The policy perspective: Where do we stand in the Eurosystem?

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The opinion of the author does not necessarily reflect that of the OeNB.

Structure

1. *CRDIV/CRR*

2. *Empirical evidence*

3. *Related literature and research questions*

4. *LCR impact*

   - *Eurosystem control of EONIA*

   - *Role of MRR*

   - *LCR network dynamics & feedback-mechanism*

   - *LCR impact on policy target*

   - *LCR impact on structural liquidity deficit*

5. *Crisis impact*

6. *Potential policy reactions*

CRD IV/CRR

Deviations from Basel III

European specificities

❑ *Treatment of intra-group exposure & committments*

❑ *Perimeter of LCR*

❑ *Waivers*

    ❑ *National / cross-border*

    ❑ *Institutional protection schemes*

❑ *CIUs*

❑ *Avoide reference to external ratings*

Most contested issues

- *Level 1/Level 2 60/40 cap*

- *75% cap on inflows*

- *75% run-off rate for non-financial corporates (w/o operational relation)*

- *100% run-off for liquidity lines for non-fin corporates*

- *Operational relationship*

- *50% roll-over trade finance/SME loans*

- *Definition of liquid assets*

  - *Extremely high credit quality/liquidity & high credit quality/liquidity*

- *Macro-prudential liquidity tool*

  - *Systemic liquidity shocks require preventive tools*

  - *LCR/NSFR, Haircuts*

EBA SGL program

❑ *Too many Technical Standards*

