

Solvency, systemic risk and moral hazard: Where does the central bank's role begin and where does it end?

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Outline

- 1. The separation principle**
- 2. Bagehot in theory and in practice**
- 3. The ECB during the turmoil**
- 4. Updated risk control measures**
- 5. Conclusions**

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I The Separation Principle

- **Separation of Objectives**
 - **Price Stability**
 - **Smooth functioning of the money market**
- **Separation of instruments**
 - **Interest rate**
 - **Market operations**

1.1 The Separation Principle

The interest rate is not the appropriate tool to deal with solvency / liquidity problems

Why?

- **Too “blunt” an instrument for financial stability targeting**
- **Risk of conflict with the primary objective of price stability, and therefore of un-anchoring of inflation expectations**
- **Lack of democratic legitimacy (“the poor would pay the inflation tax to help out the bankers”)**
- **Risk of moral hazard**

1.2 The Separation Principle

Actions undertaken to restore the functioning of money markets can and should be independent of the level of the policy interest rate

- **Consistent with theory**

“Lowering the risk-free rate is not the solution to any credit crunch/liquidity crisis problem” Buiter and Sibert (2007)

- **Consistent with evidence**

liquidity situation in the US is no better than in the euro area, despite diverging interest rate decisions by the Fed and the ECB (chart will be shown later)

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Bagehot in Theory and Practice

The Principle:

- **Lend freely at a high rate against good collateral**
- **Support illiquid but solvent institutions**

2.1 Bagehot in Theory and Practice

Why lend?

- **Financial intermediaries have liquid liabilities, illiquid assets**
- **They are therefore subject to liquidity shocks (both funding and market liquidity)**
- **If not properly managed, illiquidity problems can lead to insolvency, even when intermediaries is fundamentally sound (Northern Rock docet)**

- **However, it's not easy to distinguish between solvent and illiquid institutions and insolvent institutions, especially when financial markets do not function properly**

2.2 Bagehot in Theory and Practice

Avoid dealing with solvency problems

- **Threat to the financial independence (and to the overall independence) of the central bank**
- **Lack of transparency about who would ultimately pay the bill when central bank money is used**
- **Again, moral hazard**

2.3 Bagehot in Theory and Practice

So what should central banks do in practice?

- **Preserve social welfare by preventing the negative externalities of a liquidity squeeze**
- **Only the central bank can do it because**
 - **It is the only economic agent not subject to liquidity risk**
 - **It can limit its credit exposure through unilaterally imposed eligibility criteria and collateral haircuts (not possible for two equally credit-risky counterparties)**
- **But the central bank has two constraints:**
 - **Risk of central bank financial losses**
 - **Moral hazard, undermining incentives of banks for careful liquidity policies**

2.4 Bagehot in Theory and Practice

The central bank must avoid undue risk taking that would put at risk its balance sheet (ultimately taxpayers' money)

It must thus apply adequate risk control measures, in particular

- **adequate haircuts and**
- **criteria and monitoring ensuring that collateral and counterparty credit quality do not correlate**

2.5 Bagehot in Theory and Practice

In the Euro Area context

- **Measures of general liquidity support to the market are decided centrally**
- **The information on whether a certain counterparty is solvent lies with the NCB (and more generally the national supervisory authorities), but the possible losses stemming from open market operations are pooled at a Eurosystem level**
- **This creates the need of timely and exhaustive transmission of supervisory information at the European level**

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3.1 The ECB during the Turnmoil

