Regulatory developments and the impact on collateral and central bank liquidity

Name of boat:
Liquid assets
(place: near Wall Street, NY)

Nynke Doornbos

Macedonian Financial Sector Conference on Payments and Securities Settlement Systems

Ohrid, 5 June 2012

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Topics

- Concept of liquidity
- Capital and liquidity shortfalls
- The post-crisis world of collateral and liquidity
- Is collateral becoming scarce?

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Concept of liquidity

Liquidity;

- Amount of cash a firm has available or is able to raise quickly in order to meet short term obligations

Types of liquidity:

- Regular liquidity
- Emergency liquidity
- Market liquidity
- Funding liquidity
- Intraday liquidity

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Involvement of authorities in liquidity

Type of liquidity	Involvement authorities
Market liquidity	Policy actions in the area of deregulation, integration and harmonization
Funding liquidity	Requirements financial supervisors Bank's access to central bank liquidity (legal requirements, eligible collateral
Intraday liquidity	Design of payments systems Intraday credit conditions imposed on banks

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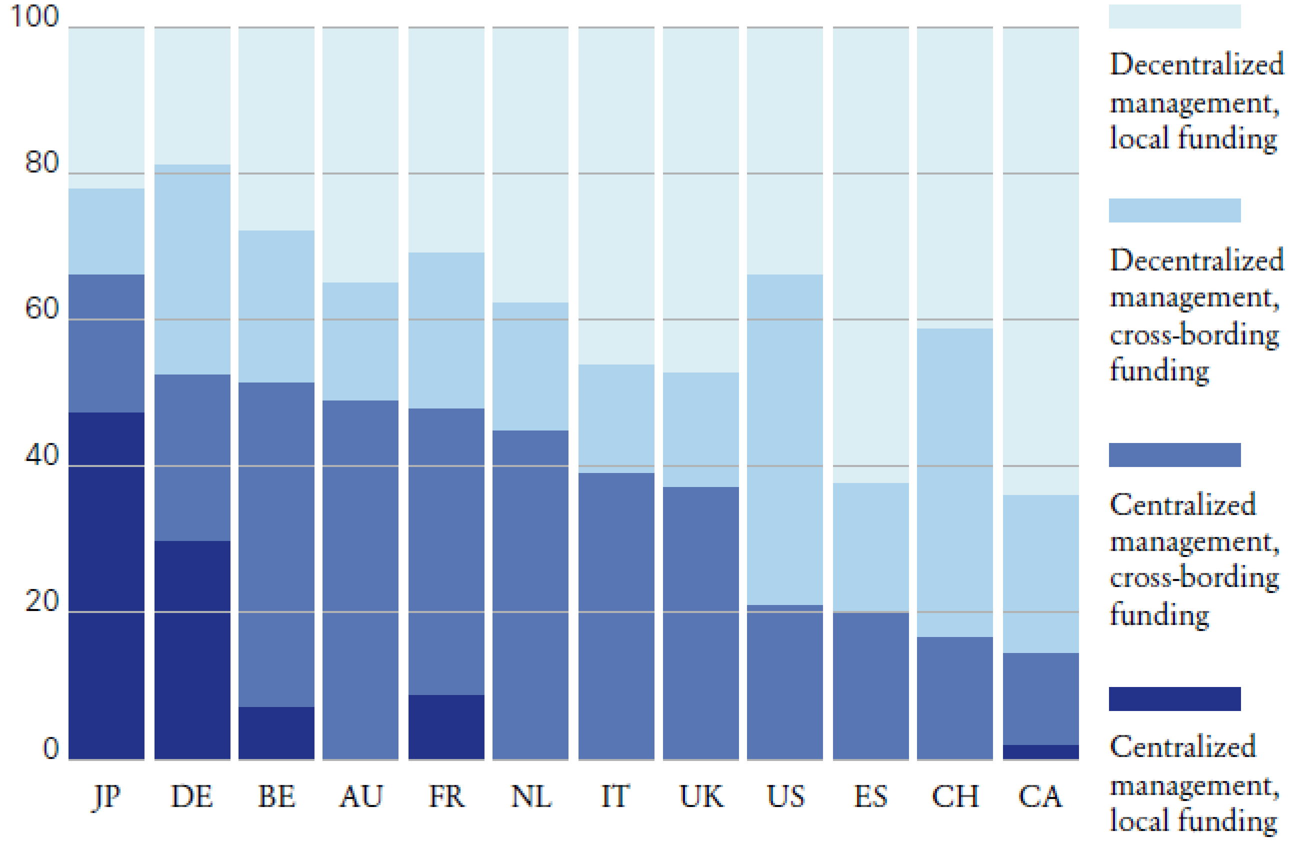
Banks international liquidity management



Source: CGFS (2010).

Funding of foreign claims

Trend: more centralized management of liquidity -> optimize scarce liquidity and collateral

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Topics

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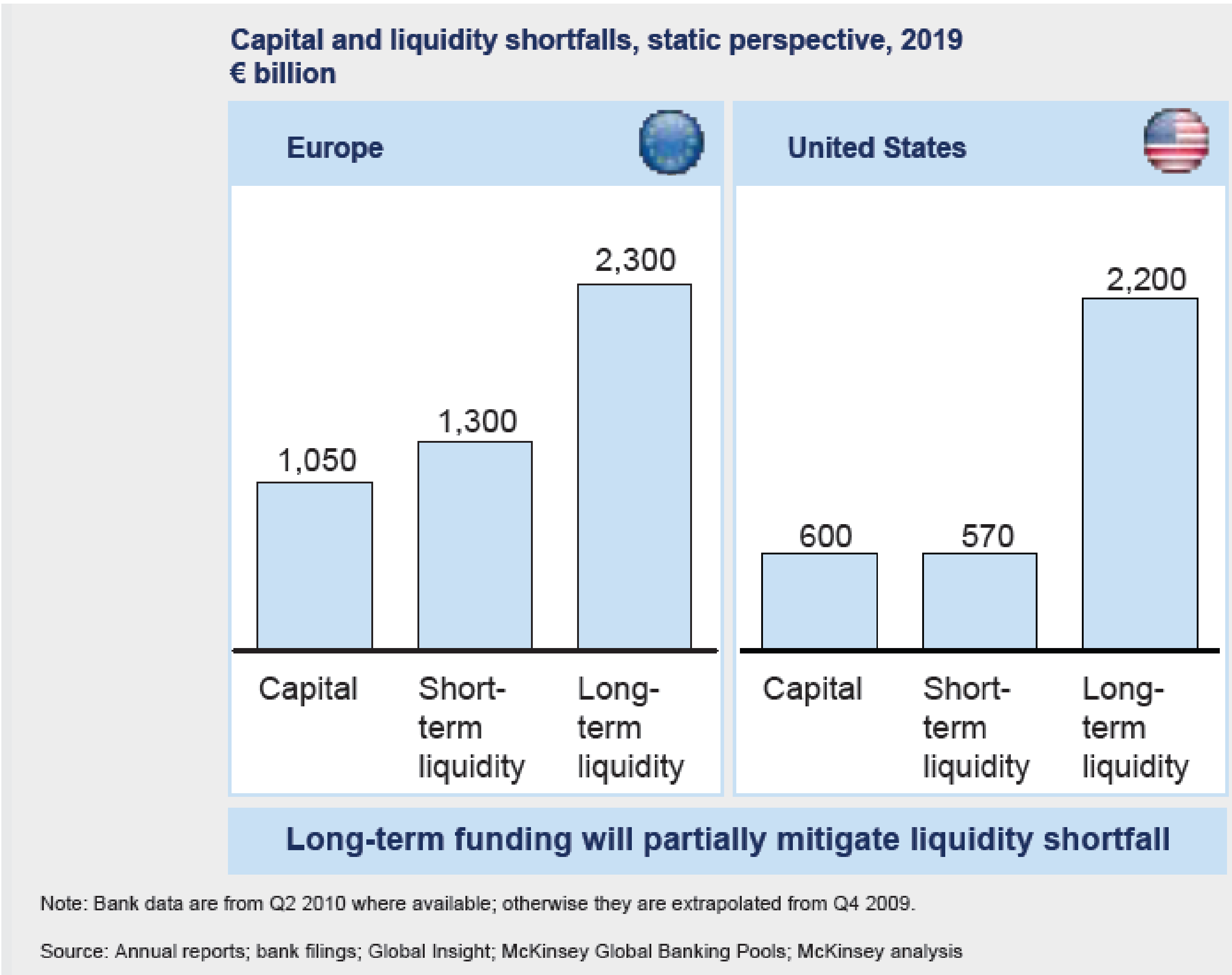
Capital and liquidity shortfalls in 2019 (Mc Kinsey)



