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***A New Consensus Emerging from the Crisis?*"**
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Unconventional Monetary Policy in Theory and Practice

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Outline of the Presentation

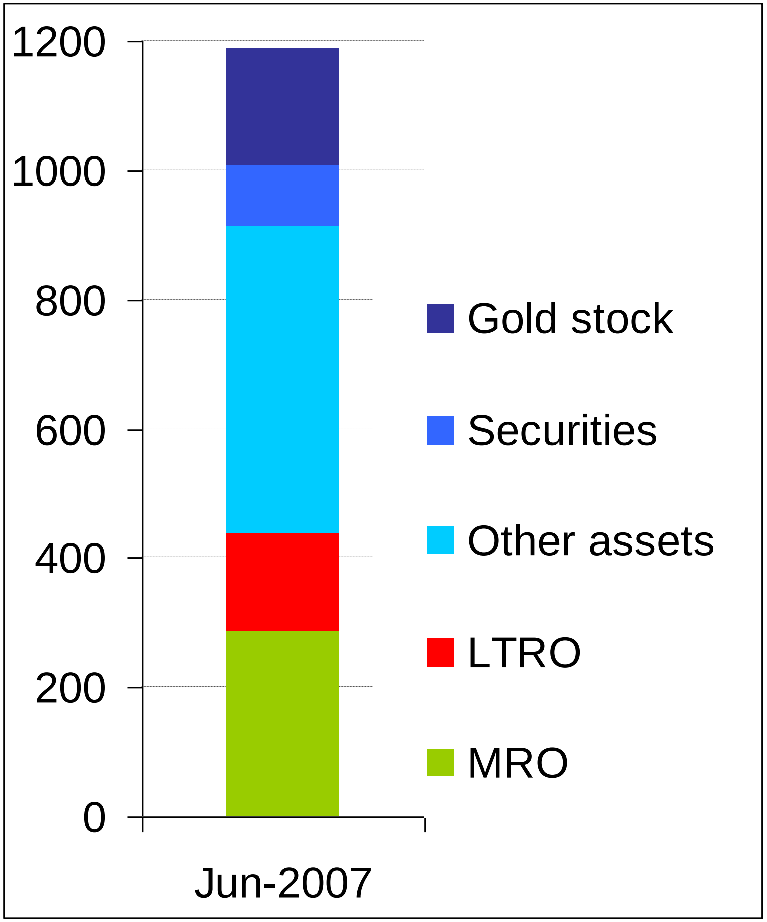
- **Unconventional Monetary Policy in Practice**
  - Institutional Framework (Eurosystem vs Federal Reserve)
  - The "decoupling" principle (Official interest rates vs base money)
- **Unconventional Monetary Policy in Theory**
  - The transmission mechanism (Normal vs crisis times)
  - A classification (QE, CE, Forward guidance)
  - The main channels (Signaling & Portfolio-balance channels)
- **The Effectiveness of Unconventional Monetary Policy**
  - Announcement vs actions (SMP)
  - Risk free vs premia component (QE vs SMP)
  - Discretion vs commitment (SMP vs OMT)
- **Back to Conventional Monetary Policy**
  - Credibility, commitment, transparency, independence

The Institutional Framework (pre crisis)

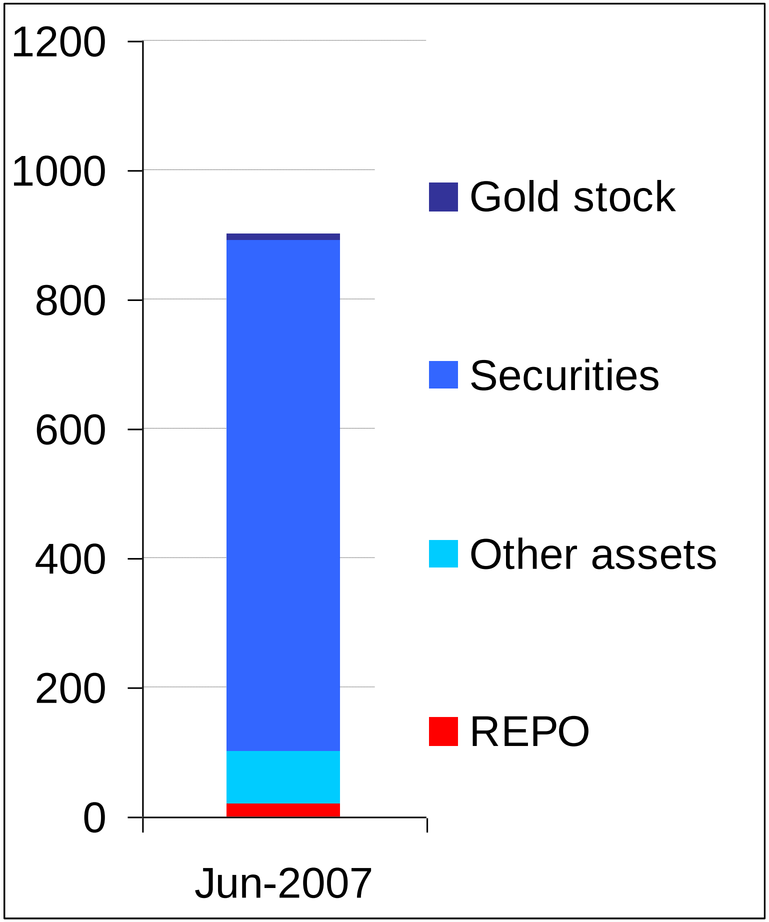
	Eurosystem	Fed
Objective	**Price stability (*)**	(i) **Maximum employment** (ii) **Price stability**
Decisions	(i) **ML rate** (ii) **Minimum rate** (iii) **Dep. Fac. rate**	**Fed fund rate**
Strategy	"Two Pillars": (i) **Economic analysis** (ii) **Monetary analysis**	**Economic analysis**
Operational Framework	(i) OMO (**<u>REPOs</u>**) (ii) Standing Facilities (ML, dep. fac,.) (iii) Reserve Requirement	(i) OMO (**<u>outright purchases</u>**) (ii) Standing Facilities (discount window) (iii) Reserve Requirement
Main counterparties	Credit institutions	Primary dealers