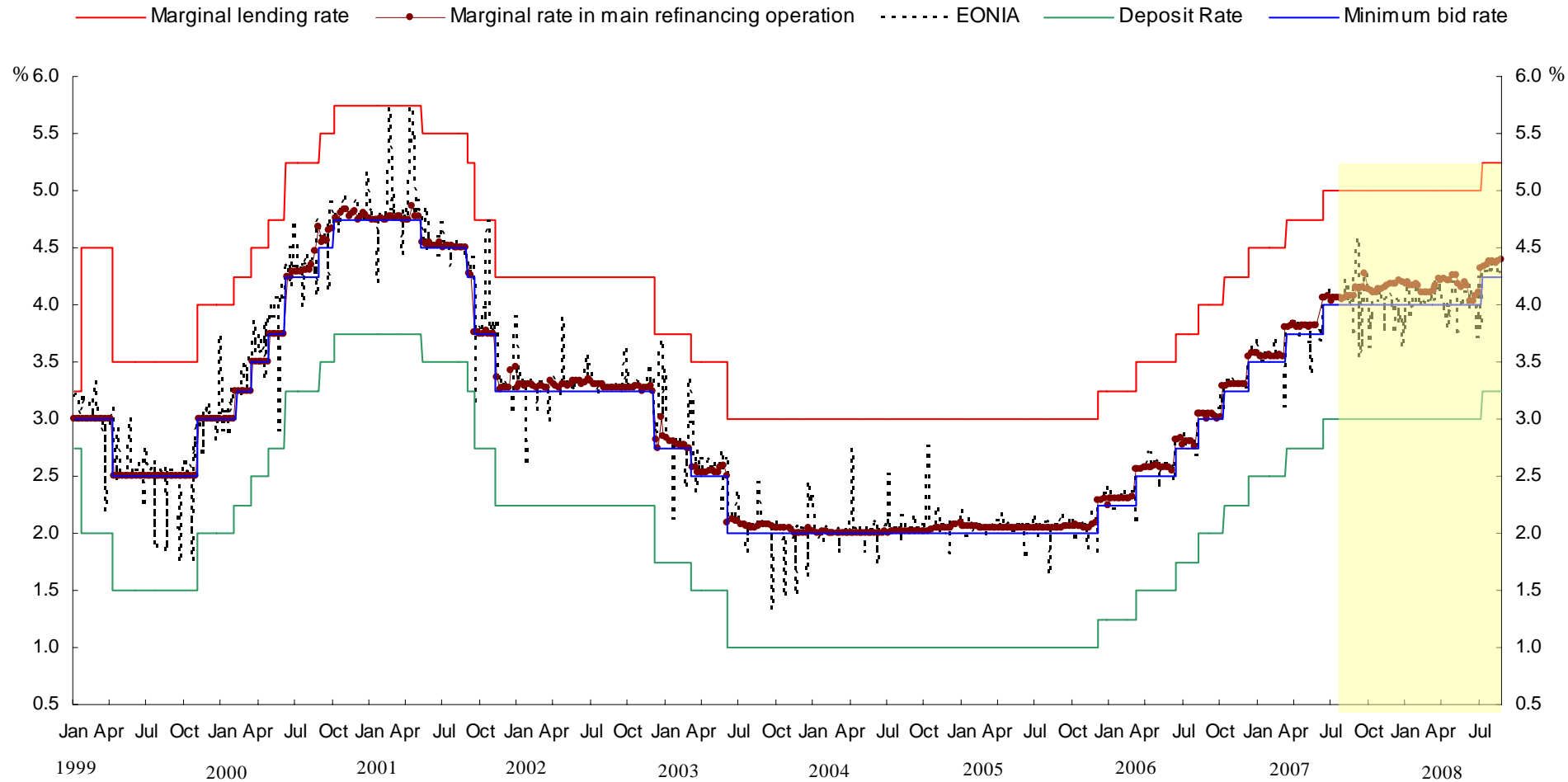
- **ECB operations in normal times:**
 - *Operational objective:* keep the overnight rate as close as possible to the minimum bid rate
 - *Main tool:* **Weekly MROs**
- **ECB operations during the turmoil:**
 - *Operational objective:* continued to keep the overnight rate as close as possible to the minimum bid rate
 - *Main tool:* **Weekly MROs and full use of its framework for monetary policy implementation; monitor and update its risk control system**