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The post-crisis world of collateral and international liquidity - overview trends

1. **The money market has changed fundamentally after the default of Lehman Brothers**

2. **The Basle Committee on Banking Supervision (BCBS) has proposed new liquidity standards**

3. **More collateral for OTC derivatives trade**

Trends in international liquidity/collateral

The money market

1. After Lehman Brothers' default the unsecured market collapsed. Since then it has only partially recovered.
2. The secured market has filled part of this gap….
3. … but the secured market also shows signs of stress
4. Central bank intermediation was/is necessary
5. …. but leads to "crowding-out" of private intermediation.
6. The recent sovereign crisis aggravated some problems

Implication: more collateral needed for borrowing on the money market

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Trends in international liquidity/collateral

New liquidity standards

1. **The proposed liquidity coverage ratio (LCR)**

$$\frac{\text{Stock of highly liquid assets}}{\text{Expected net cash outflows}} \geq 1$$

2. **The proposed net stable funding ratio (NSFR)**
   Uses with maturity > 1 year should be funded by means expected to be available for a period > 1 year

Implication: banks need to hold more high-quality liquid assets (HQLA) on their balance sheet (+ long term lending less attractive)

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Trends in international liquidity/collateral
OTC derivatives

1. **Huge problems with OTC-derivatives during financial crisis – market was opaque, risk positions built up by financial institutions were unclear**
2. **G20 commitment at Pittsburg summit (Sept 2009)**

   "All standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements."

Implication: most banks will need more collateral for their OTC derivatives trade

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Trends in international liquidity/collateral
Consequences for commercial banks (1)

1. **Demand for high-quality liquid assets (HQLA) that can serve as collateral has increased and will increase further (money market, Basel III, OTC derivatives)**
2. **The range of assets that are considered HQLA has shrunk, also because of the sovereign crisis.**
3. **There will be more government bonds supplied but not al of them are considered HQLA**
4. **There are indications that collateral becomes scarcer**

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Trends in international liquidity/collateral
Consequences for commercial banks (2)

1. **Liquidity mismatches (enough cash or securities but in the "wrong" place) are likely to occur more frequently in the future**
2. **In normal times banks can easily correct these liquidity mismatches (correspondents, custodians)**
3. **In crisis times these mismatches can aggravate into overall liquidity problems or even solvency problems – good contingency planning is needed, considering also possible ring-fencing**
4. **Little reaction time due to new communication technologies**

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ECB collateral eligibility framework vs Basel definition of liquid assets

Credit Quality	Residual	Liquidity Categories								
		Category I *Govt. Debt*		**Category II** *Muni. & GSE*		**Category III** *Covered Bonds*		**Category IV** *Financials*		**Category V** *ABS*
	maturity *(years)*	*fixed coupon*	*zero coupon*	*fixed coupon*	*zero coupon*	*fixed coupon*	*zero coupon*	*fixed coupon*	*zero coupon*	
Steps 1 and 2 *(AAA to A-)*	0-1	0.5	0.5	1	1	1.5	1.5	6.5	6.5	16
	1-3	1.5	1.5	2.5	2.5	3	3	8.5	9	
	3-5	2.5	3	3.5	4	5	5.5	11	11.5	
	5-7	3	3.5	4.5	5	6.5	7.5	12.5	13.5	
	7-10	4	4.5	5.5	6.5	8.5	9.5	14	15.5	
	>10	5.5	8.5	7.5	12	11	16.5	17	22.5	
Steps 3 *(BBB+ to BBB-)*	0-1	5.5	5.5	6	6	8	8	15	15	Not Eligible
	1-3	6.5	6.5	10.5	11.5	18	19.5	27.5	29.5	
	3-5	7.5	8	15.5	17	25.5	28	36.5	39.5	
	5-7	8	8.5	18	20.5	28	31.5	38.5	43	
	7-10	9	9.5	19.5	22.5	29	33.5	39	44.5	
	>10	10.5	13.5	20	29	29.5	38	39.5	46	

	Level 1 assets	LCR haircut is 0%
	Level 2 assets	LCR haircut > ECB haircut
	Level 2 assets	LCR haircut < ECB haircut
	Non-liquid assets	Non-liquid assets under Basel III

Incentives for banks:
Use level 1 assets to meet liquidity thresholds (not as central bank collateral)
Use level 2 assets for central bank collateral (not for liquidity thresholds)

Possible central bank solutions
Central bank (CB) considerations (1)

Question 1: accept foreign collateral?

- + **Financial stability argument**

  Committee on the Global Financial System (2008)

  "*Channels for distributing liquidity across borders may become impaired in times of financial turmoil. To prepare for that possibility, central banks should take steps to strengthen their capacity to counter problems in the international distribution of liquidity. Possible steps include establishing or maintaining standing swap lines among themselves and accepting – or developing and maintaining the ability to accept – foreign currency denominated assets or obligations booked abroad as collateral in their operations*"

- + **Potential benefits to domestic banking sector**
- + **Domestic high-quality collateral scarce?**

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Possible central bank solutions
Central bank (CB) considerations (1)

Question 1: Accept foreign collateral?

- **Central bank arrangements may create “moral hazard”**
- **Risks of foreign collateral for central banks**
  - **Foreign exchange risk**
  - **Legal risk**
  - **Operational risk**

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Possible central bank solutions
Central bank (CB) considerations (2)

Question 2: Which foreign collateral should be accepted?

Relative advantages of foreign cash:

- **Only foreign exchange risk**
- **Easy to implement**
- **Enables fast transfers**
- **Easy to obtain for domestic counterparties**

Relative advantages of foreign securities:

- **No impact on foreign liquidity, foreign monetary policy**
- **No misinterpretation of central bank action as intervention, no distortion of private swap markets**
- **Cheaper for domestic counterparty**

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Possible central bank solutions
Central bank (CB) considerations (2)

Question 3: How should it be arranged operationally?

Operational arrangements for cash:
- **Swaps between central banks**
- **Other (emergency) liquidity arrangements**

Operational arrangements for securities:
- **Correspondent central bank model**
- **Guarantee model**
- **Links between securities settlement systems**
- **Remote access to foreign securities settlement system**
- **Collateral management system**

(for 1. and 2. foreign central bank is involved, for 3.,4. and 5. is it not)

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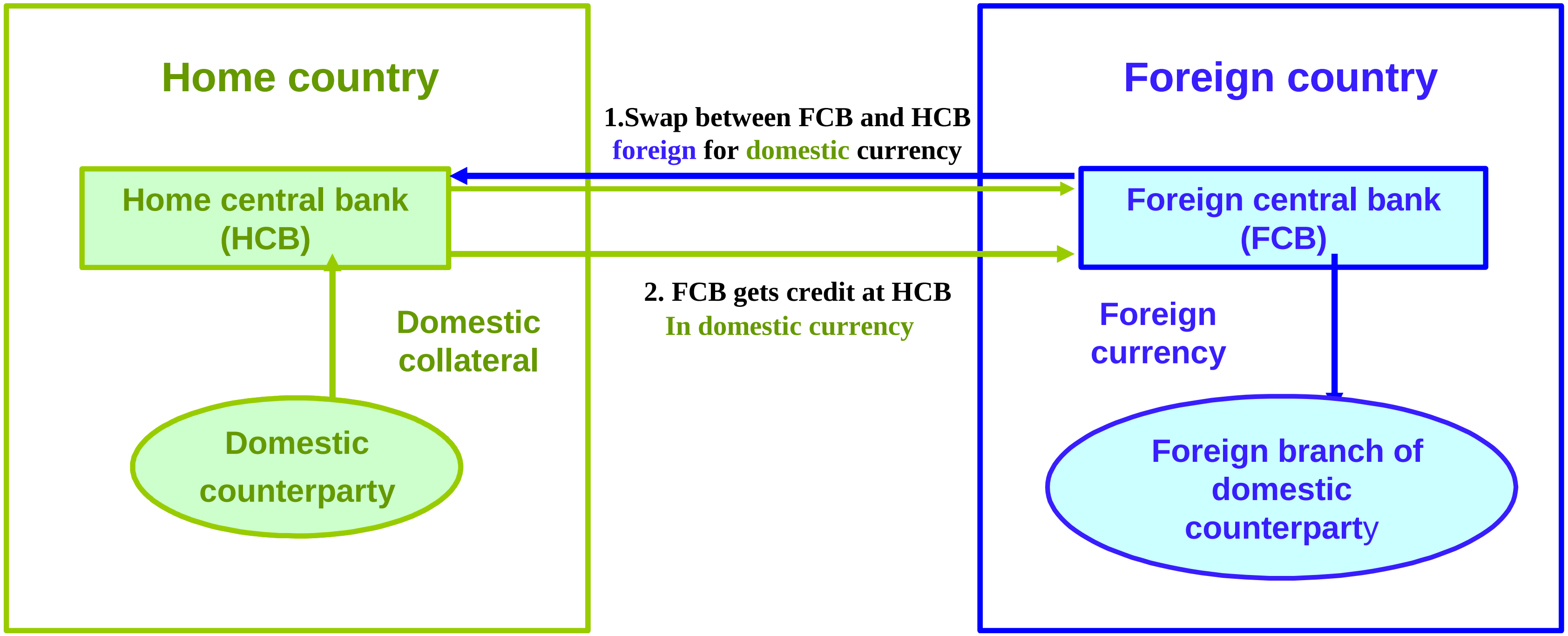
Possible central bank solutions
Cash arrangements