■ *Many are highly political rather than technical*

❑ *EBA SGL work streams*

■ *LCR monitoring*

▪ *Voluntary monitoring started in March 2012*

■ *Currencies with insufficient liquid assets/narrow CB collateral -- ?*

■ *Deposits with higher run-off rates – guideline rather than TS*

■ *Liquid asset metrics/definition*

■ *Report (Art. 481 (1) CRR) – June 2013*

■ *Derivatives and margin calls*

■ *Treatment of intra-group exposure*

Way forward

Study of LCR impact under Art. 481(1) CRR

- ❑ *Macro-economy*

- ❑ *SME lending/trade finance*

- ❑ *Business models*

- ❑ *Methods*

  - ■ *Data based (LCR monitoring)*

  - ■ *Case studies (CH, NL, SE, UK)*

  - ■ *Simulation*

  - ■ *Unintended consequences*

Potential impact

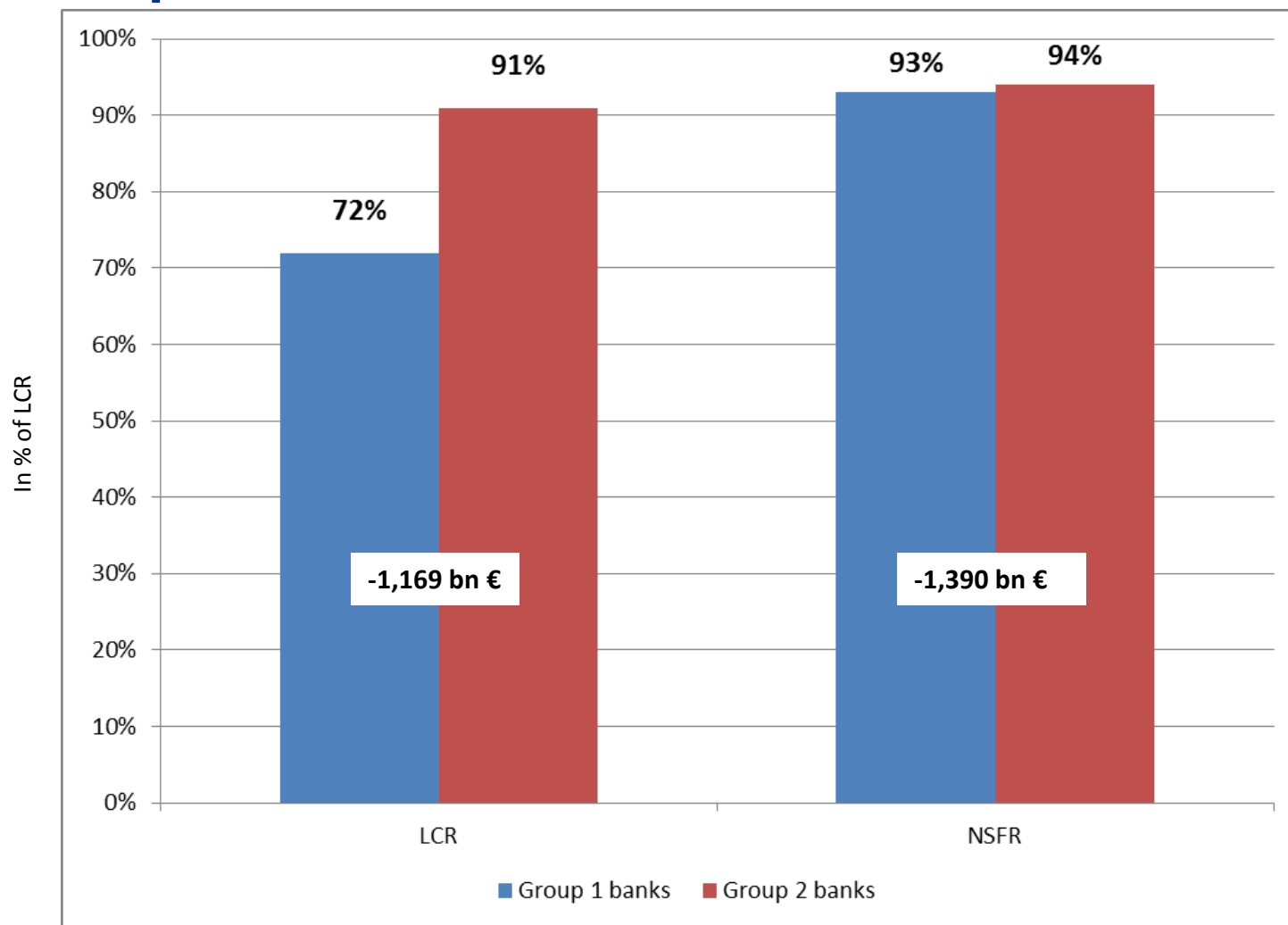*Assumption: LCR binding constraint*

❑ *Ratios watered down substantially after QIS – still binding?*

❑ *Competition for deposits intensivies*

■ *Loan growth better aligned with deposit growth/net long-term debt issuance*

■ *Less underpricing of risk – more efficient capital allocation*

❑ *Challenges for emerging, fast growing economies*

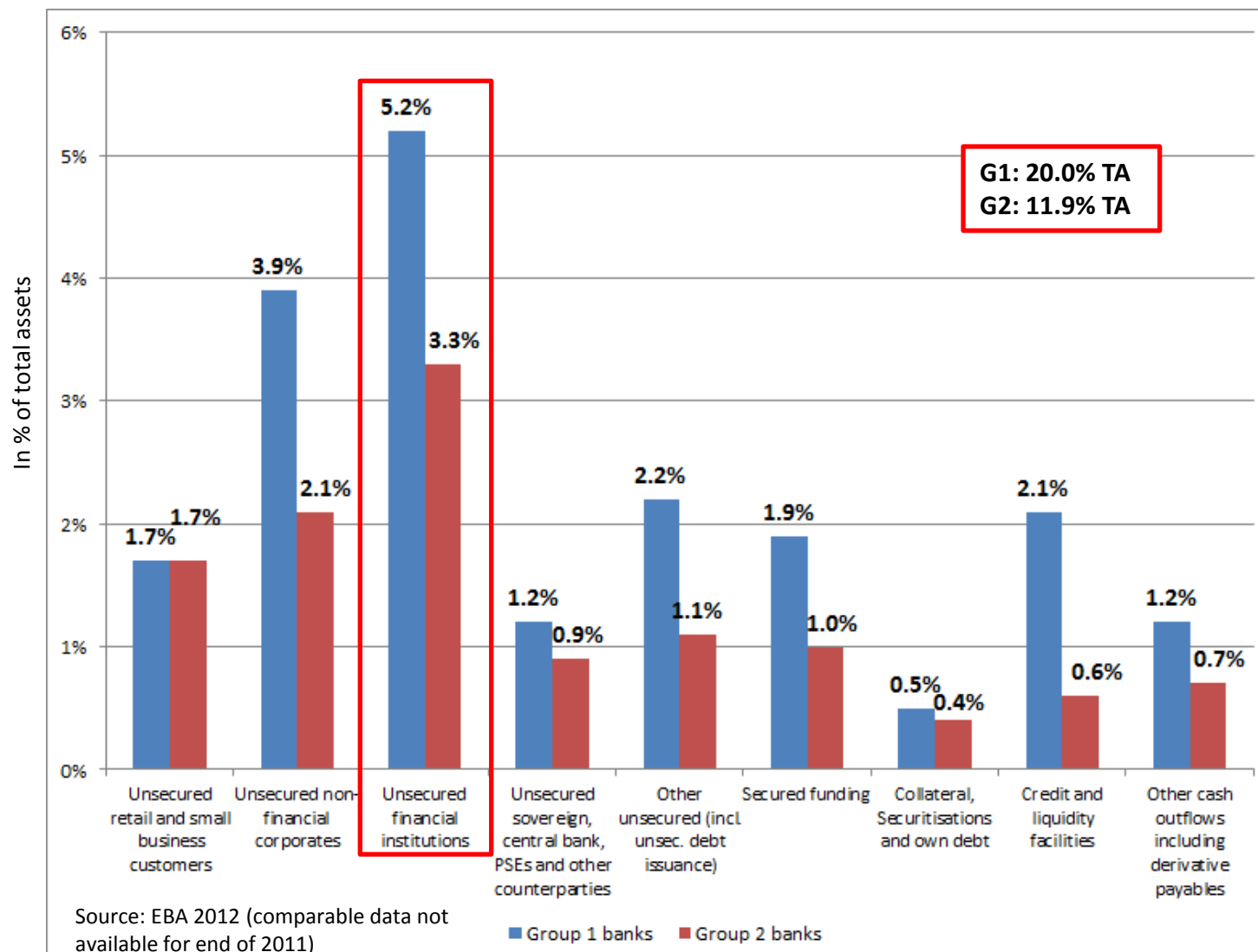❑ *Interbank market – liquidity insurance, structural li-deficit & monetary policy implementation*
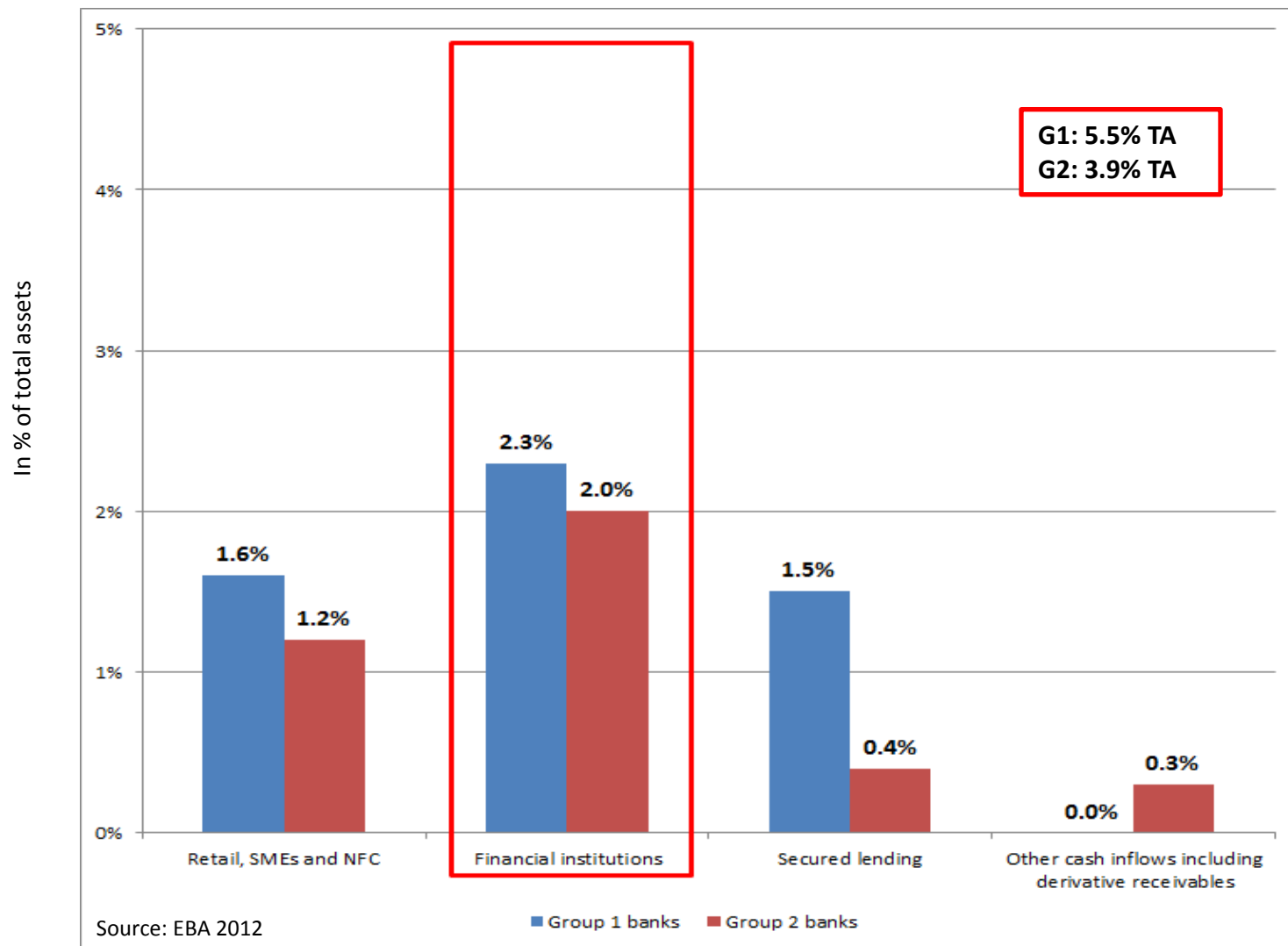
Empirical evidence
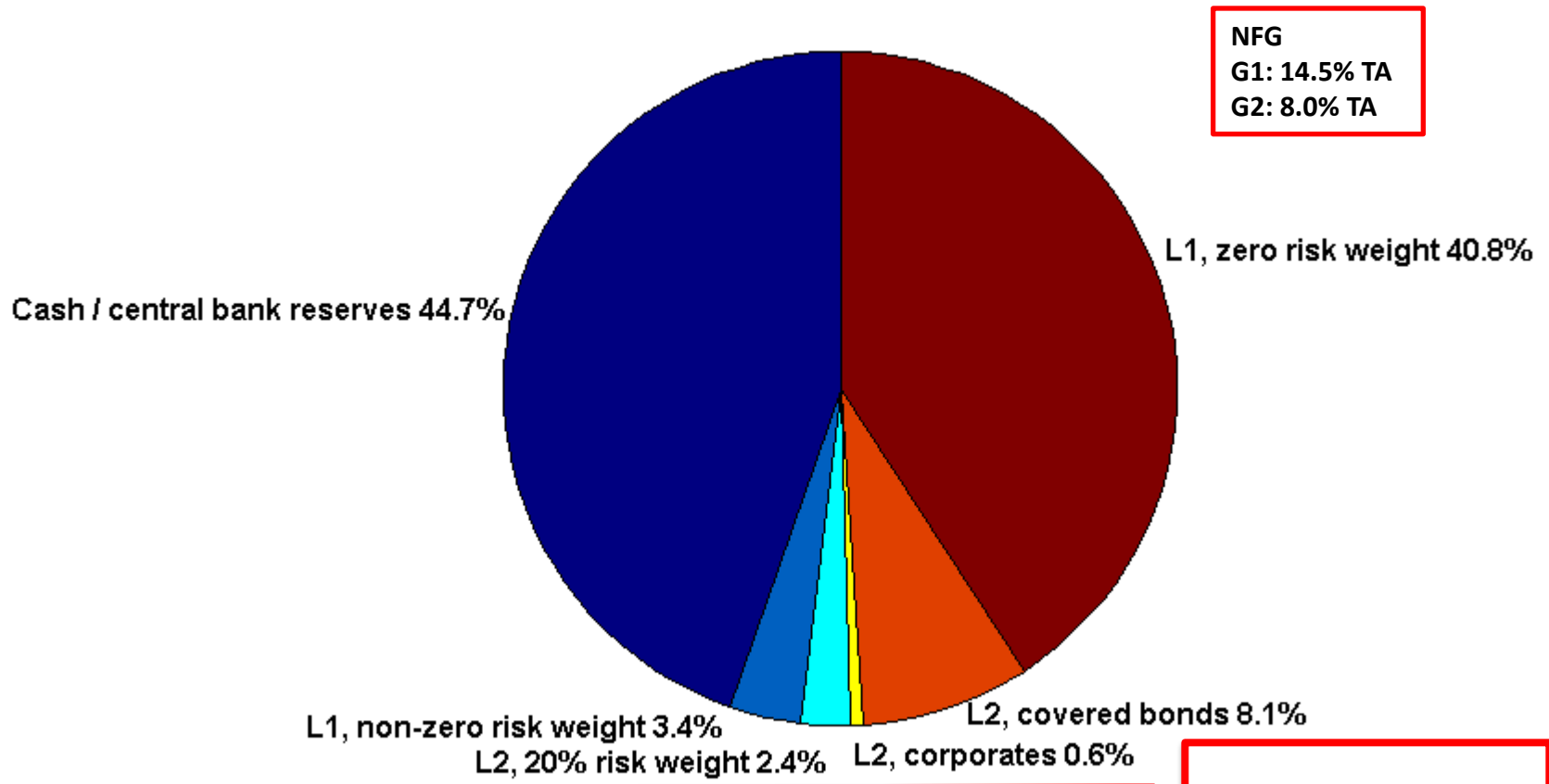
Compliance