3.2 The ECB during the turmoil

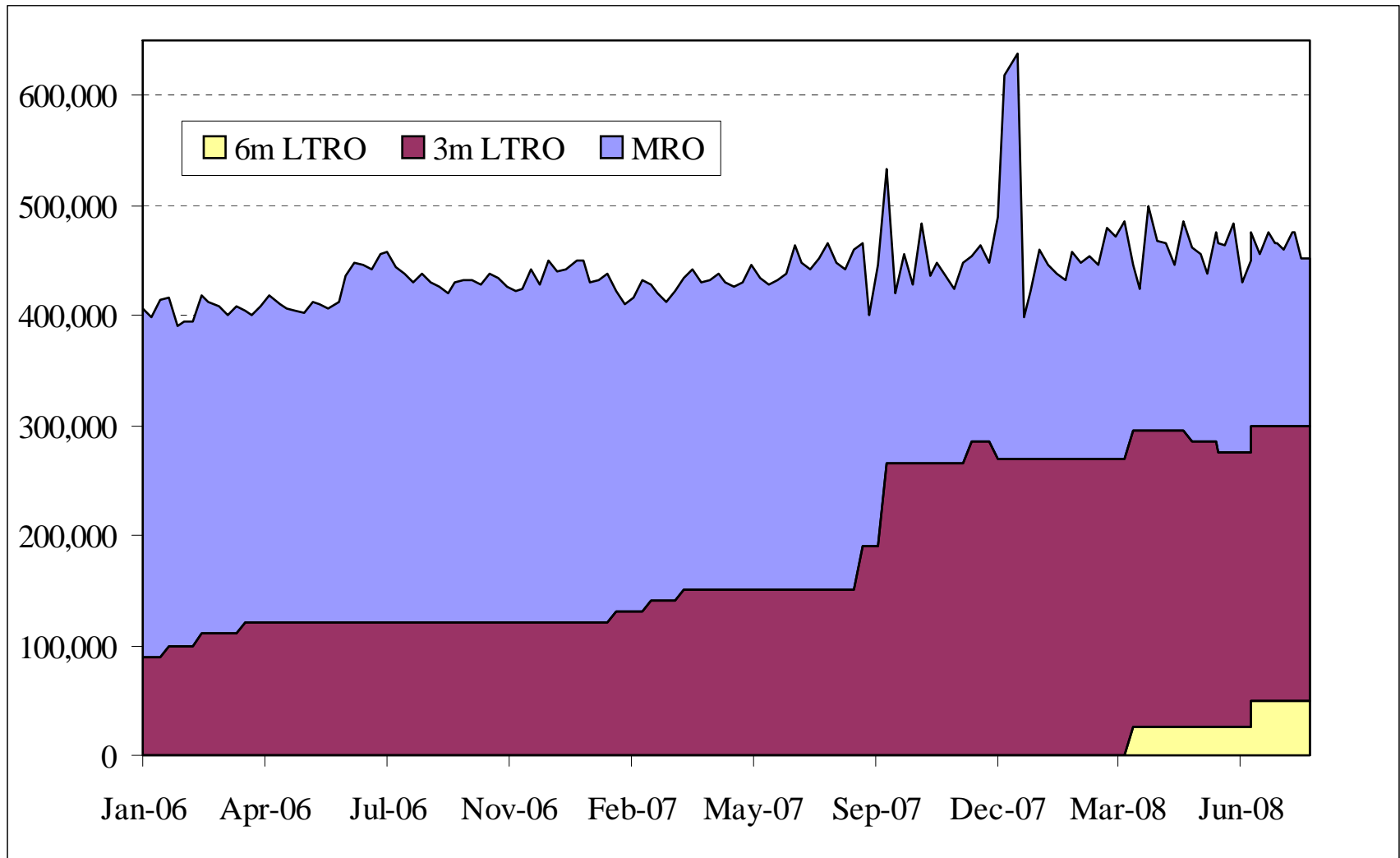
In response to the financial market turbulence, the Eurosystem has taken three types of measures, still within the leeway of our framework (except TAF) :

- **Frontloading liquidity**
- **Use of non-frequent operations, namely**
 - **Fine-tuning operations**
 - **Long-term refinancing operations (LTROs)**
- **International cooperation**
 - **TAF**
 - **Information exchange**