Swaps (no. 1) and liquidity arrangements (no. 2)

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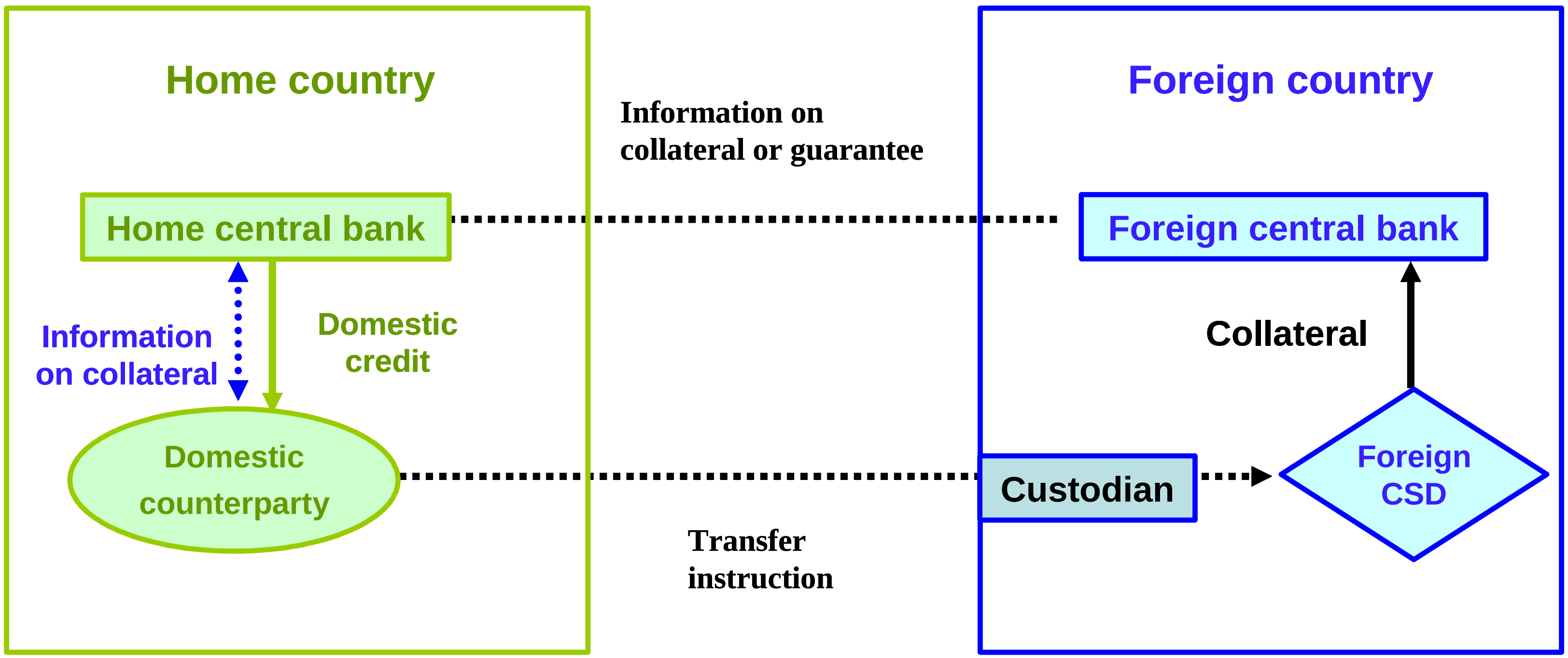
Possible central bank solutions
Securities arrangements (1) – with foreign CB



Correspondent central banking and guarantee model

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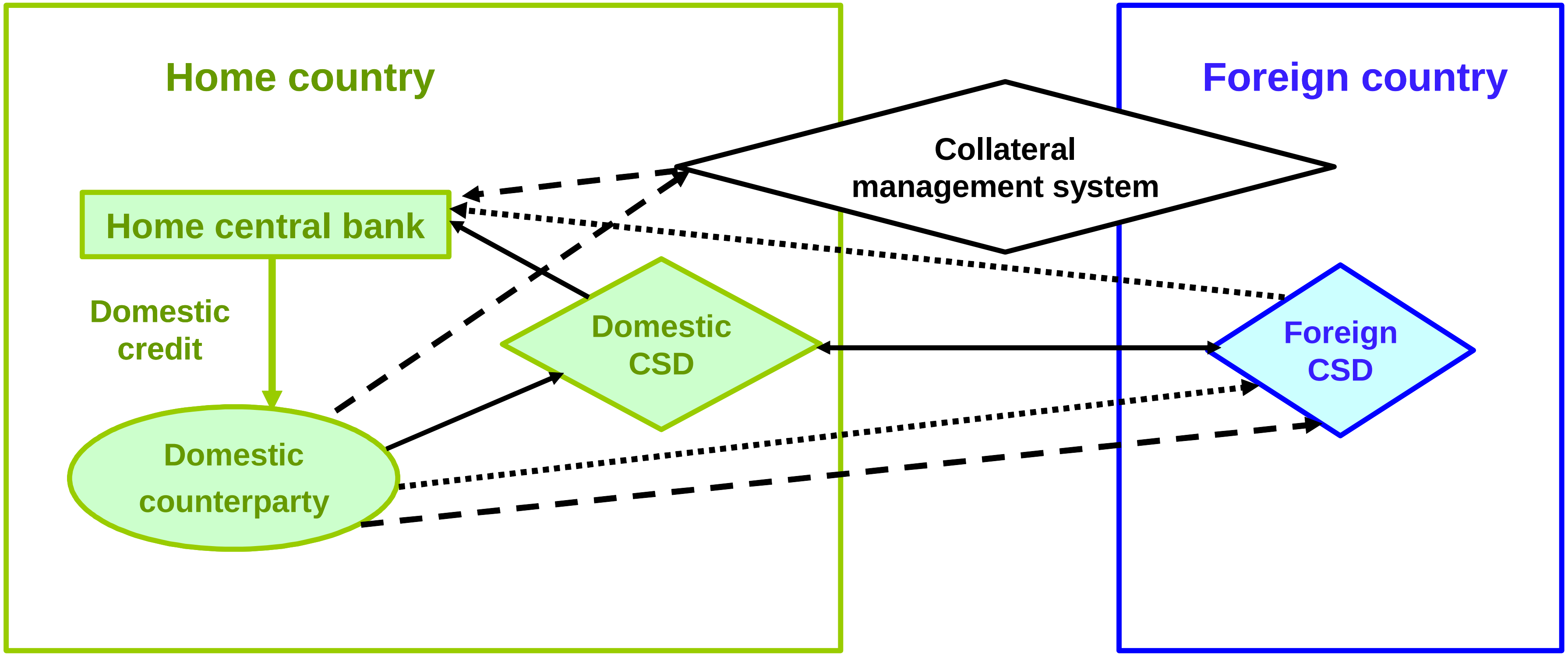
Possible central bank solutions
Securities arrangements (2) – without foreign CB



Links between SSSs (solid lines), remote access (dotted lines) and collateral management system (dashed lines)

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Topics

- Concept of liquidity
- Capital and liquidity shortfalls
- The post-crisis world of collateral and liquidity
- Is collateral becoming scarce?