Source: EBA 2012

Main drivers LCR outflows (end 2011)

In % of total assets

Category	Group 1 banks	Group 2 banks
Unsecured retail and small business customers	1.7%	1.7%
Unsecured non-financial corporates	3.9%	2.1%
Unsecured financial institutions	5.2%	3.3%
Unsecured sovereign, central bank, PSEs and other counterparties	1.2%	0.9%
Other unsecured (incl unsec. debt issuance)	2.2%	1.1%
Secured funding	1.9%	1.0%
Collateral, Securitisations and own debt	0.5%	0.4%
Credit and liquidity facilities	2.1%	0.6%
Other cash outflows including derivative payables	1.2%	0.7%

G1: 20.0% TA
G2: 11.9% TA

Source: EBA 2012 (comparable data not available for end of 2011)

Main drivers LCR inflows (end2011)

Source: EBA 2012

G1: 5.5% TA
G2: 3.9% TA

Retail, SMEs and NFC: Group 1 banks 1.6%, Group 2 banks 1.2%
Financial institutions: Group 1 banks 2.3%, Group 2 banks 2.0%
Secured lending: Group 1 banks 1.5%, Group 2 banks 0.4%
Other cash inflows including derivative receivables: Group 1 banks 0.0%, Group 2 banks 0.3%

In % of total assets

Composition of liquid assets (end 2011)

NFG
G1: 14.5% TA
G2: 8.0% TA

L1, zero risk weight 40.8%

Cash / central bank reserves 44.7%

L1, non-zero risk weight 3.4%
L2, 20% risk weight 2.4%

L2, corporates 0.6%

L2, covered bonds 8.1%
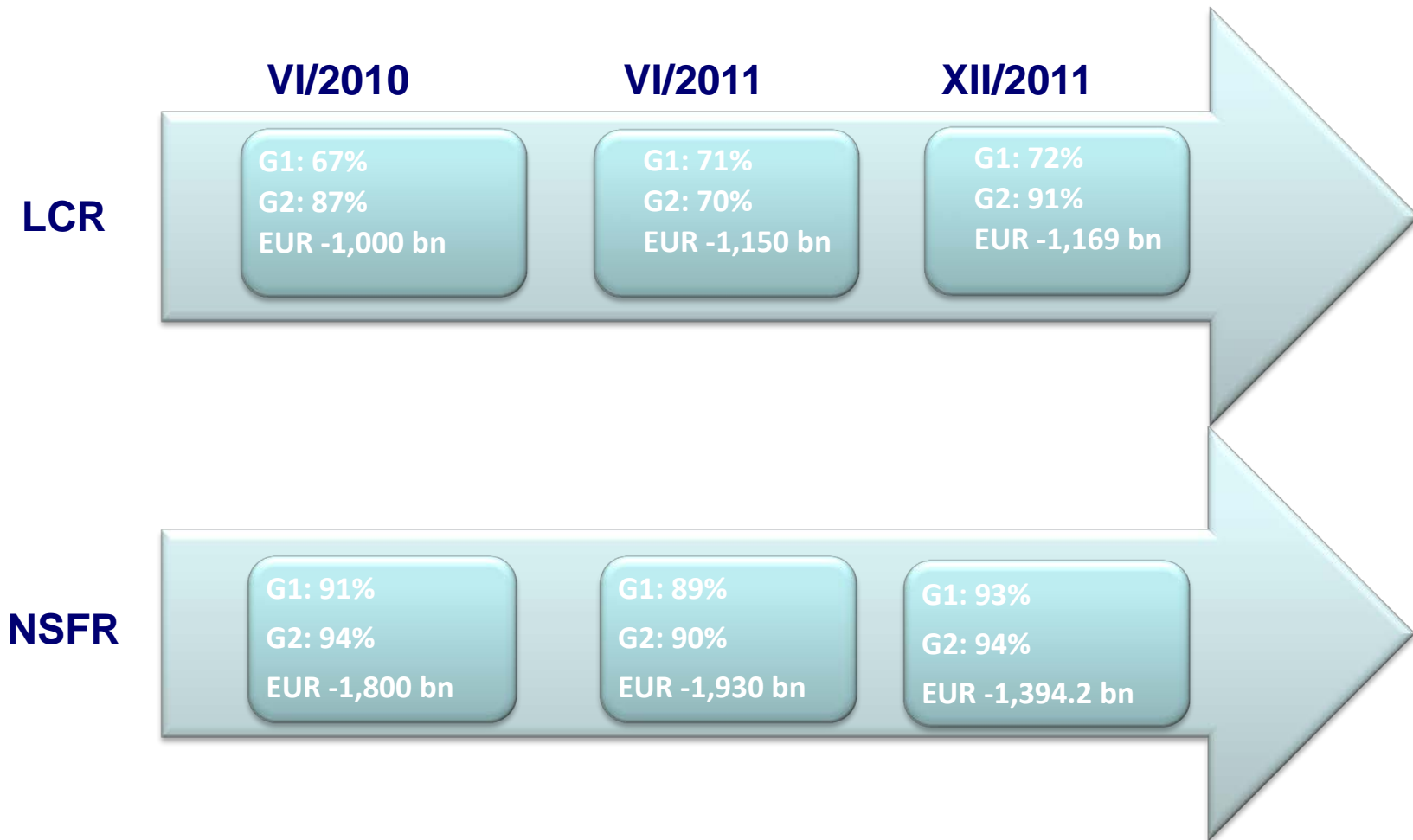
Impact of L2 cap minimal:
- L2 assets only 13%
- EUR 53 bn excluded due to 40% cap/ 24 banks
- LCR > 100% for 6 banks

Source: EBA 2012

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Some progress since 2010*

VI/2010   VI/2011   XII/2011

LCR

G1: 67%   G1: 71%   G1: 72%
G2: 87%   G2: 70%   G2: 91%
EUR -1,000 bn   EUR -1,150 bn   EUR -1,169 bn

NSFR

G1: 91%   G1: 89%   G1: 93%
G2: 94%   G2: 90%   G2: 94%
EUR -1,800 bn   EUR -1,930 bn   EUR -1,394.2 bn

→ **Banks start making use of long transition period**

CEPS round table on CRD IV/CRR, April 12, 2012   Sources: EBA 2011, 2012. * Caveat: samples not identical.