The Operational Framework: Balance Sheet

Eurosystem balance sheet: Assets (€ blns)



Fed balance sheet: Assets ($ blns)



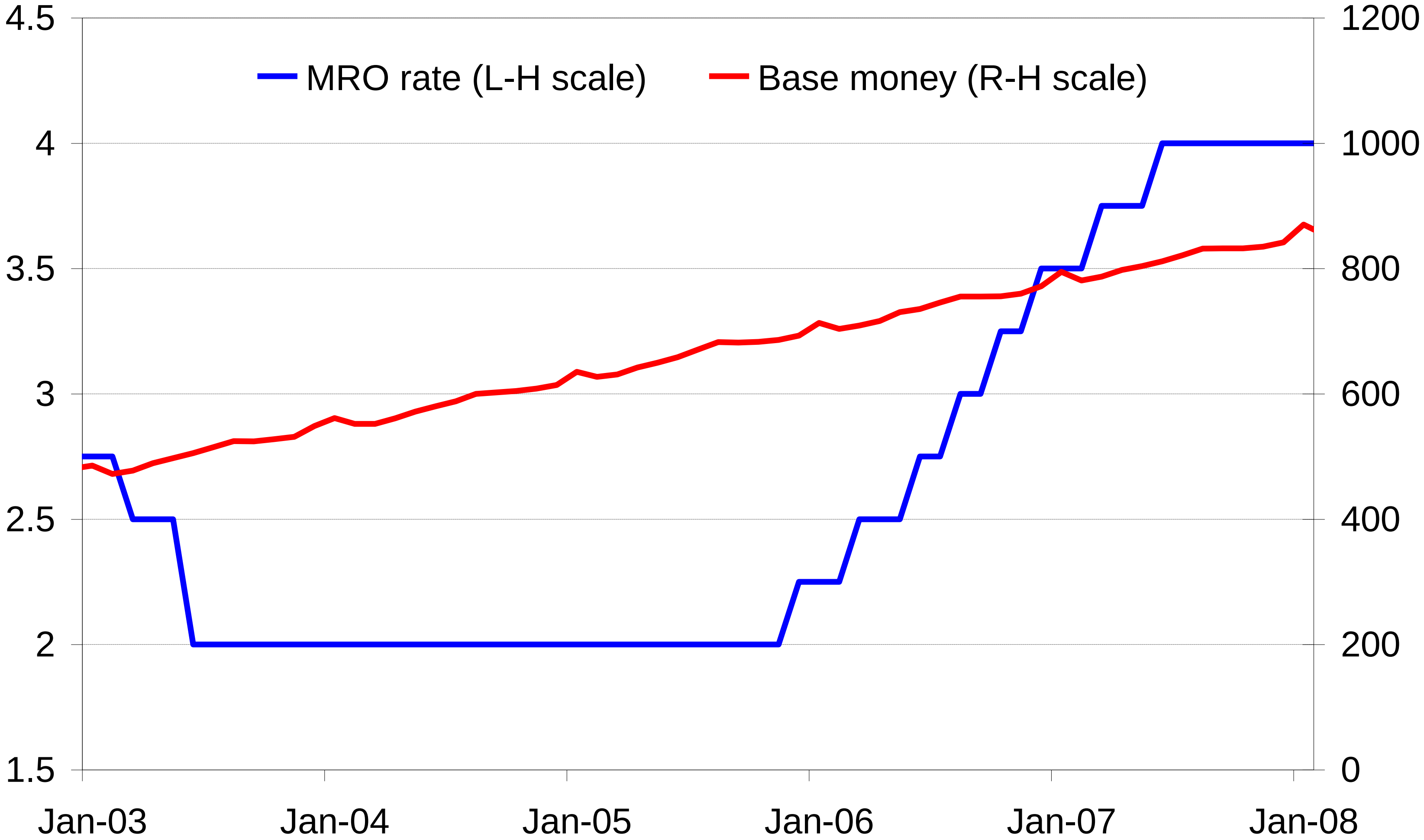
The Decoupling Principle

- **<u>Decoupling principle</u>**. "*The same amount of bank reserves can coexist with very different levels of interest rates; conversely, the same interest rate can coexist with different amounts of reserves*". (Borio & Disyatat, 2010)