Is collateral becoming scarce?

New regulations could cause $7 trillion "collateral shock“

Trio of rules - on liquidity, clearing and margin for uncleared trades - will hoover up vast amounts of collateral, market participants fear.

“The competing demands will inevitably cause collateral to become an increasingly scarce and expensive commodity," says Peter Sime, head of risk and research at the International Swaps and Derivatives Association in London.

Source: Risk magazine
Author: Matt Cameron
Source: Risk magazine | 11 Apr 2012

“I've never had my gold fillings used as collateral before.”

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Is Collateral Becoming Scarce?
Demand and supply

Source: DNB Occasional Studies – Levels/Capel – 2012/1

Is Collateral Becoming Scarce?

Demand

Increase in secured lending

- Concerns about creditworthiness counterparties

Regulations OTC derivatives markets

- Opaque market, customized illiquid products →driver crisis
- Dodd-Frank/EMIR → CCP clearing of standard OTCD by year-end 2012

Liquidity standards Basel III

- LCR: buffer high-quality liquid assets to survive cash outflows during stress
- NSFR: fund long term assets with long term liabilities

Supply

Higher collateral standards set by market participants

- Flight to quality assets (example Eurexrepo/ratings)
- Increase haircuts on low-quality collateral assets (CGFS, 2010, CGFS2)

Sovereign debt crisis

- Euro area governments run high budget deficits.....
- ....but high debt levels lower creditworthiness of some countries

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What is high-quality collateral?

Practical definition high-quality liquid assets (perspective = euro area)

General criteria

- Denominated in euro
- Issued in EEA or issued by an entity resident in the EEA or non-EEA G10, and settled in the euro area
- Traded on regulated markets

High-quality collateral

Debt instruments

- *Marketable securities issued or guaranteed by sovereigns, PSEs or central banks*
    - *With a credit rating of AAA to AA-*
- *Marketable sovereigns or central bank debt securities*
    - *With a credit rating of A+ to BBB-*

Quasi high-quality collateral

Debt instruments

- Marketable securities issued or guaranteed by sovereigns, PSEs or central banks
    - With a credit rating of A+ to A-
- Corporate bonds (if not issued by a financial institution)
    - With a credit rating of AA- or higher
- Covered bonds
    - With a credit rating of AA- or higher

Is Collateral Becoming Scarce?

Supply of and demand for collateral

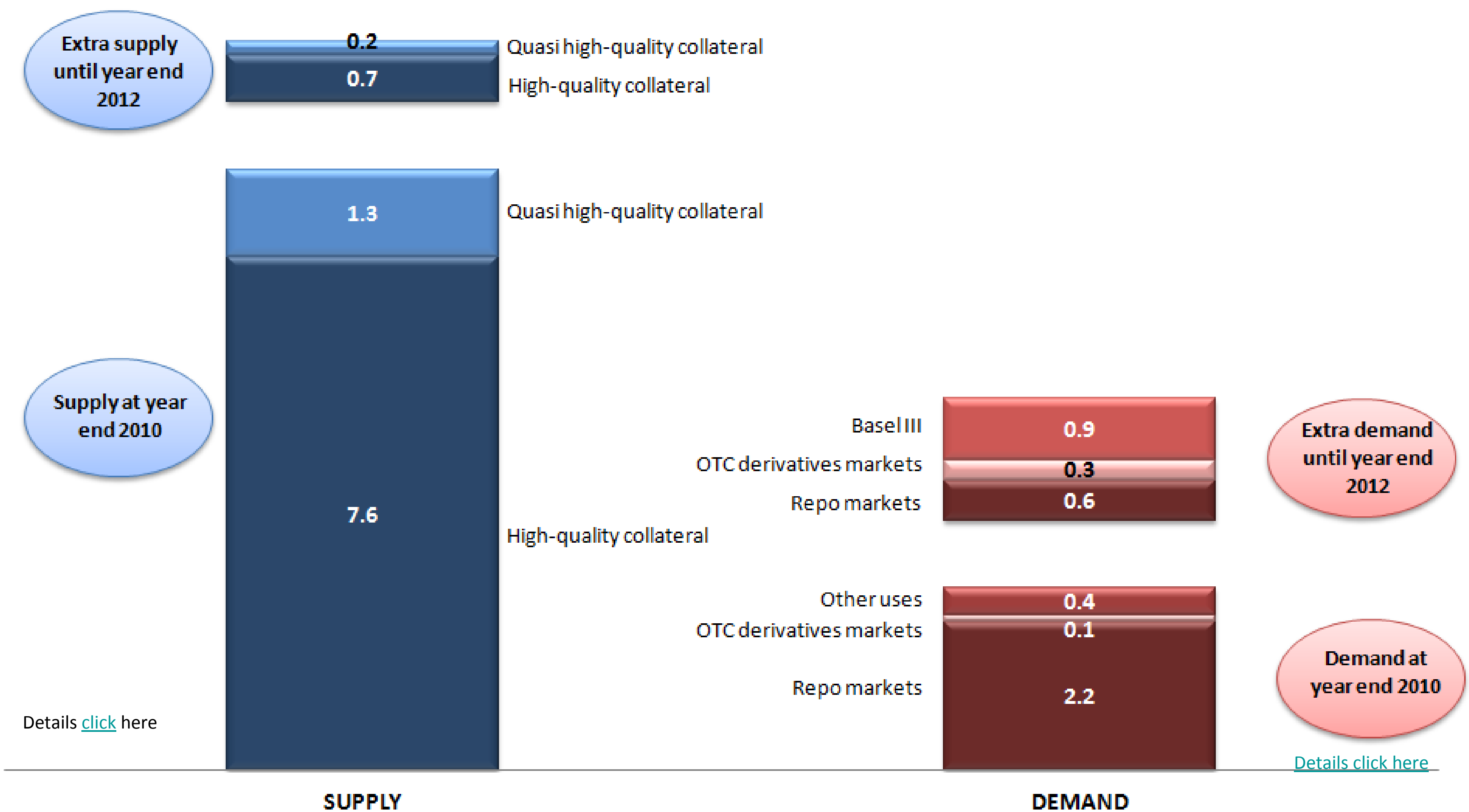
Details click here

Details click here

Definitions high quality liquid assets Basel III and ECB eligible assets

Details click here

Details click here



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Details click here

Conclusions

Conclusions: DNB occassional paper (Levels & Capel) – 2012-1

•The ***increase in demand*** for high-quality collateral (€1.8 trillion) is significantly ***higher*** than the ***increase in collateral supply*** (€0.7 trillion, or €0.9 trillion if quasi high-quality collateral is included).

•Hence, we expect high-quality collateral will become ***scarcer in relative terms***, which could create ***pressure on prices*** of high-quality assets.

•However, total supply (€8.3 of €9.8 trillion) will continue to exceed total demand (€4.5 trillion), so there will be ***no absolute scarcity*** or high-quality collateral.

Questions ??

Thank you !!