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Potential adjustments (LCR)

Banks have a number of options to adjust to the LCR

- *Reduction of negative net expsoure on the unsecured interbank market*

- *Extension & staggering of tenors MM & NFC*

- *Promotion of deposits w low run-off rates*

- *Substitution of illiquid by liquide assets & within liquid assets towards those w lower hair-cuts*

- *Off-balance-sheet: reduction of unused liquidity lines*

- *Reduction of assets w low interest margin*

- *QIS data quality low: improvements likely to reduce gap*

→ **Practical challenge in terms of costs/economic impact low**

Related literature and research questions

Related literature

Schmitz, S. W. (2010) *The new Basel liquidity standards and their implementation into EU legislation*, presented at the seminar *Basel II Enhancements*, Bank for International Settlements, Basel, April 28. http://www.univie.ac.at/ivc/mitarbeiter/schmitz/Basel2010.ppt

ECC (2010), *The implications of new liquidity regulations for market functioning and central bank operations* (internal report)

Schmitz, S. W. (2011) *"The Implementation of Basel III Liquidity Standards in CRD IV", The 2011 Forum on Basel III Implementation, July 12, Zurich* http://www.univie.ac.at/ivc/mitarbeiter/schmitz/Zurich2011.ppt

Holthausen, C., U. Bindseil (2011) *The new liquidity regulation and the Eurosystem's monetary policy implementation*, presentation at the Governing Council Seminar February 16, 2011, Frankfurt.

Schmitz, S. W. (2011) *The Impact of the Basel III Liquidity Standards on the Implementation of Monetary Policy*, (May 06). Available at SSRN: http://ssrn.com/abstract=1869810

Bindseil, U., J. Lamoot (2011) *The Basel III framework for liquidity standards and monetary policy implementation*, Humboldt-Universität zu Berlin SFB 649 Discussion Paper 2011-041, http://sfb649.wiwi.hu-berlin.de/papers/pdf/SFB649DP2011-041.pdf

CGFS (2011), *System-wide effects of liquidity regulation* (internal report)

ECB (2012) *The impact of the Basel III liquidity risk regulation on the recourse of banks to Eurosystem monetary policy operations and related effects on financial markets*, Joint FSC/MOC Task Force, January 2012 (internal report)

ECC (2012) *ECC working group on central banking lending and liquidity regulations*, September 2012 (internal report)

Literature summary

Incentives for regulatory arbitrage via central bank	▪ Submit non-LCR eligible, but CB eligible assets to CB to increase central bank reserves ▪ Increasing demand for LTRO ▪ More direct participation in OMOs ▪ More aggressive bidding ▪ Higher risk exposure of central bank ▪ Improvement of hair-cut/risk management framework
Impact on unsecured short-term MM (≤ 30 days)	▪ Liquidity in the unsecured market decreases ▪ Role of EONIA diminishes ▪ Yield curve steepens at the short-end ▪ Spread between secured and unsecured rates increases ▪ Short-term rates become more volatile
Policy options	▪ 0% run-off for CB funding ▪ Different collateral for MROs and LTROs ▪ Increase share of LTROs ▪ Consider secured rate

Research questions
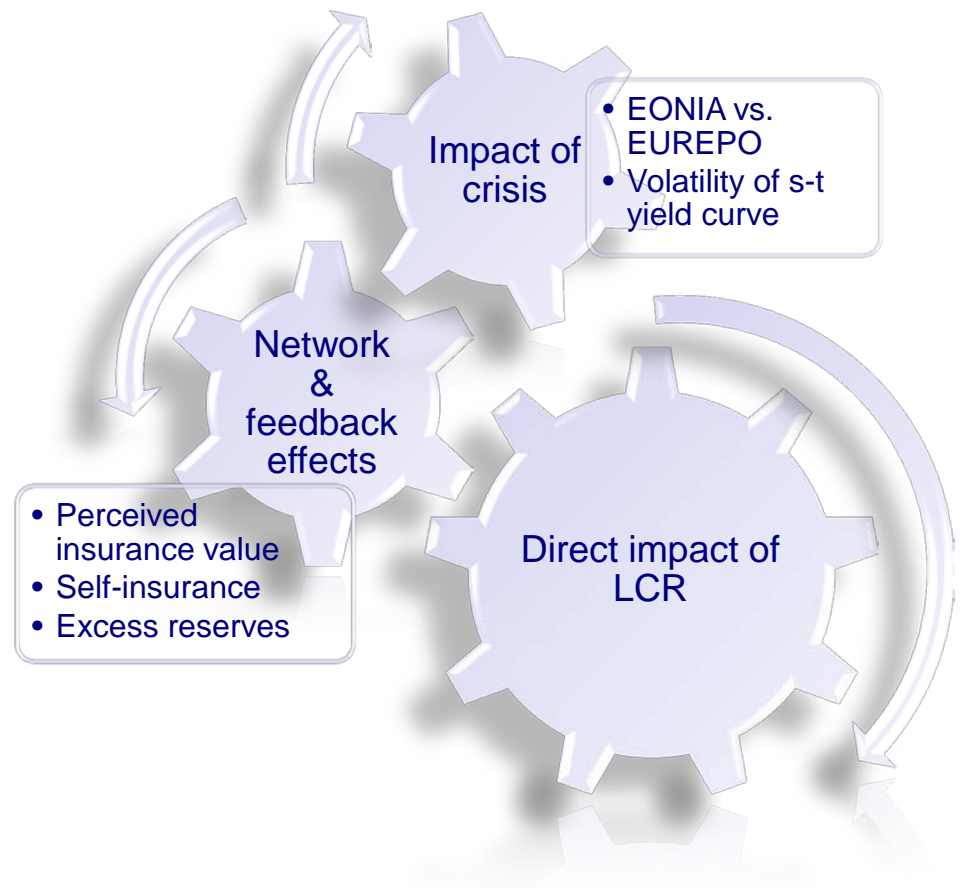
Is it sufficient to study

- *the direct, mechanical impact of the LCR on the implementation of monetary policy?*