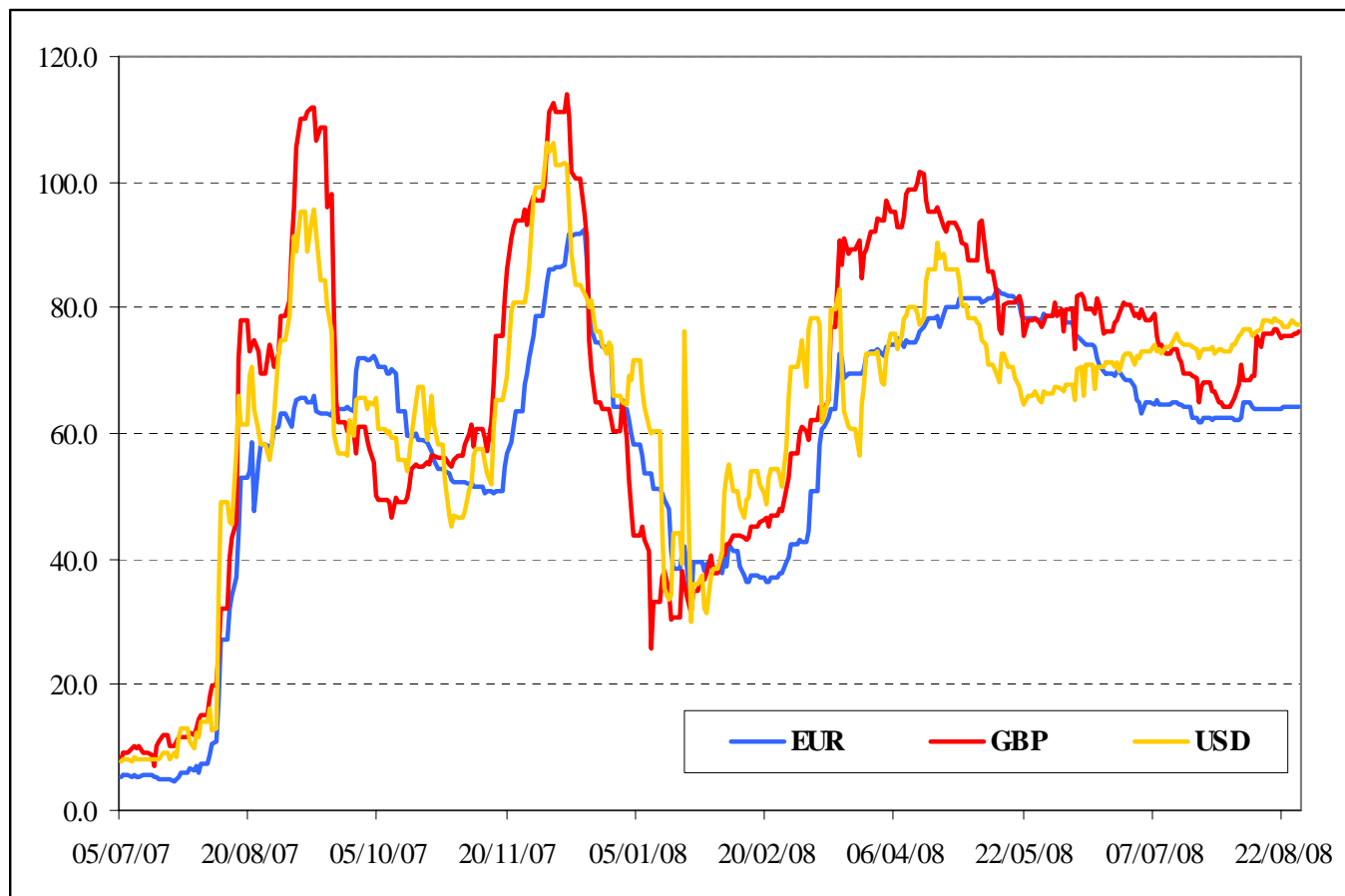
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3.4 The ECB during the Turnmoil