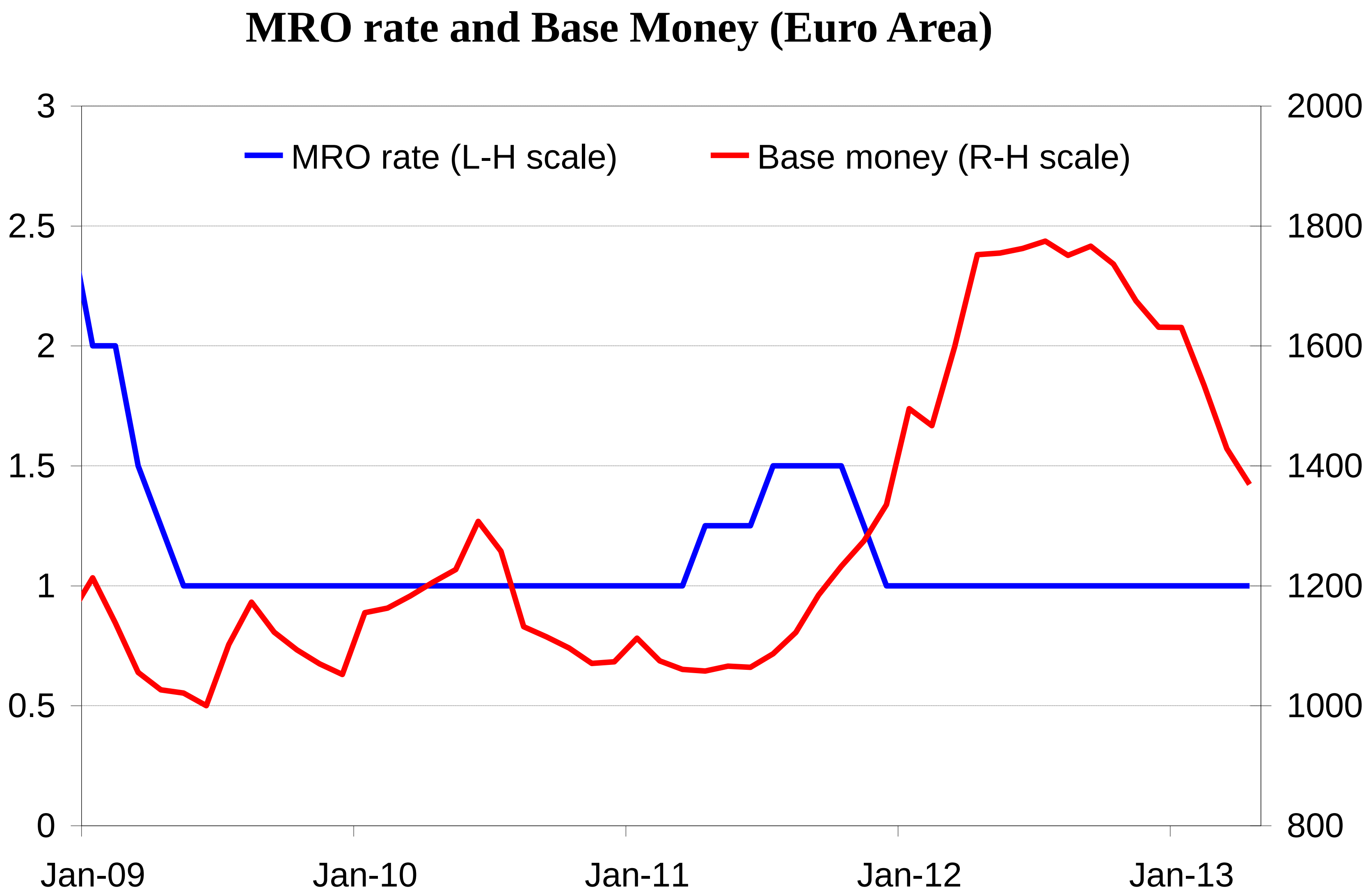
- The central bank can set the overnight rate at whatever level it wishes by signaling the level of the interest rate it would like to see. **Signaling acts as a coordinating device for market expectations**.

Conventional MP and Decoupling Principle

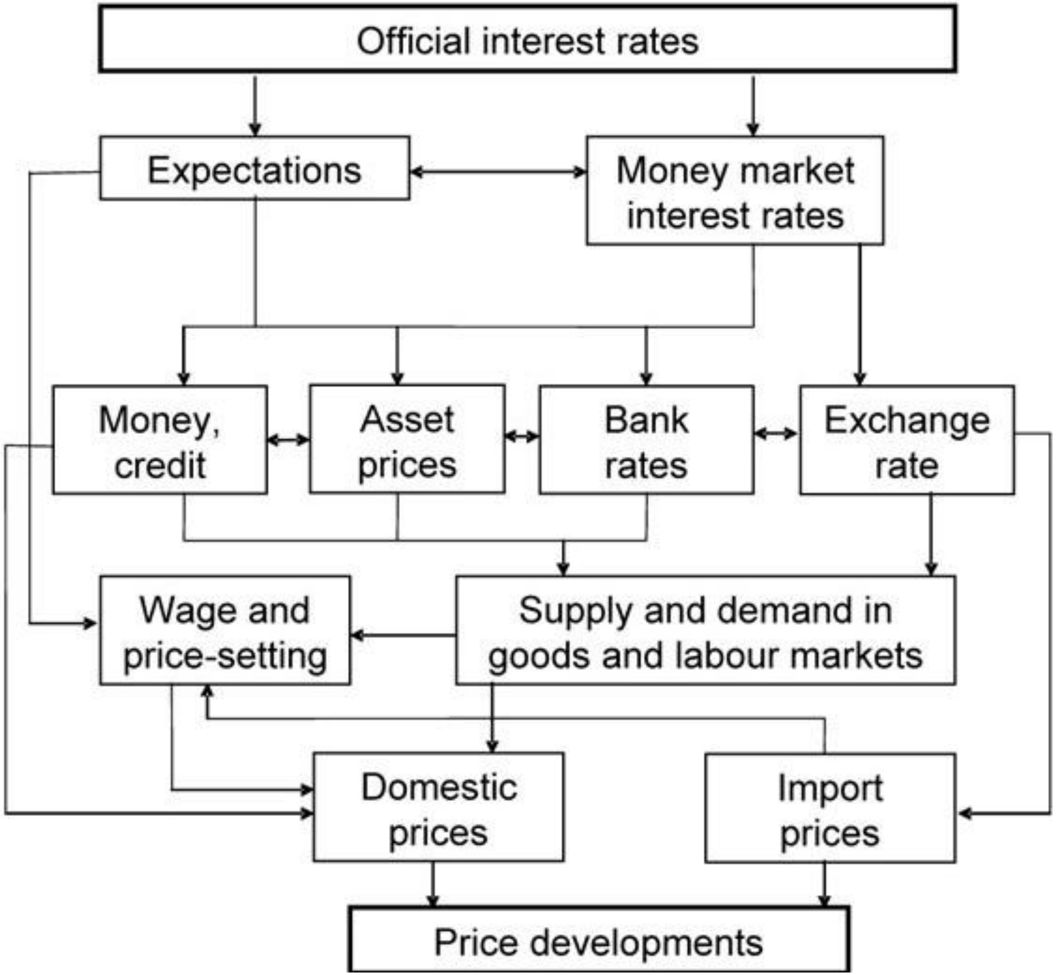
MRO rate and Base Money (Euro Area)