- *The LCR in isolation of the effects of the crisis itself?*

Neglected

- *Impact on structural liquidity deficit*

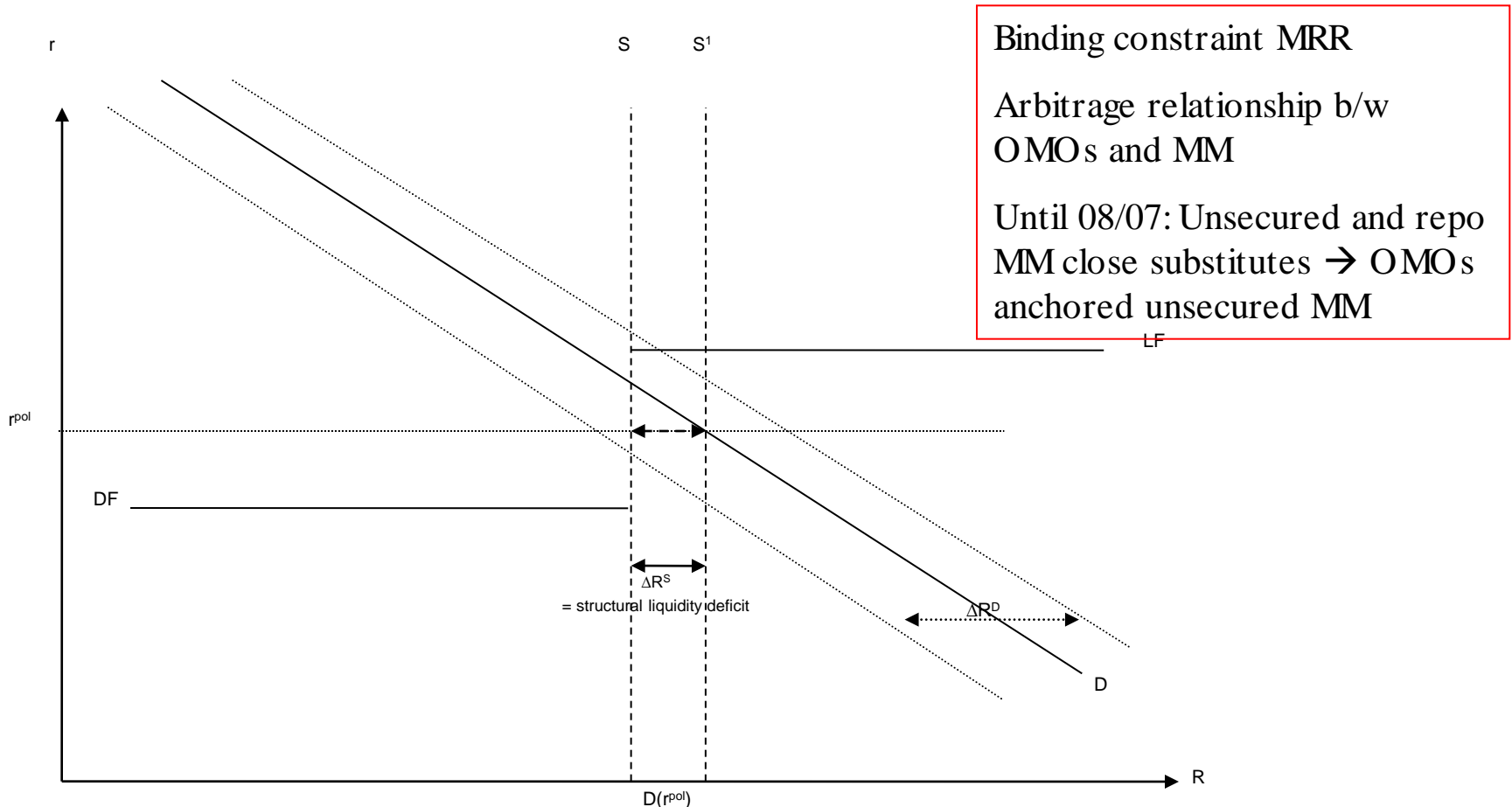- *Impact on arbitrage relationship*

Hypothesis

- *Substantial change in implementation required*

Impact of crisis
- EONIA vs. EUREPO
- Volatility of s-t yield curve

Network & feedback effects
- Perceived insurance value
- Self-insurance
- Excess reserves

Direct impact of LCR

Impact of the LCR on monetary policy implementation

How did the Eurosystem control interest rates?

Binding constraint MRR

Arbitrage relationship b/w OMOs and MM

Until 08/07: Unsecured and repo MM close substitutes → OMOs anchored unsecured MM

Source: Schmitz (2006) Monetary Policy in a World without Central Bank Money, in: Stefan W. Schmitz, Geoffrey E. Wood (eds.), *Institutional Change in the Payments System and Monetary Policy,* Routledge, London, 131-157

Role of MRR (before August 2007)

- Stabilise demand for CB resreves

  - Stabilise structural liquidity deficit

- OMOs used to have maximum volume

  - Estimated to equal the structural liquidity deficit

  - Structural liquidity deficit = MRR + autonomous factors

  - MRR

    - Backward looking

    - Fully determined by reserve base & applicable mimnimum reserve ratio

  - Autonomous factors

    - Banknotes, government deposits, net of sum of foreign assets, domestic assets and other autonomous factors

    - Estimates quite accurate

LCR: Network dynamics and feedback effects

Unsecured MM

- Feedback effects

    - More participants & higher volume → perceived stability & insurance function

    - For banks a trade-off exists re their investment of short-term excess cash

        - Expected yield versus liquidity risk

- LCR leads to reversal – feedback effect reinforces static impact

    - Self-insurance - higher liquidity buffer

        - LCR & arbitrage via CB → excess reserves

    - Lower volume & fewer participants – adverse impact of an idiosyncratic shock on any one participant higher

        - Further reduction of perceived insurance value

LCR: Feedback effects

Investment of short-term liquidity surplus (banks)	Ex-ante self-insurance	Ex-post insurance via MM
Portfolio (P_i)	e.g. excess reserves, T-bills	e.g. interbank deposits, senior bank bonds
Expected yield - $E[R(P_i)]$	$E[R(P_{i,SI})]$ very low (e.g. 0 per cent)	$E[R(P_{i,MM})] > E[R(P_{i,SI})]$
Capital charge - $Equity(P_i)$	$Equity(P_{iSI}) = RW_{SI} \times 8\% = 0$	$Equity(P_{iMM}) = RW_{MM} \times 8\% > 0$
Expected opportunity costs of self-insurance $E[OC_{i,SI}]$	$E[OC_{i,SI}] = \{E[R(P_{i,MM})]-E[R(P_{i,SI})]\}+\{CoE_i \times Equity(P_{i,SI})]-CoE_i \times Equity(P_{i,MM})]\}$	
Expected efficacy $E[E_i]$	$E[E_{i,SI}] \approx 100$ per cent	$E[E_{i,MM}] < 100$ per cent
Drivers of uncertainty wrt efficacy	▪ ≈ 0 ▪ Central bank reserves, T-bills most liquid assets	▪ Market price/market liquidity ▪ Expected yield of portfolio (incl. credit risk) ▪ Fewer lenders on uMM ▪ Idiosyncratic loss of access ▪ Higher spreads ▪ Shorter tenors

LCR: Feedback effects II

Investment of short-term liquidity surplus	Ex-ante self-insurance	Ex-post insurance via MM
Uncertainty wrt to future liquidity shock	$V_{i,LGap}$	
Expected costs of illiquidity (after insurance)	$E[C_{i,ILSI}] = E\{C_i((1-E[E_{i,Sit+}]) \times E[LGap_i|V_{i,LGap}])\}$	$E[C_{i,ILMM}] = E\{C_i((1-E[E_{i,MMt+}]) \times E[LGap_i|V_{i,LGap}])\}$
Decision problem	$E[OC_{i,SI}] < E[C_{i,ILMM}]-E[C_{i,ILSI}]$	$E[OC_{i,SI}] \geq E[C_{i,ILMM}]-E[C_{i,ILSI}]$
Forward looking expectation formation $(E[E_i])$ - hysteresis	$E_t[E_{i,t+}] = F[E_t(E_{i,t})]$	
Feedback effect & intertemporal coordination failure	$E_t[E_{i;t+}] \rightarrow E_t[E_{i;SI,t+}] >> E_t[E_{i;MM,t+}]$ iff $E_i\{E[OC_{i-,SI}] < E[C_{i-,ILMM}]-E[C_{i-,ILSI}]\}$ for sufficient i- $E_t[E_{i;t+}] \rightarrow E_t[E_{i;SI,t+}] \approx E_t[E_{i;MM,t+}]$ iff $E_i\{E[OC_{i-,SI}] \geq E[C_{i-,ILMM}]-E[C_{i-,ILSI}]\}$ for sufficient i- Floor to feedback effect: non-banks (e.g. MMF) & banks with low li-risk	
Source of intertemporal coordination failure	Future potential lenders cannot credibly, unconditionally commit ex-ante to lend to the market in the future	