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Appendix A
High-quality liquid assets

High-quality liquid assets according to Basel III

Theoretical Properties of high-quality liquid assets

Fundamental	Market
Low credit and market risk Value should be easy to compute Low correlation with risky assets Asset must be listed on developed exchange	Active and sizeable market Low concentration of buyers and sellers Asset should be attractive in times of distress Preferably eligible with central bank for monetary operations

Practical classification of high-quality liquid assets

Level 1 assets: 0% haircut	Level 2 assets: 15% haircut

•Cash
•Central Bank reserves
•Marketable securities issued or guaranteed by sovereigns, other PSEs and central banks
  •If 0% risk weight under Basel II (AAA to AA-)
 	
•Non-0% risk weighted sovereigns or central bank debt securities
  • Domestic currency: currency must match country in which liquidity risk is taken, or the bank's home currency
  • Foreign currency: to the extent it matches FX needs
	•Marketable securities issued or guaranteed by sovereigns, other PSEs or central banks
	  •If 20% risk weight under Basel II (A+ to A-)
	  •Max 10% increased haircut in times of stress
	
	• Corporate bonds
	  • Issued by non-financial institutions
	  • Minimum rating AA-
	• Covered bonds
	  • Minimum rating AA-

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Appendix B
High-quality liquid assets

High-quality collateral and the Eurosystem

General eligibility criteria	
Debt instruments only Denominated in euro Accepted credit ratings: Step 1+2: PD≤0.10% over a one year horizon (AAA to A-) Step 3: 0.10%≥PD≤0.40% (BBB to BBB-)	
Marketable assets	***Non-marketable assets***
Issues in EEA and settles in euro area, or issued by entity resident in EEA or non-EEA G10 country	Issued in euro area
Traded on regulated markets, or non-regulated markets that have been approved by the ESCB	1. Credit claims (counterparty chooses assessment source) 2. Fixed term deposits 3. Retail mortgage backed debt instruments, A+ to A-, CB assesses eligibility

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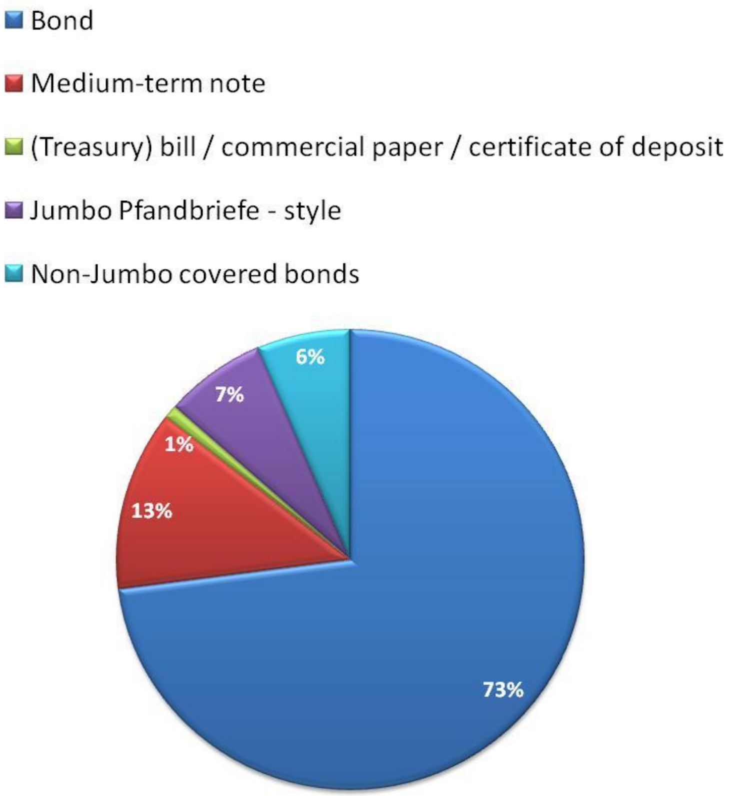
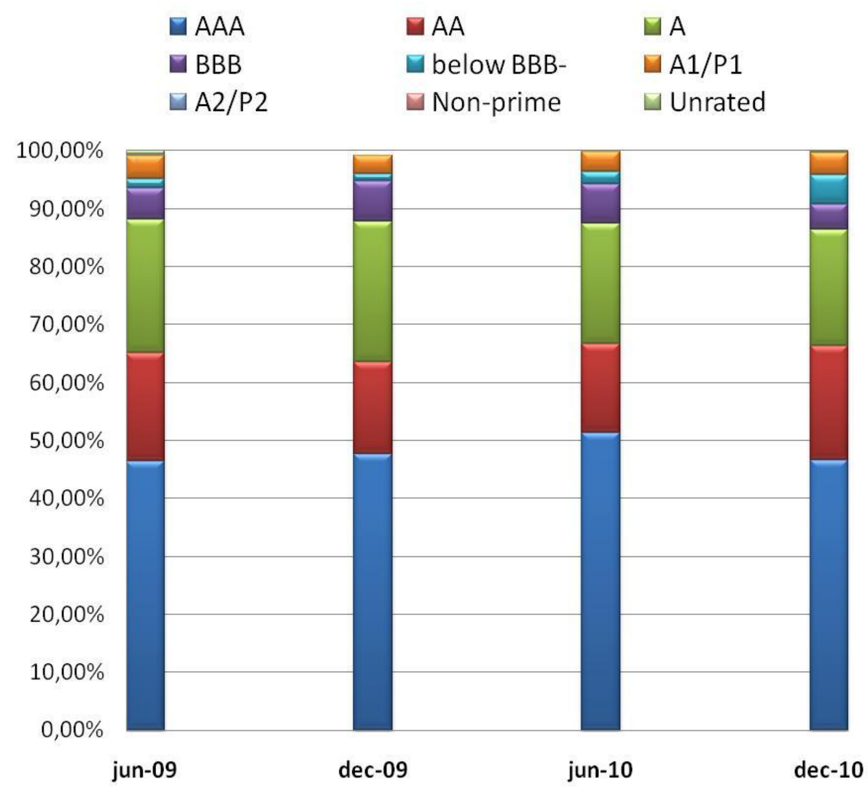
Appendix C
Higher collateral standards – assets and ratings

GCPooling ECB Basket – Collateral value after haircuts



Source: EurexRepo GCPooling (01-07-2011)

Collateral use in the repo market: ratings analysis



Source: ICMA European repo market study

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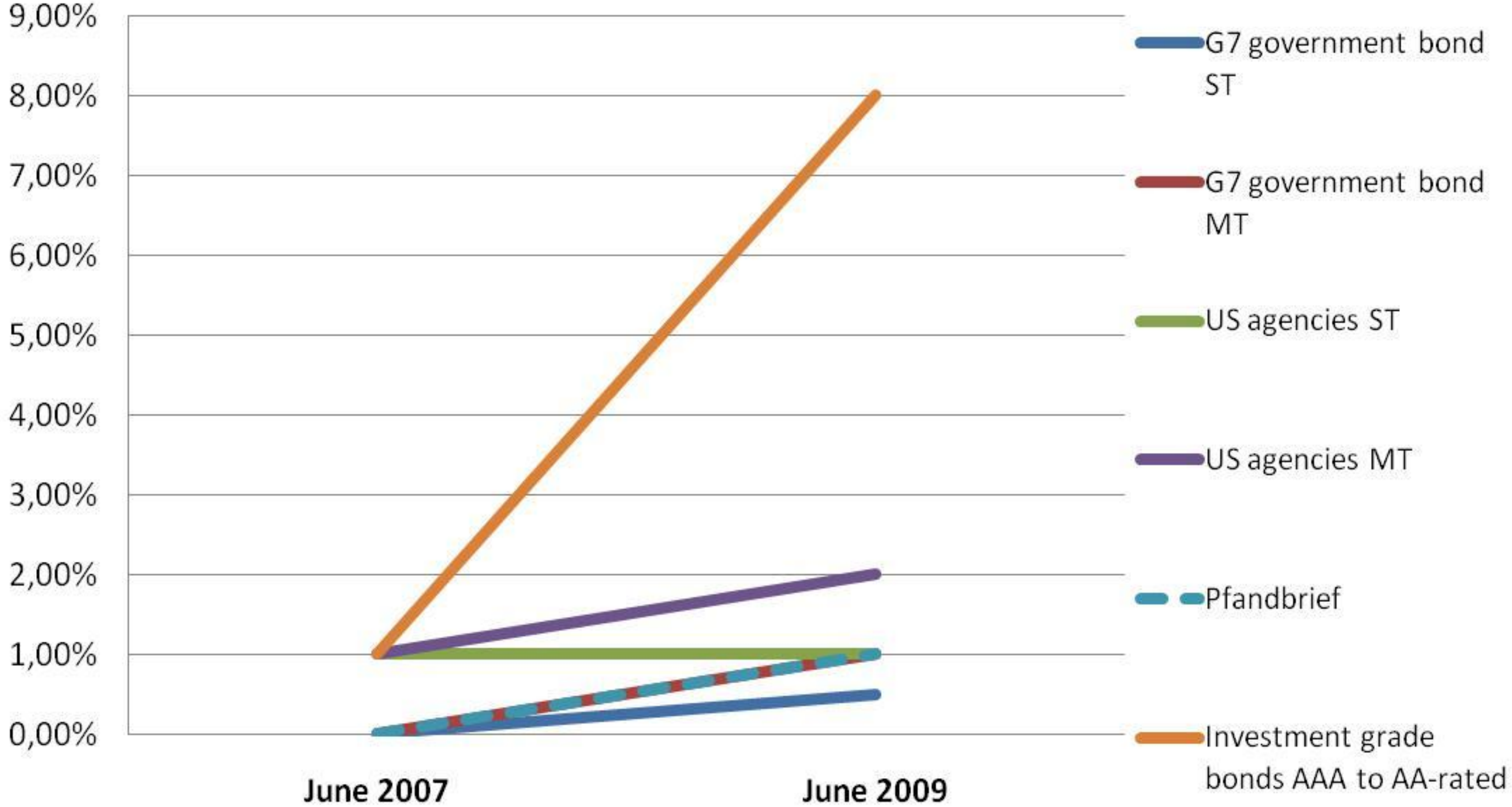
Appendix D
Higher collateral standards - haircuts