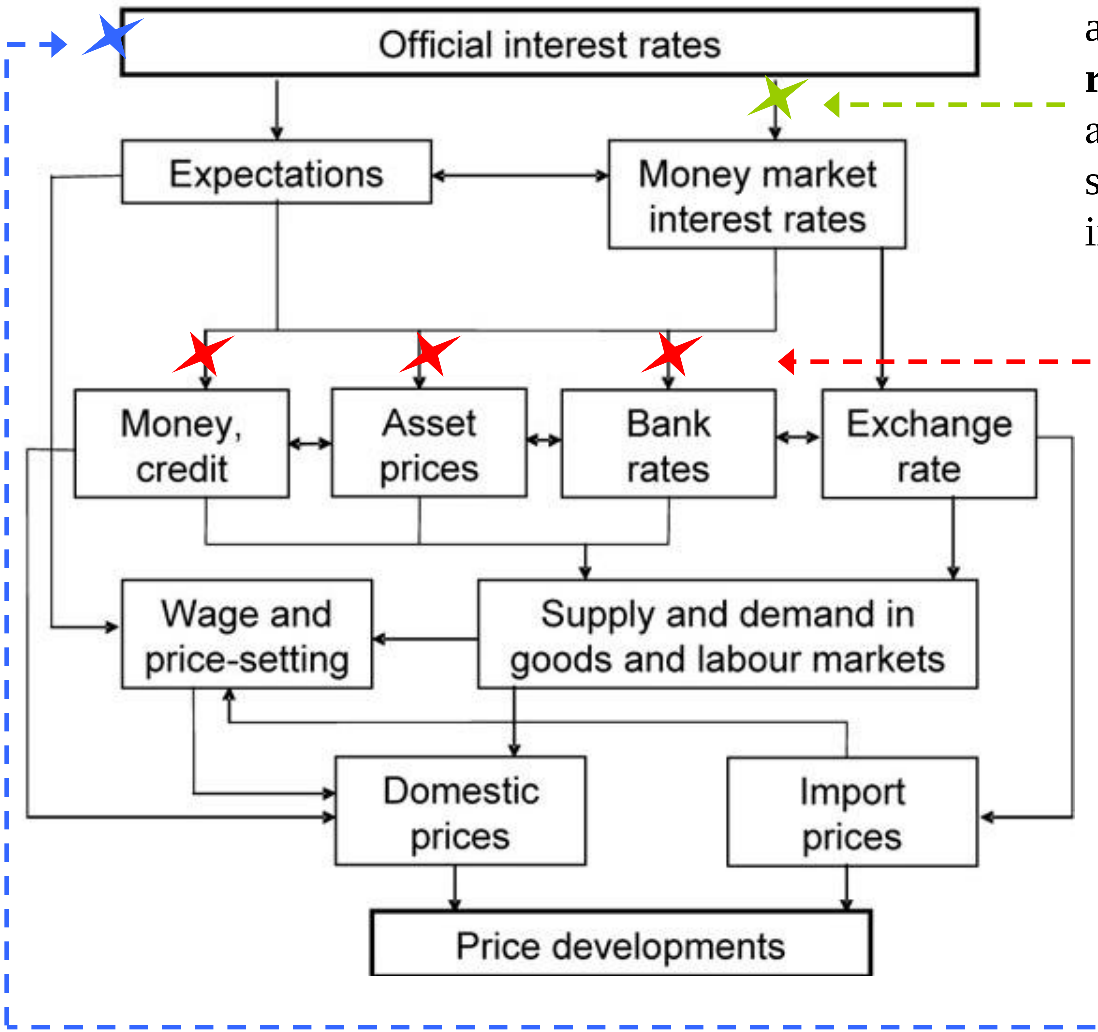
Unconventional MP and Decoupling Principle



Transmission Mechanism in Normal Times



Transmission Mechanism during a Financial Crisis



(i) **volatility of demand for reserves** and (ii) **limited redistribution of reserves** among depository institutions, affect central bank's ability to control short-term interest rates in the interbank market.

disruptions in other segments of the financial market may hamper the transmission of the monetary impulse across the full spectrum of financial assets.

When the effect of the crisis on the real economy is large, **the zero lower bound for interest rates** may become a binding constraint for monetary policy decisions.

Unconventional Monetary Policy

- A classification scheme
  - **Credit easing**: provide liquidity to disfunctional markets.
  - **Quantitative easing**: purchases of long-term bonds to reduce the slope of the yield curve.
  - **Forward guidance**: provide information about future macroeconomic variables.
- Two channels:
  - The **signaling channel**: <u>communication</u>.
  - The **portfolio-balance channel**: <u>purchase of securities</u> and <u>provision of credit.</u>

The Signaling Channel in practice

- **Central bank's communications (or actions)** informing the public about its intentions regarding
  - the future evolution of short-term interest rates,
  - the purchase of financial assets,
  - the implementation of other measures targeted at counteracting market dysfunctions.

- The **efficacy** of this channel relies on
  - the **credibility** of the central bank
  - the extent to which **private expectations affect** macroeconomic and financial market conditions.

- "**Time inconsistency**" may severely limit the effectiveness of the announcement of an interest rate path.

The Signaling Channel in theory

- Krugman (1998): "**irresponsibility principle**". To escape the ZLB, the central bank should convince the market that it will allow prices to raise so to increase inflationary expectations.

- Eggertsson and Woodford (2003) conclude that the signaling channel "**is the only channel that is effective**".