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Existing risk control measures

- The Eurosystem accepts as collateral only assets fulfilling high credit standards. Within the Eurosystem credit assessment framework (ECAAF) these standards are defined in terms of a rating of A- or better or, equivalently, an annual probability of default of 10bps or less.
- In addition, risk control measures are applied to the assets underlying Eurosystem credit operations. Risk control measures currently in use by the Eurosystem include valuation haircuts (discounting the value of collateral by a certain percentage) and variation margins (marking to market assets and requiring additional collateral if market prices move substantially).
- To adequately mitigate counterparty risk, the collateral submitted should not be issued or guaranteed by the counterparty or any other entity closely linked to the counterparty.

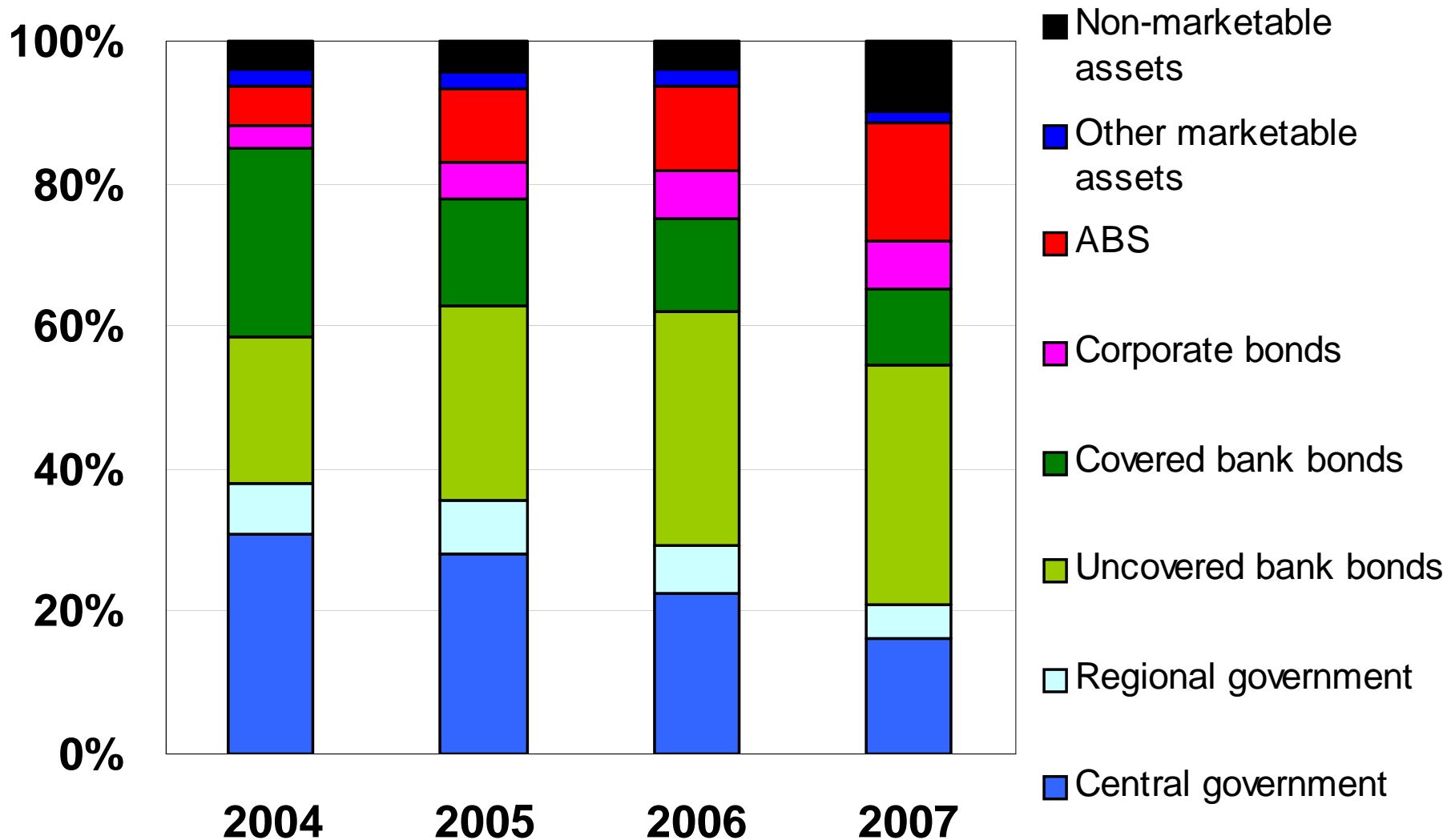
Collateral valuation

- All collateral is valued on a daily basis. Valuation is based on the most representative price source for each asset.
- The broad range of collateral accepted by the Eurosystem includes non-marketable assets (e.g. credit claims) as well as marketable but less liquid assets (e.g. ABS) making it necessary to develop theoretical pricing capabilities. Two valuation hubs within the Eurosystem provide theoretical valuations, one at the Banque de France for ABS, one at the Deutsche Bundesbank for other complex debt instruments
- For credit claims, NCBs can either compute a theoretical price or use the outstanding amount (in which case higher haircuts apply).
- Theoretical prices are produced exclusively for the valuation of collateral. They are not supposed to be trading prices, thus substituting independent pricing efforts in the market.

Old haircut schedule for marketable assets

Residual maturity (years)	Category I (Government bonds)		Category II (local, regional government, agencies, supranational, Jumbo Pfandbriefe)		Category III (Traditional covered bonds, unsecured bank bonds, corporate bonds)		Category IV (ABS)	
	Fixed coupon	Zero coupon	Fixed coupon	Zero coupon	Fixed coupon	Zero coupon	Fixed coupon	Zero coupon
0-1	0.5	0.5	1	1	1.5	1.5	2	2
1-3	1.5	1.5	2.5	2.5	3	3	3.5	3.5
3-5	2.5	3	3.5	4	4.5	5	5.5	6
5-7	3	3.5	4.5	5	5.5	6	6.5	7