Source: CGFS, 2010

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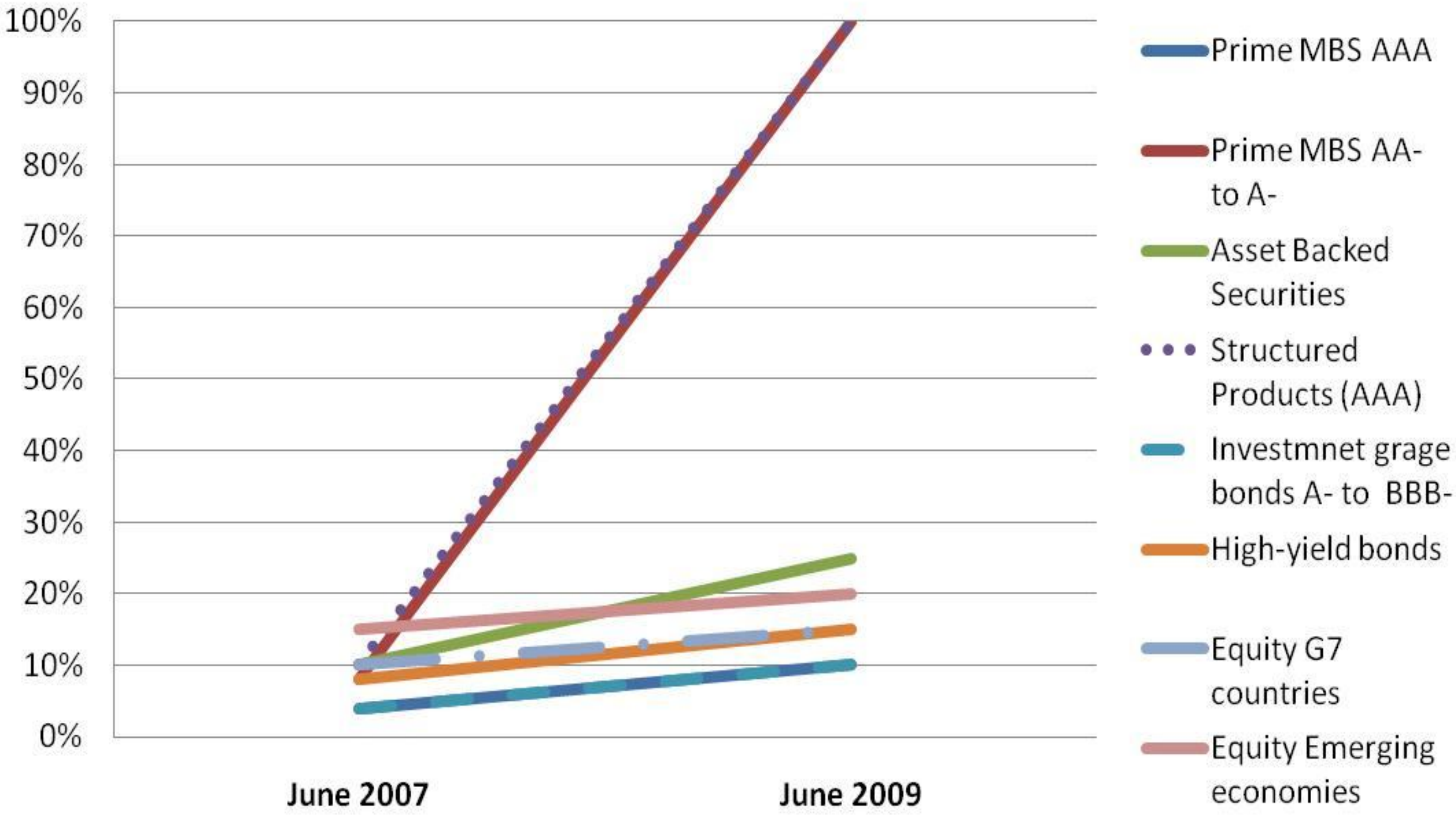
Appendix E
Higher collateral standards - haircuts



Source: CGFS, 2010

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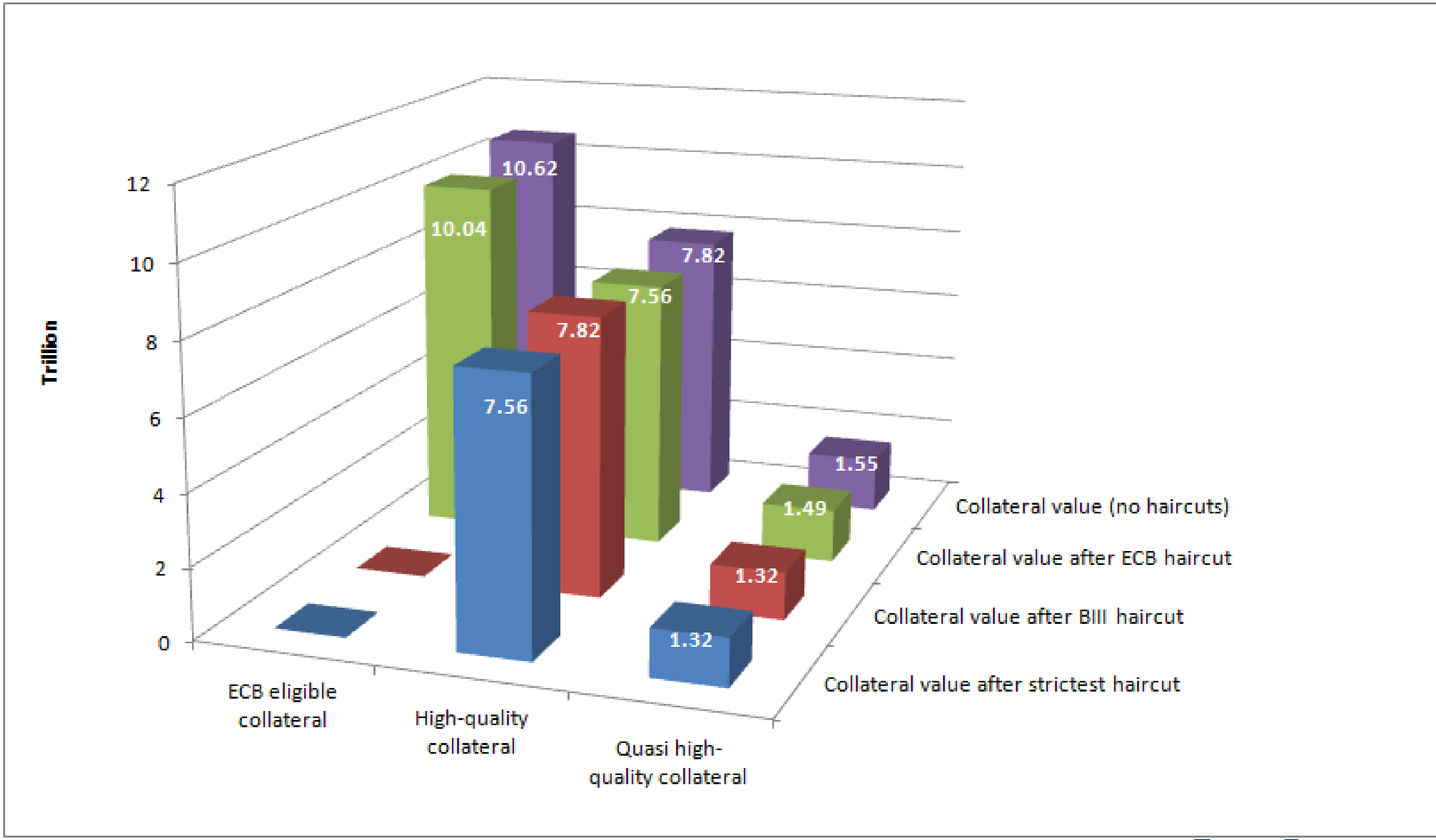
Appendix F
Current supply of high-quality and quasi high-quality collateral