- Clarida (2010) argues that this type of communication, if not properly qualified, "**may in practice be confused by the public with a policy of discretion**" and therefore be ineffective.

- Woodford (2012) argues that to be effective the communications should be in the form of a "**commitment to a target criterion as the basis for future policy deliberation**".

The Portfolio-balance channel in practice

- The portfolio-balance channel is activated through central bank operations such as
  - outright purchases of securities,
  - asset swaps and
  - liquidity injections,

  which modify the **size and the composition** of the balance sheet of both the central bank and the private sector.

- Operates through **imperfect substitutability** on the asset side of the private sector balance sheet: the **net relative amount of securities in the market is a determinant of their relative yields**.

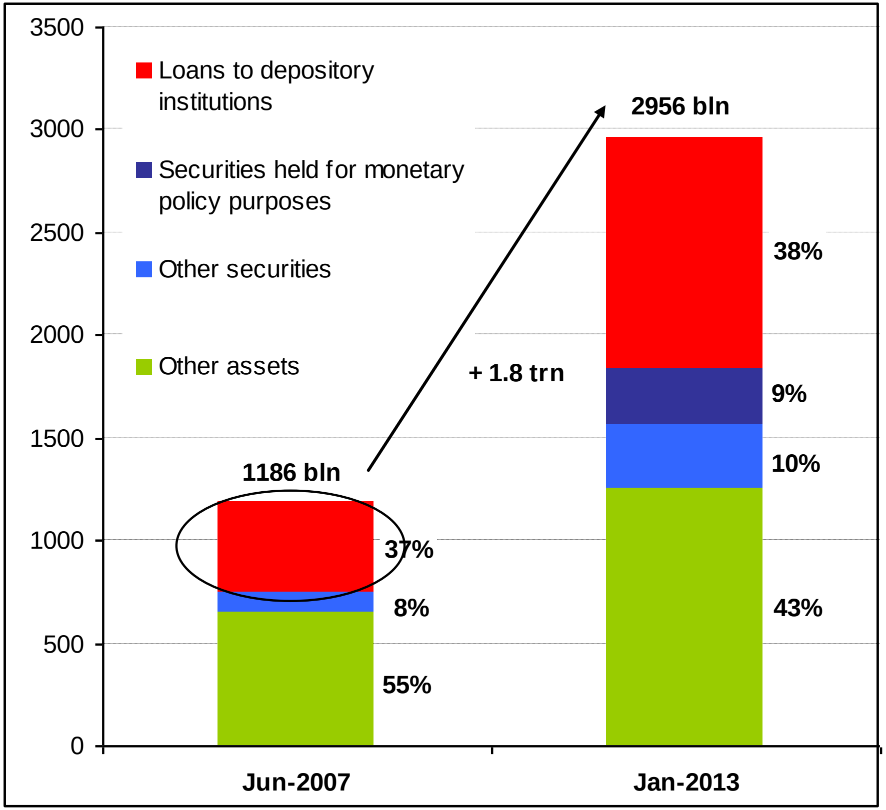
The Portfolio-balance channel in theory

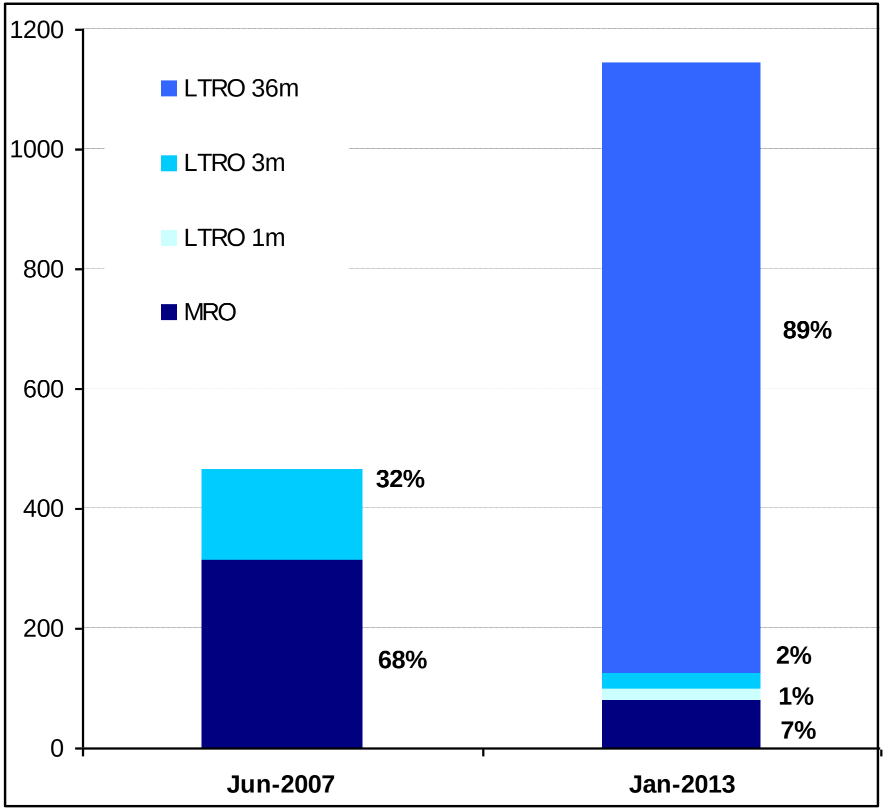
- **Agents are heterogeneous** due to:
  - **preferences for long-term securities** (Vayanos and Vila, 2009)
  - **borrowing constrained** (Gertler and Karadi, 2010)
  - **different degrees of risk-aversion** (Ashcraftet al 2010)
  - **different impatience to consume** (Curdia and Woodford 2010)
  - **information asymmetries** or **limited commitment** (Cúrdia and Woodford (2011), Demirel (2009), Gertler and Karadi (2011), Gertler and Kiyotaki (2010).