7-10	4	4.5	5.5	6.5	6.5	8	8	10
>10	5.5	8.5	7.5	12	9	15	12	18

Evolution of collateral by asset type



Updated risk control measures

- **Part of a regular biennial review of the risk control framework**
- **Some fine-tuning of the framework deemed necessary because of:**
 - **Improvements in methodology**
 - **Assessment of market and liquidity risk characteristic of assets**
 - **Use of eligible assets by counterparties**
 - **New developments in financial instruments**
- **Implementation: 1 February 2009**

Updated risk control measures I

12% haircut applied to all ABS and 5% add-on for unsecured bank bonds

- **Analysis showed that an upwards adjustment of haircuts for a significant part of eligible ABS was warranted. So far haircuts for ABS ranged from 2% to 18%.**
- **The maturity profile of the underlying assets in an ABS transaction normally differs from the maturity profile of the ABS itself. Therefore a distinction based on the maturity and the coupon structure of the ABS is not as relevant for determining the haircut as for other debt instruments.**
- **The significant use of unsecured bank bonds by counterparties may lead to concentration risk in the banking system that should be reflected in the valuation haircuts. So far haircuts for unsecured bank bonds ranged between 1.5% and 15%.**

Updated risk control measures II

5% valuation markdown for ABS valued theoretically

- **Recent experience demonstrates that the valuation of ABS can be subject to significant uncertainties especially when there are no market prices that could provide a reference for intrinsic value.**
- **To mitigate the risk inherent in ABS without a valid market price the Eurosystem has opted to introduce a valuation mark-down of 5% for these instruments**

Updated risk control measures III

Prohibition of close links in ABS transactions

- In addition to the cross-ownership of capital, there are ways in which a “financial close link” between a counterparty and an asset can be established.
- In particular in the case of ABS, the new measure prohibits:
 - Providing liquidity support of more than 20% of the asset-backed security’s nominal value
 - Entering into a currency hedge with the ABS issuer

Discretion of the Eurosystem in excluding or limiting the use of certain assets, also at the level of individual counterparties