Source: DNB, EADB, Bloomberg (data 17-11-2011)

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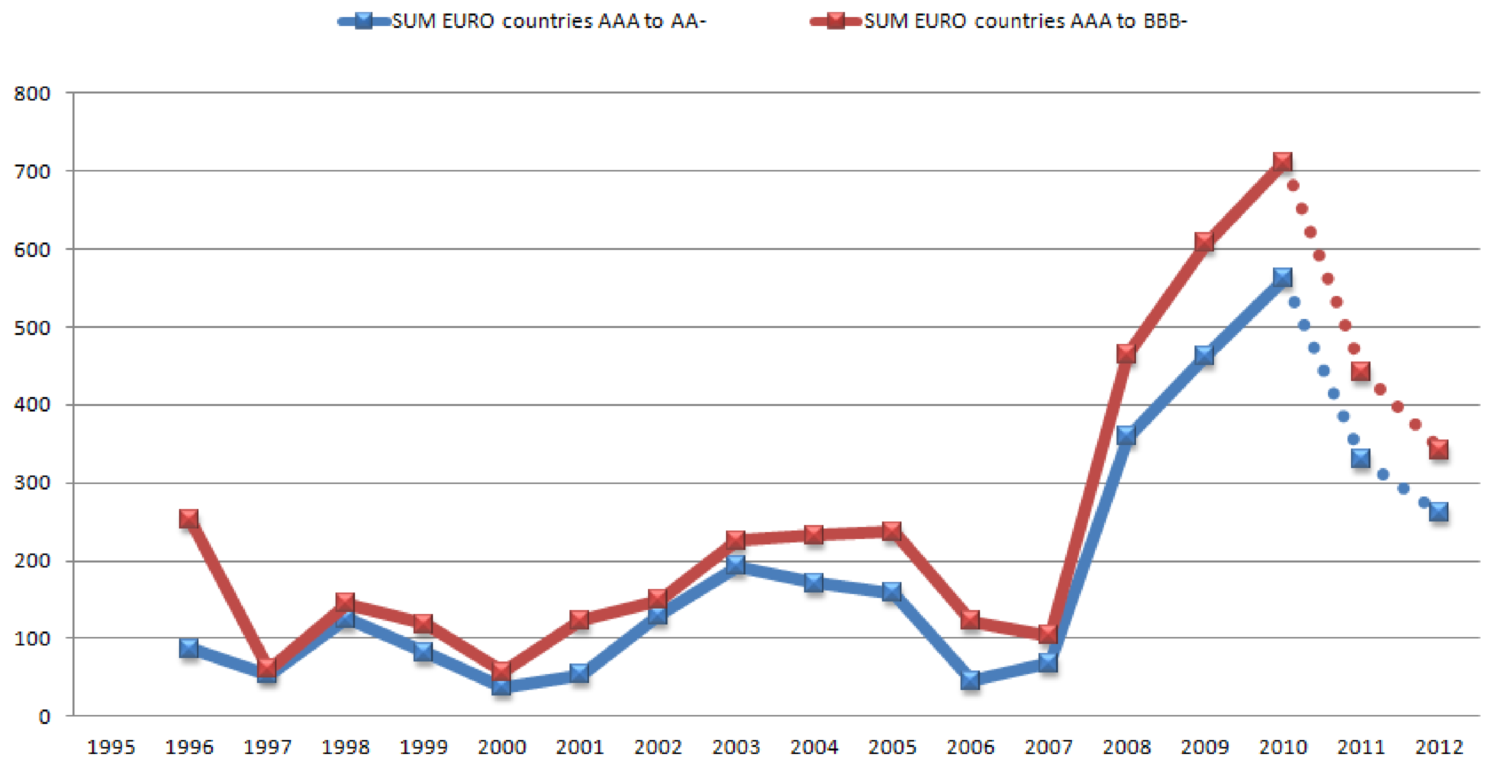
Appendix G
Change in general government debt, EUR billions



Belgium	AA+
Germany	AAA
Estonia	AA-
Ireland	BBB+
Greece	CC
Spain	AA-
France	AAA
Italy	A
Cyprus	BBB
Luxembourg	AAA
Malta	A
Netherlands	AAA
Austria	AAA
Portugal	BBB-
Slovenia	AA-
Slovakia	A+
Finland	AAA

Source: AMECO database, Standard&Poors (21-11-2011)

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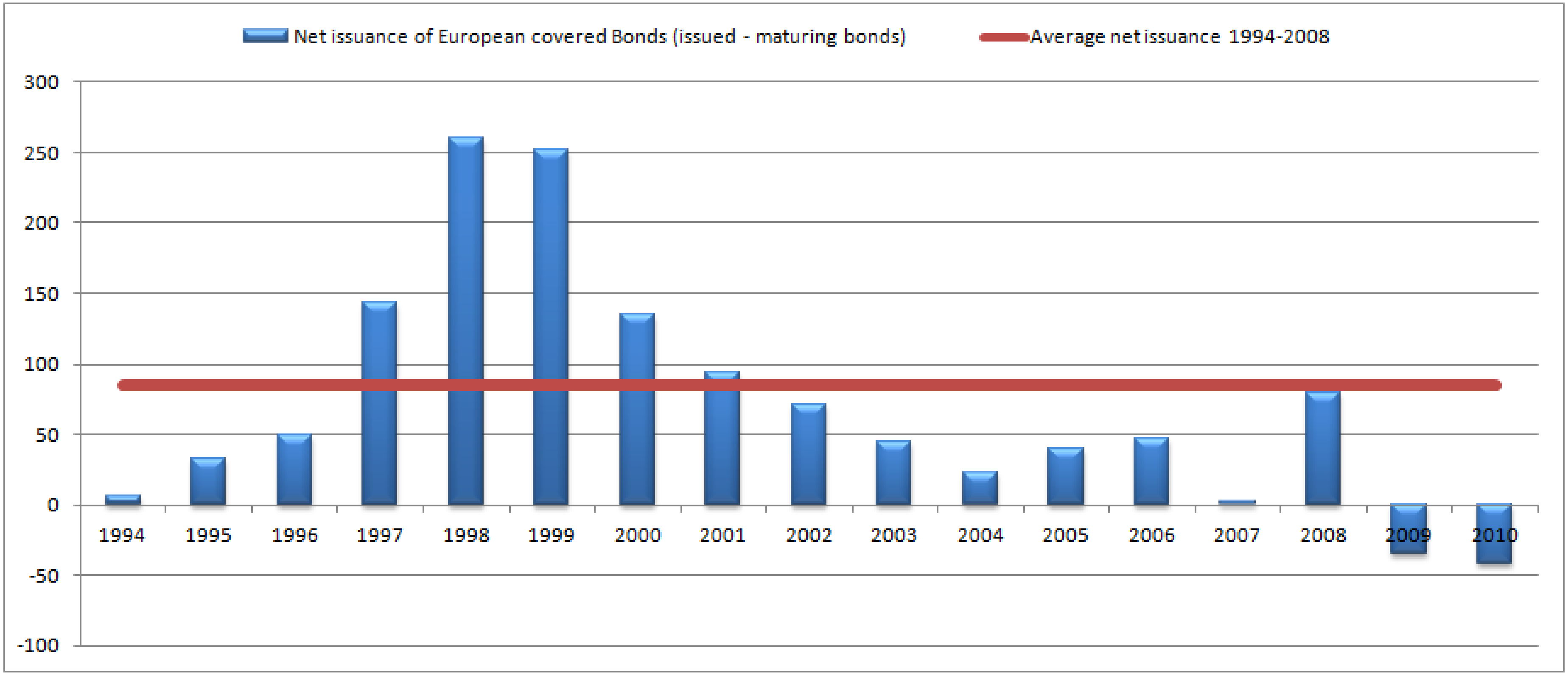
Appendix H
Extra supply of European covered bonds, in EUR billions



Source: Dealogic, DNB. Data in this figure are for the euro area and the United Kingdom