LCR: Feedback effects III

Impact of shocks	Ex-ante self-insurance	Ex-post insurance via MM
Bad news about a lender - $E[R(P_{i,MM})]$ decreases	$E[OC_{i,ILSI}]$ decreases with $E[R(P_{i,MM})]$ → potential lenders withdraw from the market → feedback: $E[E_{i,MMt+}]$ decreases	
Bad news about own future liquidity gap - $E[LGap_i|V_{i,LGap}]$ increases	$E[C_{i,ILSI}] \approx$ unchanged $E\{C_i((1-E[E_{i,SI}]) \times E[LGap_i|V_{i,LGap}])\} \approx$ 0; No feedback: $E[E_{i,SIt+}]$ unchanged	$E[C_{i,ILMM}]$ increases with $E\{C_i((1-E[E_{i,MM}]) \times E[LGap_i|V_{i,LGap}])\}$ Feedback: $E[E_{i,MMt+}]$ decreases
Macro-economic shock (short-term rates drop, yield curve flattens, CoE increase)	$E[OC_{i,SI}]$ decreases as $E[R(P_{i,MM})]$ decreases and CoE increases Feedback: $E[E_{i,MMt+}]$ decreases	
Example: current environment – DF 0%, EONIA 0,09%, CoE 12%	$E[OC_{i,ILSI}] = \{0,009\%-0\%]\}+\{0\%-12\% \times 20\% \times 8\%\}=-0,01\% < 0$ → O/N lending – loss making proposition Feedback: $E_t[E_{i;MM,t+}]$ decreases and $E_i\{E[OC_{i-,ILS}] \geq E[C_{i-,ILMM}]-E[C_{i-,ILSI}]\}$ for all i,i-	
Impact of the LCR	$E_t[E_{i,t+}]$ decreases → direct static impact on uMM and $E[C_{i,MM}]$ increase due to additional costs of non-compliance Feedback effect: $E[E_{i,MMt+}]$ decreases further	

LCR: Impact on the policy target rate
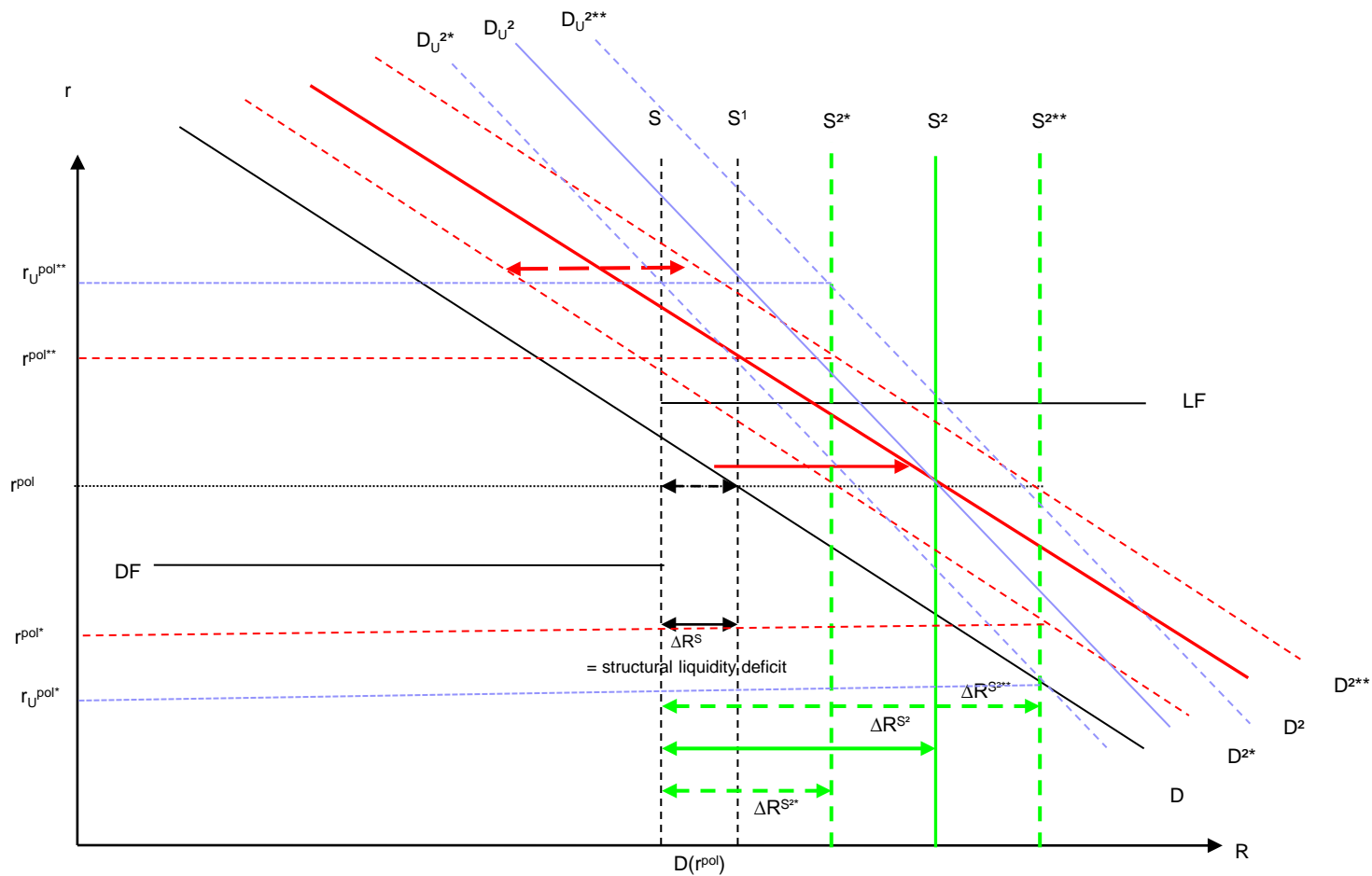
EONIA

- Before August 2007: reliable indicator of the liquiidty stance of the Euro banking system

    - Expected MRR position/fulfilment path determined demand on unsecured O/N market

    - MRR no longer binding constraint

    - EONIA non longer „marginal funding cost" for banks

- Negative network dynamics & feedback effects

    - Price discovery on O/N market hampered

        - Volatility of EONIA increases

LCR: Impact on the structural liquidity deficit

Structural liquidity deficit

- *Until August 2007 – determined by MRR*

    - *Excess reserves virtually 0*

- *Demand for CB reserves now influenced by higher transaction & precautionary balances*

    - *Function of banks' perception of*

        - *future cash-flows - $E[V_{i,LGap}]$*

        - *idiosyncratic/market liquidity shocks (MM & DCM) - $E[E_{i,MM}]$*

        - *liquidity risk tolerance - $E[C_{i-,ILMM}]$*

- *Banks' bidding more volatile & more aggressive*

    - *More pronounced for LTRO than for MRO*

    - *uMM not a substitute for OMO anymore*

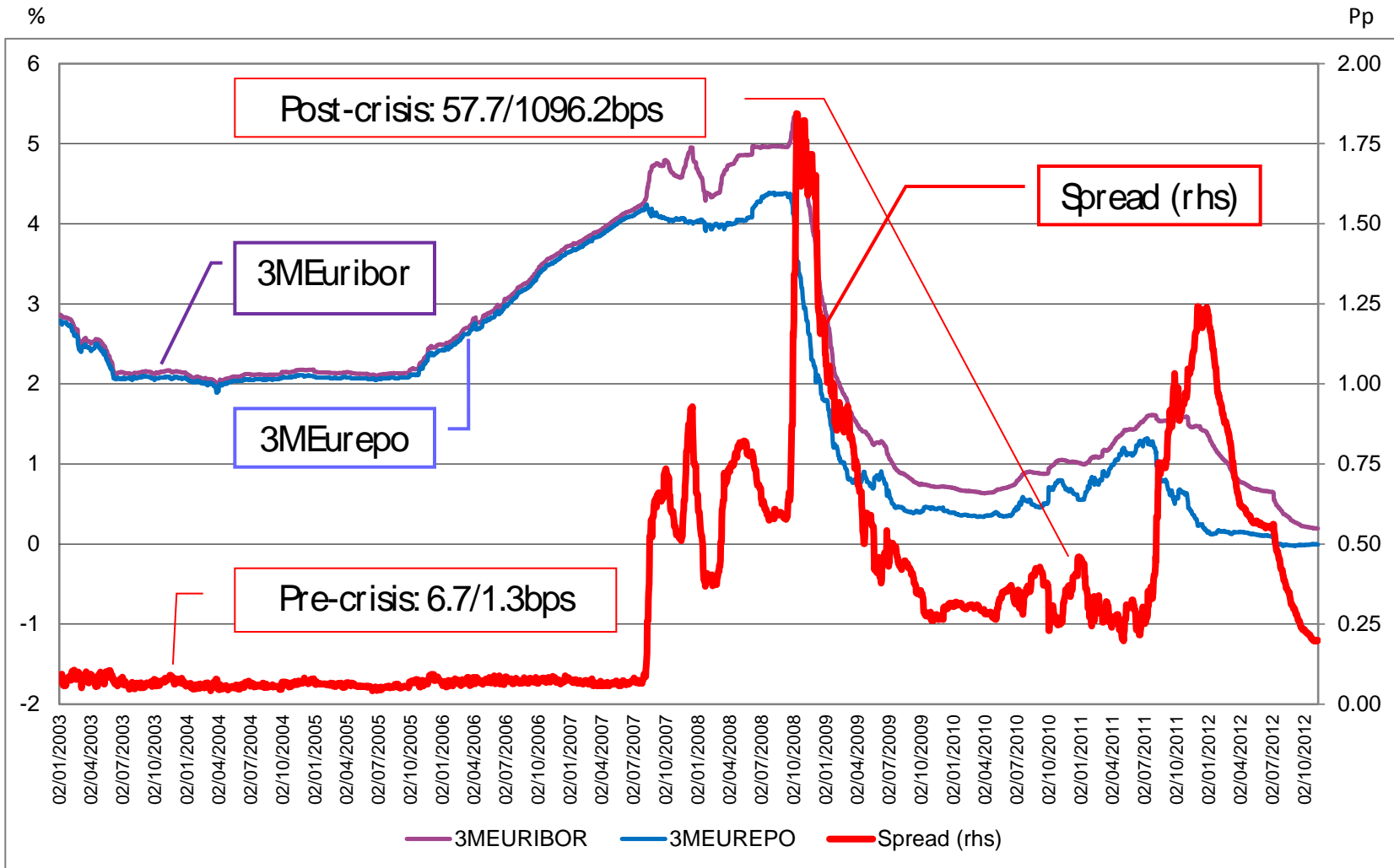   - *Volatility of allotment rate increases & substantial deviation from minimum bid rate*