- Items on the liability side of the private sector balance sheet are **imperfect substitutes** and **open market operations** have **distributional effects** with potential effects on real activity and inflation.

Portfolio-balance channel in practice: Eurosystem

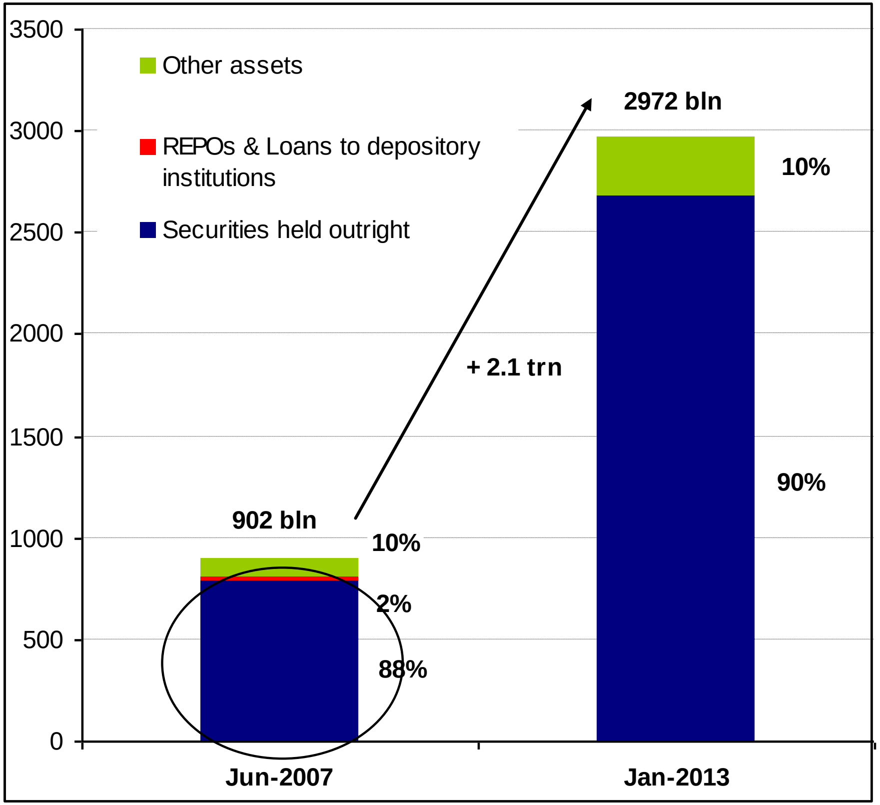
Eurosystem balance sheet: Assets (€ blns)

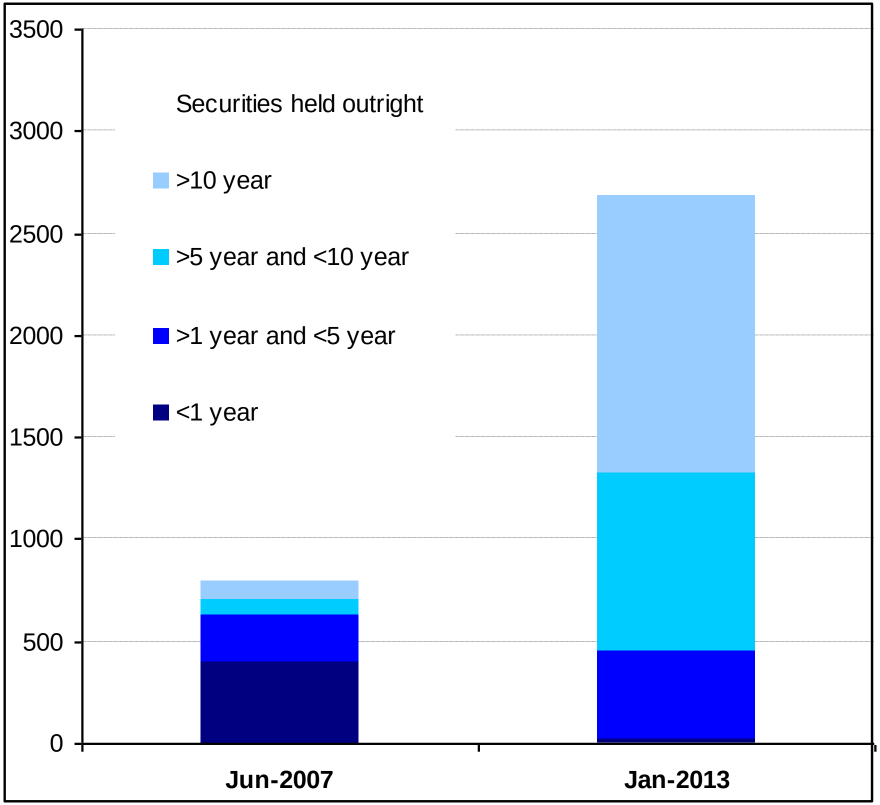




Portfolio-balance channel in practice: Federal Reserve

Federal Reserve balance sheet: Assets ($ blns)





Effectiveness: Announcement vs Actions

- In May 2010 the ECB decides to implement a program of purchase of Euro area private and public securities (**Securities Markets Programme (SMP)**:

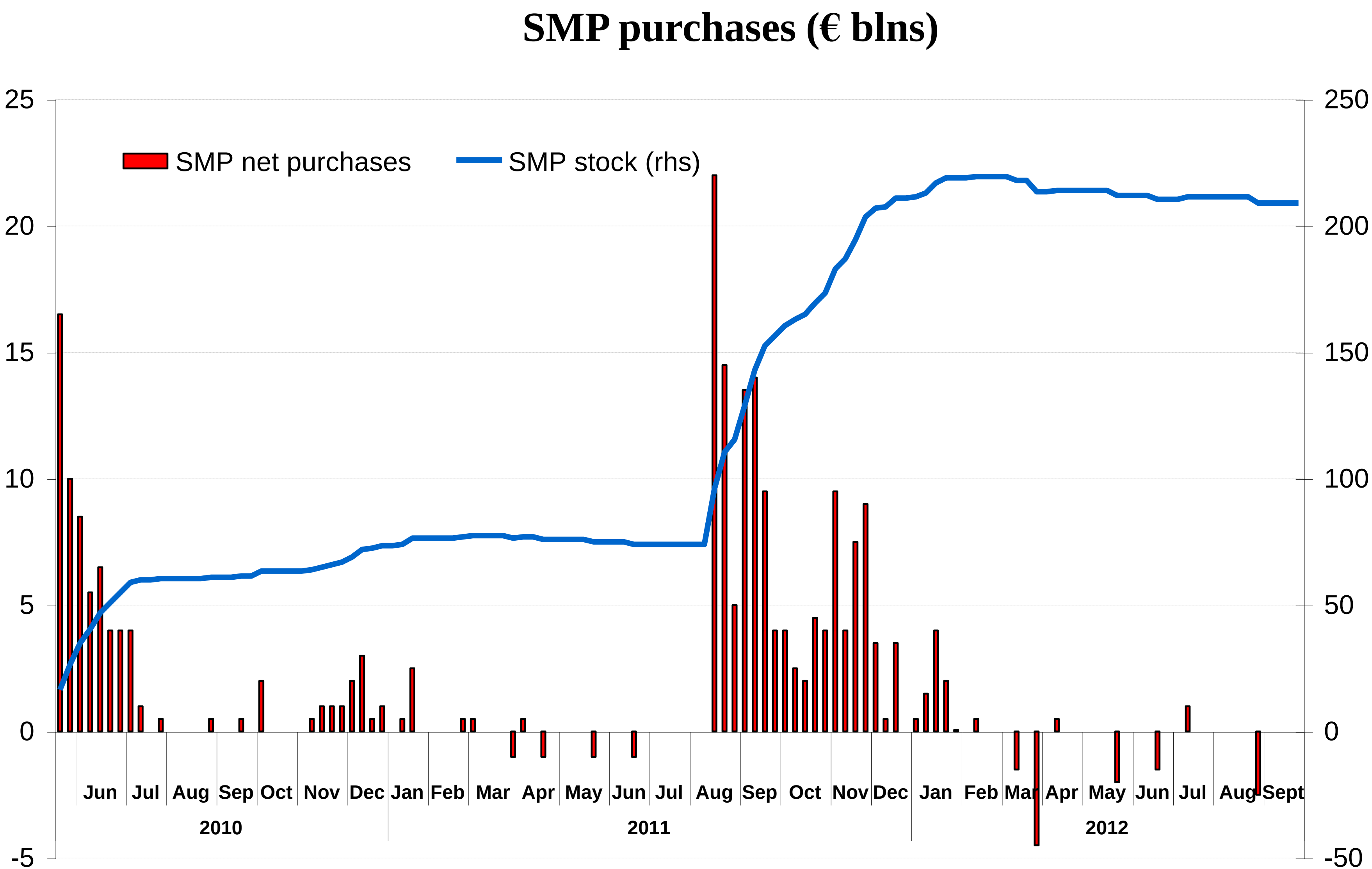
  - Objective: support an appropriate functioning of the **monetary transmission mechanism**;

  - Dimension: **temporary** and its **amount limited**;

  - Effects on the monetary base: **neutralized** through liquidity-absorbing operations.

- In August 2011 the ECB reactivates the program.

Effectiveness: Announcement vs Actions

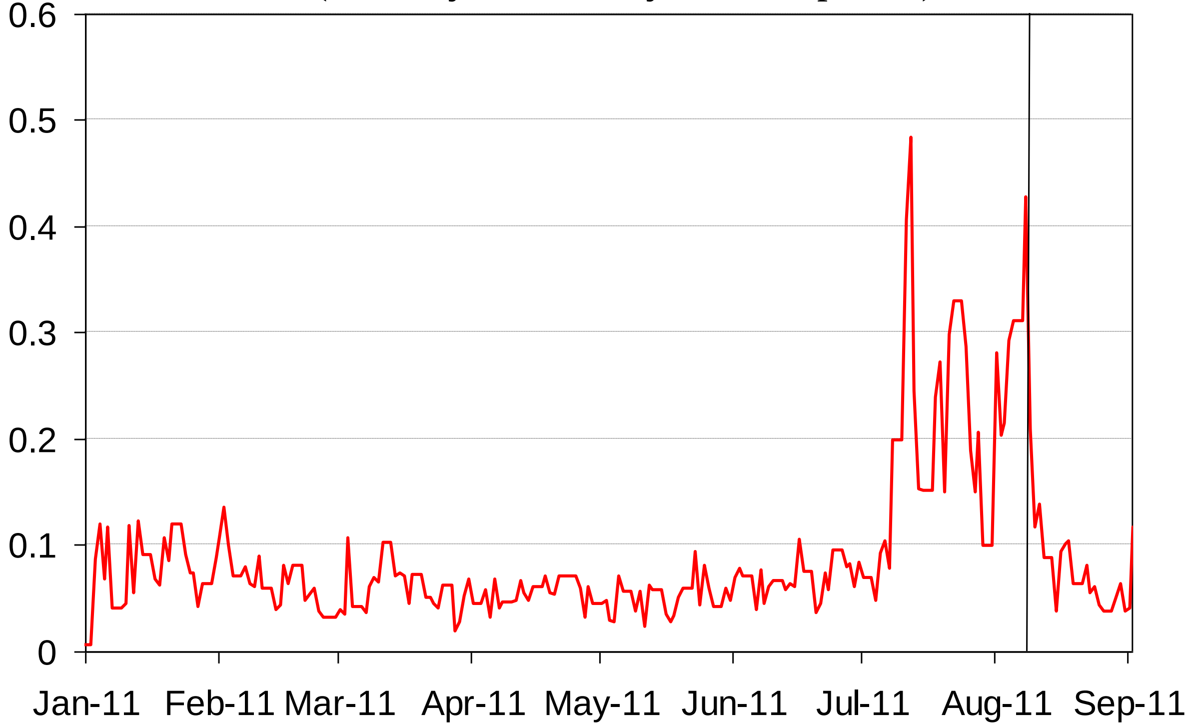


Effectiveness: Announcement vs Actions

- **Announcement (signaling channel)**: large impact on Italian government bonds yields: **about -100 bp** (on all maturities)