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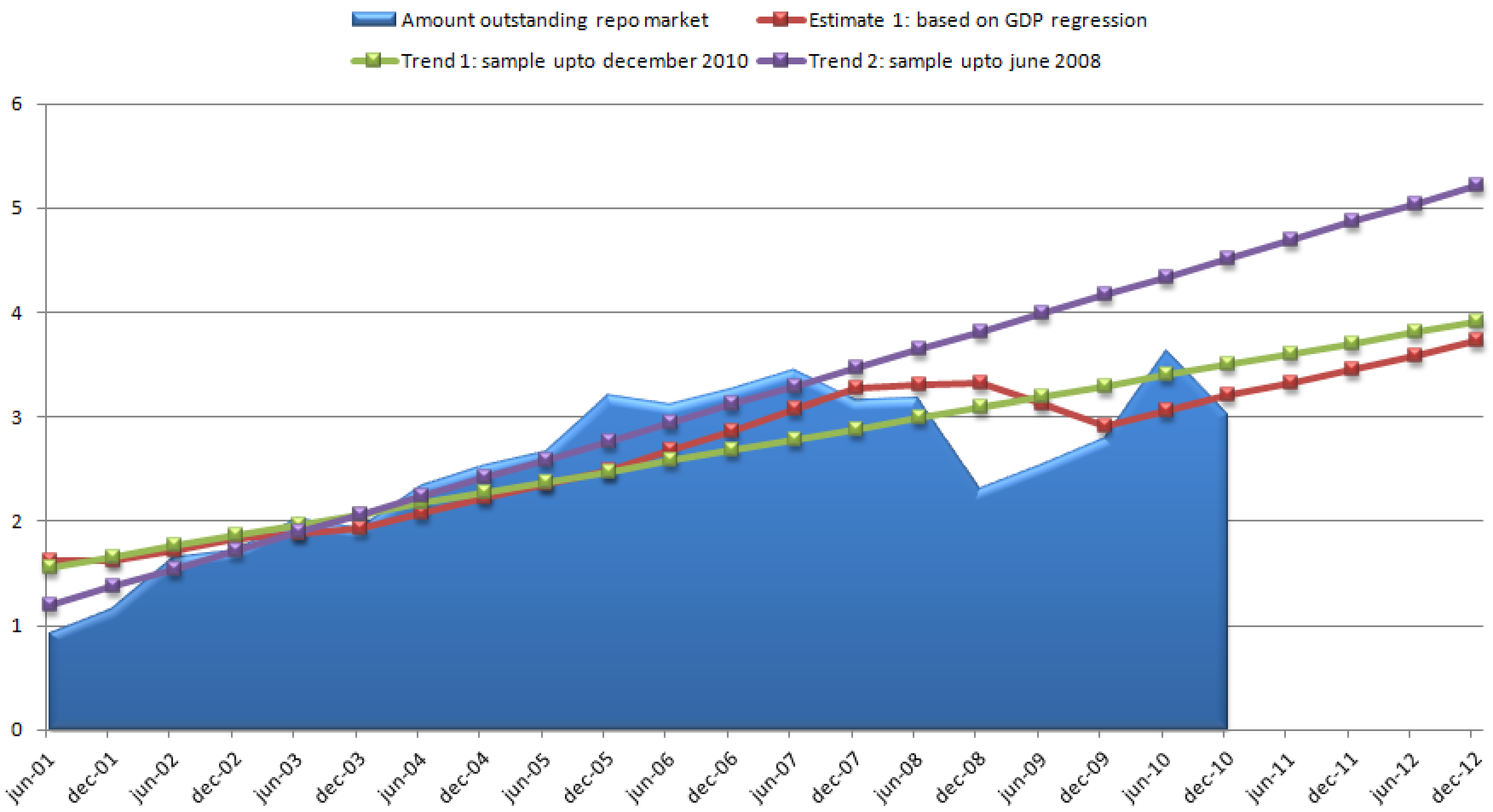
Appendix I
European repo market – amount outstanding, EUR trillions



Source: ICMA, EUROSTAT

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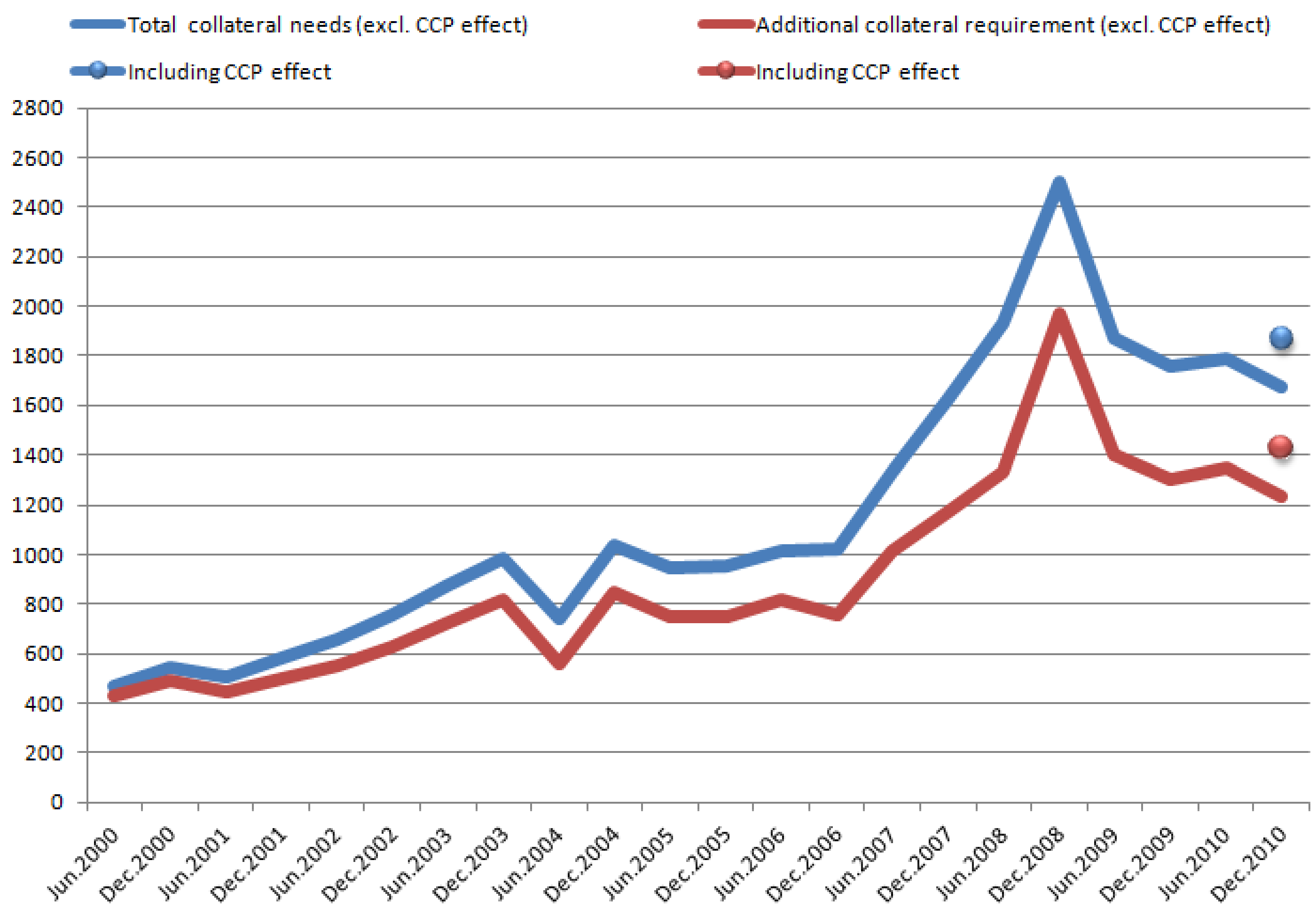
Appendix J
Total and additional collateral needs in OTC derivatives markets (IMF method), USD



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Source: BIS statistics, ISDA margin surveys, Singh (2010), BIS (2009)

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Appendix K
Impact of Basel III liquidity standards

Study	Scope	LCR shortfall	NSFR shortfall
BCBS (2010)	Global, 23 member countries	€1.73 trillion	€2.89 trillion
CEBS study (2010)	21 European countries	€1.00 trillion	€1.80 trillion
McKinsey study (2010)	EU27 + Switzerland	€1.30 trillion	€2.30 trillion
Extrapolation from McKinsey (2010)	***Euro area***	***€923 billion***	***€1.63 trillion***

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