Impact on monetary policy implementation
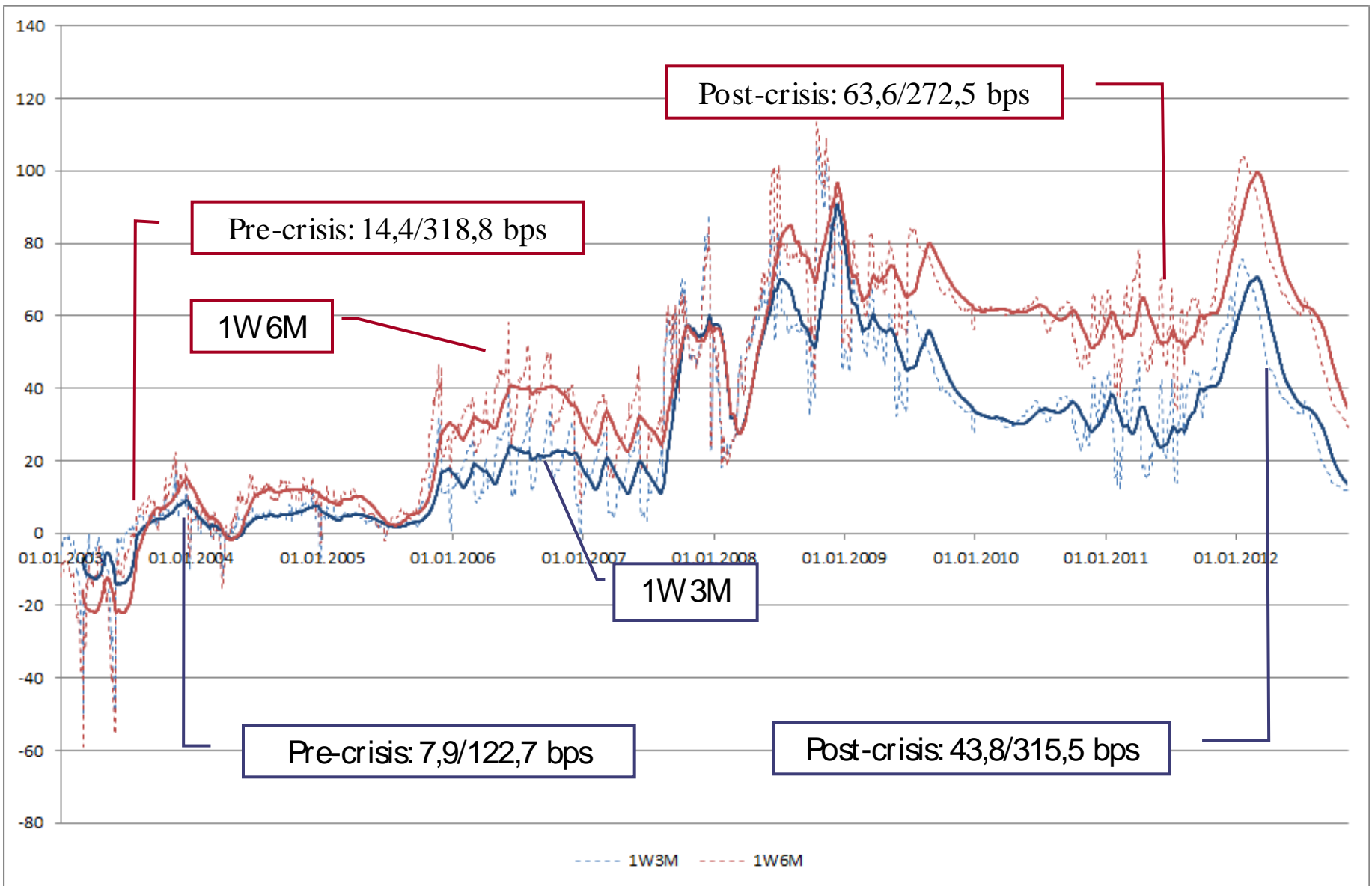
Crisis: implications for monetary policy implementation

The crisis & OMO/uMM arbitrage

Pp

Pre-crisis: 14,4/318,8 bps

Post-crisis: 63,6/272,5 bps

1W6M

1W3M

Pre-crisis: 7,9/122,7 bps

Post-crisis: 43,8/315,5 bps

1W3M   1W6M

Summary: crisis impact

- *Unsecured MM lost role in allocation & distribution of liquidity*

  - *Price discovery impaired*

- *Return of banks' reliance on uMM to pre-crisis levels unlikely*

  - *Role of EONIA as „marginal" funding cost*

- *Arbitrage relationship between OMOs & uMM severely disrupted*

  - *Secured & unsecured MM transactions no longer close substitutes*

- *Slope of the short-term unsecured yield curve*

  - *Steeper*

  - *More volatile*

- *The transmission of monetary policy along the unsecured yields curve prone to shocks and higher volatility*

Summary – LCR & crisis

- MRR does not determine structural liquidity deficit anymore

- Structural liquidity deficit → more volative volume & slope

    - Estimation errors increase

    - Frequent FTOs necessary

    - Financial stability implications

        - Hard to distinguish between shift of

            - structural liquidity deficit

            - individual bank bail-out/LCR arbitrage

- Arbitrage relationship between OMOs & unscured MM disappeared

    - More frequent market intervention (FTOs)

- Policy option

    - Much lower MRR & channel approach & secured rate as policy target

Policy options

Policy options

A.   Recalibrate CB treatment in LCR

- Consistent treatment across NCOF & HQLA → MRR not HQLA, but <u>related</u> CB repo 0% run-off