Figure - Impact on volatility on 10-year Italian Government bond

(Intraday max-min yields; % points)



Effectiveness: Announcement vs Actions

- **Actions (portfolio-balance channel)**: very large impact on Italian government bonds yields: **estimated effect of about 180 bp.**

  - No published works …
  - … however, the ECB Research Bulletin (winter 2012) cites a work of Eser and Schwaab (2012) on SMP interventions: for large countries like Italy, the estimated effect of **€1 bln purchases = -2 bp on bond yield** …
  - …moreover, on February 2013 the ECB decides to publish the Eurosystem's holdings of securities by country acquired under the SMP: **103 bln of Italian government bonds** ...
  - … an **estimated effect of about 180 basis points** (<u>in line with our internal estimates</u>).

Effectiveness: Risk free vs risk component

- **Quantitative Easing (QE) in US**
  - **<u>Announcement</u> :** impact on 10-year Treasury yields of **QE1 = -100 bp**; **QE2 = -30 bp** (Kryshnamurthy et al 2011).
  - **<u>Purchases</u>:** estimated impact on long-term Treasury yields of $400bn purchases **= around -70 bp** (D'amico and King 2010)

- **Large asset purchases in SMP had larger effects than in QE programs**.
  - Unconventional monetary policy measures are more effective when targeted to address a specific market failure.
  - In the US, **additional monetary stimulus**.
  - In the Euro area, **impairments in the transmission process**.
  - In the US, mostly effects on **risk-free component**.
  - In the Euro area, effects on **risk premia**.

Effectiveness: Discretion vs Commitment

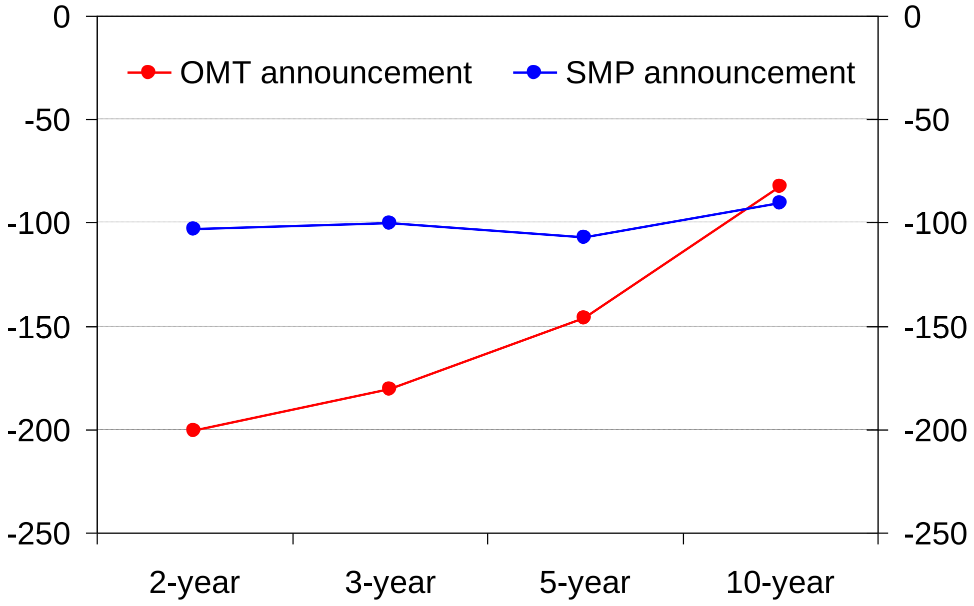
- In September 2012 the ECB decides on the modalities for undertaking **Outright Monetary Transactions (OMTs).**

- Similarities with the SMP are:
  - Objective: support an appropriate functioning of the **monetary transmission mechanism**;
  - Effects on the monetary base: **neutralized** through liquidity-absorbing operations.

- Main differences with SMP are
  - strict and effective **conditionality**;
  - **No ex-ante quantitative limits** on their size and duration;
  - **pari passu treatment** of the Eurosystem as private creditors;
  - **transparency** on the main characteristics of the operations.

Effectiveness: Discretion vs Commitmen

Figure - Impact on Italian Government bonds (basis points)



		2-year	3-year	5-year	10-year
SMP	Governing Council (8-8-2011)	-103	-100	-107	-90.8
OMT	Draghi's London speach (26-7-2012)	-116	-101	-77	-49
	Governino Council (2-8-2012)	-64	-50	-27	12
	Governino Council (6-9-2012)	-21	-30	-42	-46
	Cumulated	-201	-180	-146	-83

Conclusions

- **Heterogeneity of Unconventional Monetary Policies** across time and across Countries depends on
  - (Conventional) institutional framework and
  - which aspect of the monetary policy framework is involved (stance vs transmission mechanism).

- **Effectiveness: back to Conventional Monetary Policy**
  - Before the crisis, the literature identified 4 crucial elements for (conventional) monetary policy to be effective: <u>credibility</u>, <u>commitment</u>, <u>transparency</u>, <u>independence</u> …
  - … the evidence on unconventional monetary policy seems to suggest that <u>at least</u> 3 out of 4 are also crucial for effectiveness of unconventional monetary policies.

The End