Updated risk control measures IV

Higher rating disclosure standards

- **All ECAI (rating agency) assessments must be based on public ratings.**
- **In particular for ABS:**
 - **credit ratings reports (pre-sale or new issue report) must be published that include:**
 - **comprehensive analysis of structural and legal aspects**
 - **detailed collateral pool assessment**
 - **rating reviews published at least quarterly**

Conclusions

- **The Bagehot principle is alive and well: central banks should not deal with solvency**
- **However, ex ante solvency and illiquidity are never perfectly distinguishable**
- **The central bank should be active in restoring orderly conditions, but also protect its balance sheet**
- **The ECB has made clear that its monetary policy stance is not adjusted in relation to the liquidity situation in the interbank market (separation principle)**
- **The ECB has taken considerable steps towards restoring orderly market conditions, but well within the limits and the safeguards imposed by its operational framework**

Additional slides

An overview of collateral framework principles

	Eurosystem	Federal Reserve	Bank of England
Protection against losses	√	√	√
Operational efficiency	√		√
Sufficient collateral available	√	√	
No impact on credit allocation		√	
Liquidity		√	
Transparency	√	√	√
Equal access for counterparties	√		
Equal treatment of public and private issuers	√		

Source: ECB

Shares of different categories of eligible collateral in the main temporary OMOs (July 2007)

Before the turmoil

	Eurosystem	Fed	BoE
Central government	40%	42%	9%
Government agency		58%	
Regional government	3%		
Corporate	8%		
Bank	27%		
Supranational	1%		3%
ABS	6%		
Loans	14%		
Other			88%

Number of counterparties

	Eurosystem	Federal Reserve	Bank of England
Eligible for open market operations	1,700	20 (primary dealers)	40 (reserve scheme participants)
Access to the marginal lending facility	2,100	7,500	60
Access to the deposit facility	2,800	7,500	60
Fine tuning operations	130		

Source: ECB, IMF, Bank of England

Differentiation of eligible assets (before the turmoil)

	Eurosystem	Fed	BoE
Outright operations	No outright operations	Only central government bonds	Only central government bonds
Temporary op.	Single set of eligible collateral for all temporary operations including a wide range of public and private sector securities, ABS/MBS, ABCP, as well as non-marketable assets such as bank loans.	Central government bonds and agency bonds and MBS	UK government bonds as well as other euro area government bonds and supnationals with sufficient rating
Lombard facility		ABCP, ABS, MBS, CDOs, mortgage and consumer loans, and foreign collateral such as German Pfandbriefe	
Intraday credit		No collateral required unless daily limit breached; otherwise same collateral as for Lombard facility	

Special actions taken during the financial market turbulence

	Eurosystem	Fed	Bank of England
More frequent fine-tuning	√	√	√
Higher recourse to LTROs	√	√	√
Lengthening of LTRO maturity	√	√	√
More front-loading	√		
Change in reserve targets			√
Change in standing lending facility		√	
Broadening of eligible collateral		√	√
Broadening of counterparties		√	√
Introducing or increasing securities lending		√	√

Source: BIS and ECB

Updated haircuts for marketable assets

Levels of valuation haircuts applied to eligible marketable assets in relation to fixed coupon and zero coupon instruments (percentages)

Residual maturity (years)	Liquidity categories								
	Category I		Category II		Category III		Category IV		Category V
	Fixed coupon	Zero coupon	Fixed coupon	Zero coupon	Fixed coupon	Zero coupon	Fixed coupon	Zero coupon	Fixed or zero coupon
0-1	0.5	0.5	1	1	1.5	1.5	6.5	6.5	12*
1-3	1.5	1.5	2.5	2.5	3	3	8	8	
3-5	2.5	3	3.5	4	4.5	5	9.5	10	
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7-10	4	4.5	5.5	6.5	6.5	8	11.5	13	
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* Assets in this liquidity category that are given a theoretical value (in accordance with Section 6.5 of the “General Documentation”) will be subject to an additional valuation haircut.