- Other CB repo → similar to repo with other counterparties

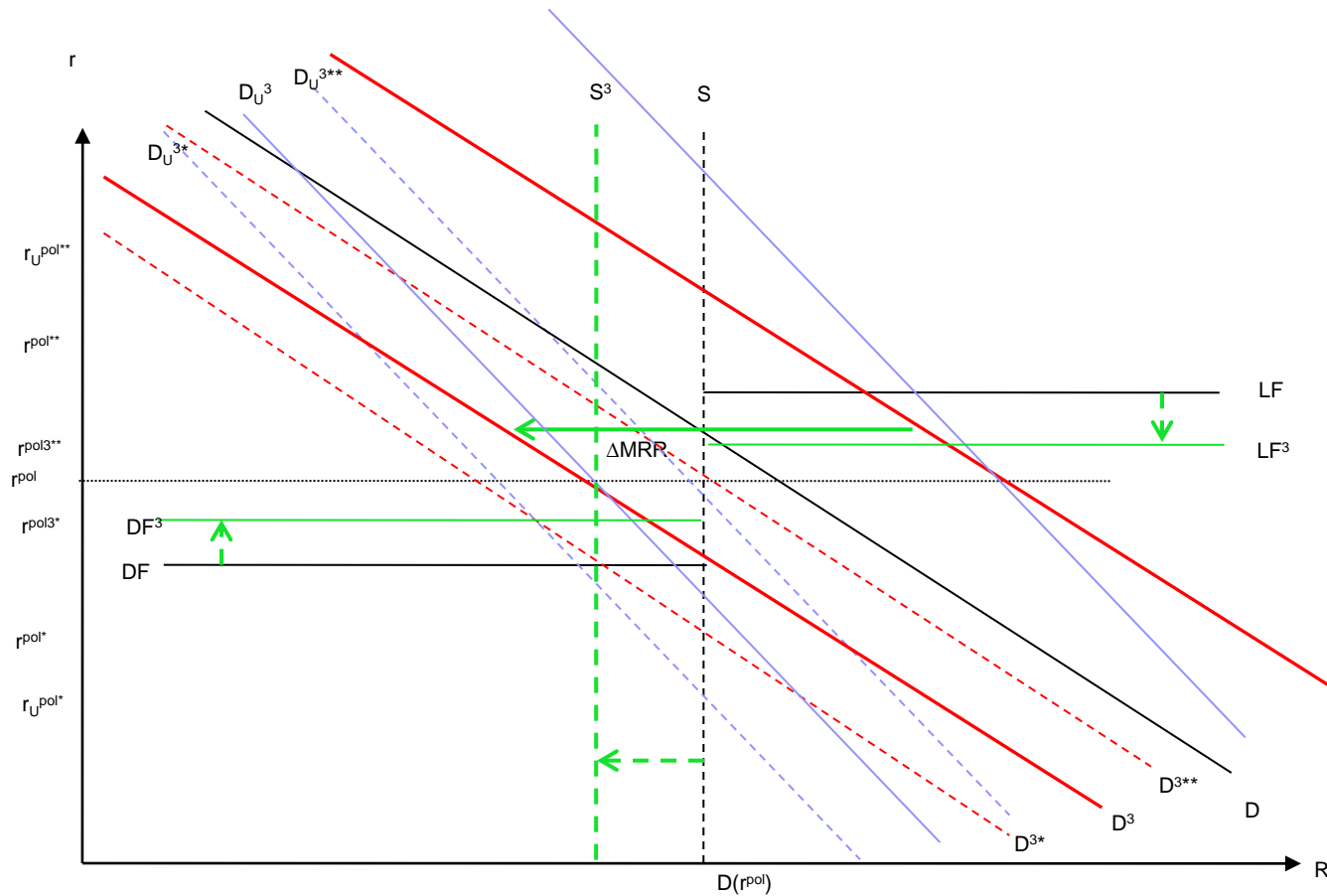B. Policy options within current framework

- Collateral arbitrage → higher, more risk sensitive haircuts

- Higher volatility of structural liquidity deficit → more frequent OMOs/FTOs & shift from MRO to LTRO

- Recalibrate LCR

  - 0% run-off factor for all CB funding → strange incentives

  - Different collateral sets for MROs & LTROs

Policy options II

A. Reform of framework

- MRR not binding → lower MRR (e.g. 50 Bp of reserve base)

  - Lower MRR removes rationale for broad Single List

    - Narrower Single list → reduces arbitrage opportunity

- More volatile short-term rate → channel approach with narrow channel (± 30 Bp)

  - CB role in market increases unavoidably

- EONIA/OMO arbitrage breaks down → target secured rate

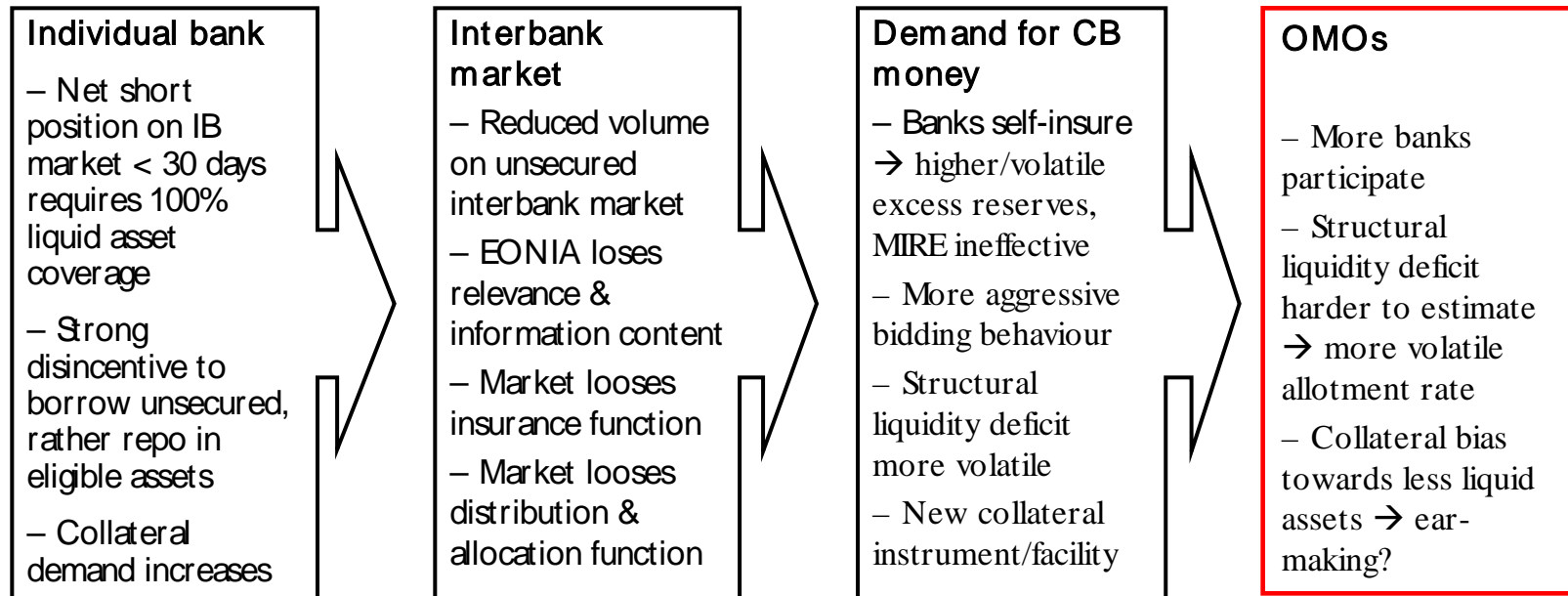 - Narrower Single list → better alignment with repo market

Potential policy reaction: channel approach

Summary

Summary

Individual bank	Interbank market	Demand for CB money	OMOs
– Net short position on IB market < 30 days requires 100% liquid asset coverage – Strong disincentive to borrow unsecured, rather repo in eligible assets – Collateral demand increases	– Reduced volume on unsecured interbank market – EONIA loses relevance & information content – Market looses insurance function – Market looses distribution & allocation function	– Banks self-insure → higher/volatile excess reserves, MIRE ineffective – More aggressive bidding behaviour – Structural liquidity deficit more volatile – New collateral instrument/facility	– More banks participate – Structural liquidity deficit harder to estimate → more volatile allotment rate – Collateral bias towards less liquid assets → ear-making?

Paper (work in progress): Schmitz, Stefan W., The Impact of the Basel III Liquidity Standards on the Implementation of Monetary Policy (July, 2011). Available at SSRN: http://ssrn.com/abstract=1869810
See also: The Liquidity Coverage Ratio Under Siege, 25. Juli 2012
http://www.economonitor.com/blog/2012/07/the-liquidity-coverage-ratio-under-siege/