings of Maiden Lane I, II, III, and foreign currency assets.

Font: Atlanta Fed (Economic & Financial Highlights)
FED Balance Sheet (Liabilities)

Federal Reserve Liabilities (Sources of Funds)

$ billions

Source: Federal Reserve Board of Governors; Table 1: Factors Affecting Balances of Depository Institutions of the H.4.1 release.

Note: “Other” = Other liabilities & capital, REPOs, Treasury cash holdings, and deposits with Federal Reserve Banks.

Font: Atlanta Fed (Economic & Financial Highlights)