

THE ECB, THE BANKS AND THE CRISIS: WHAT HAVE WE LEARNED?

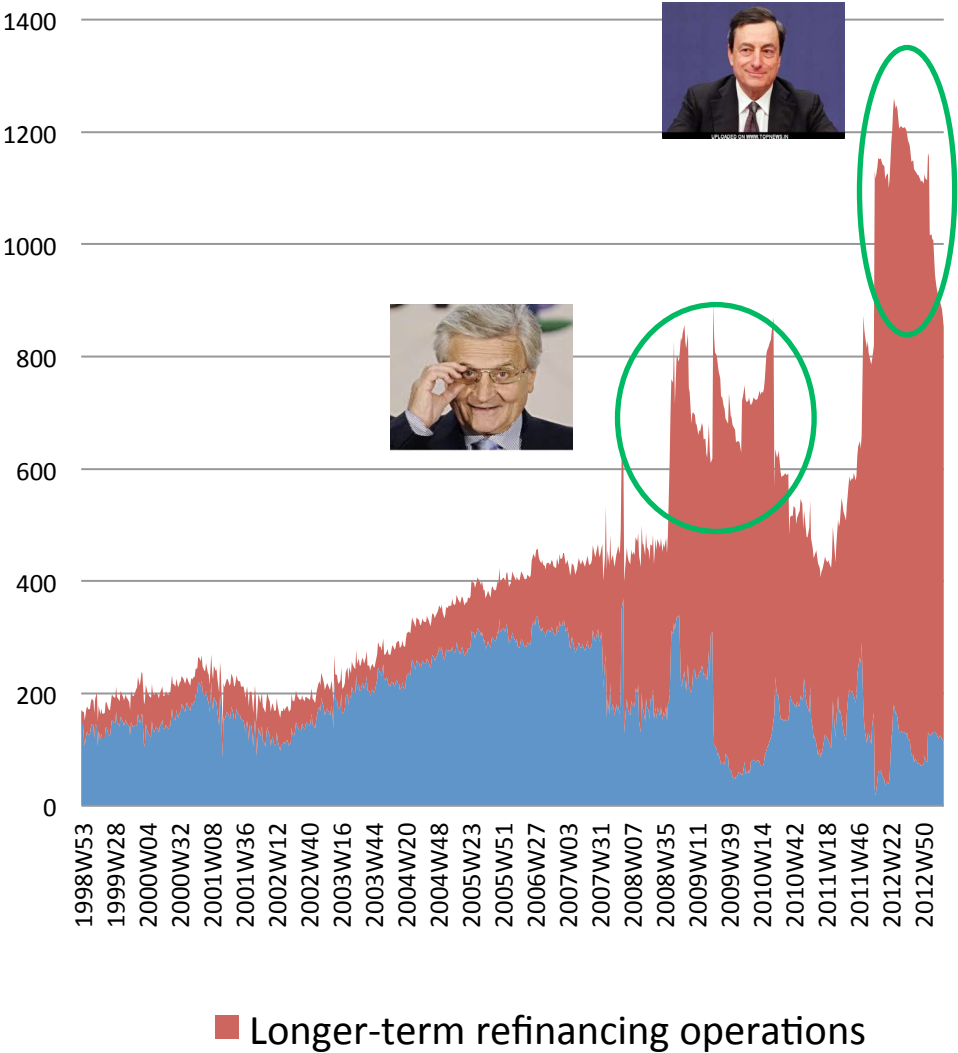
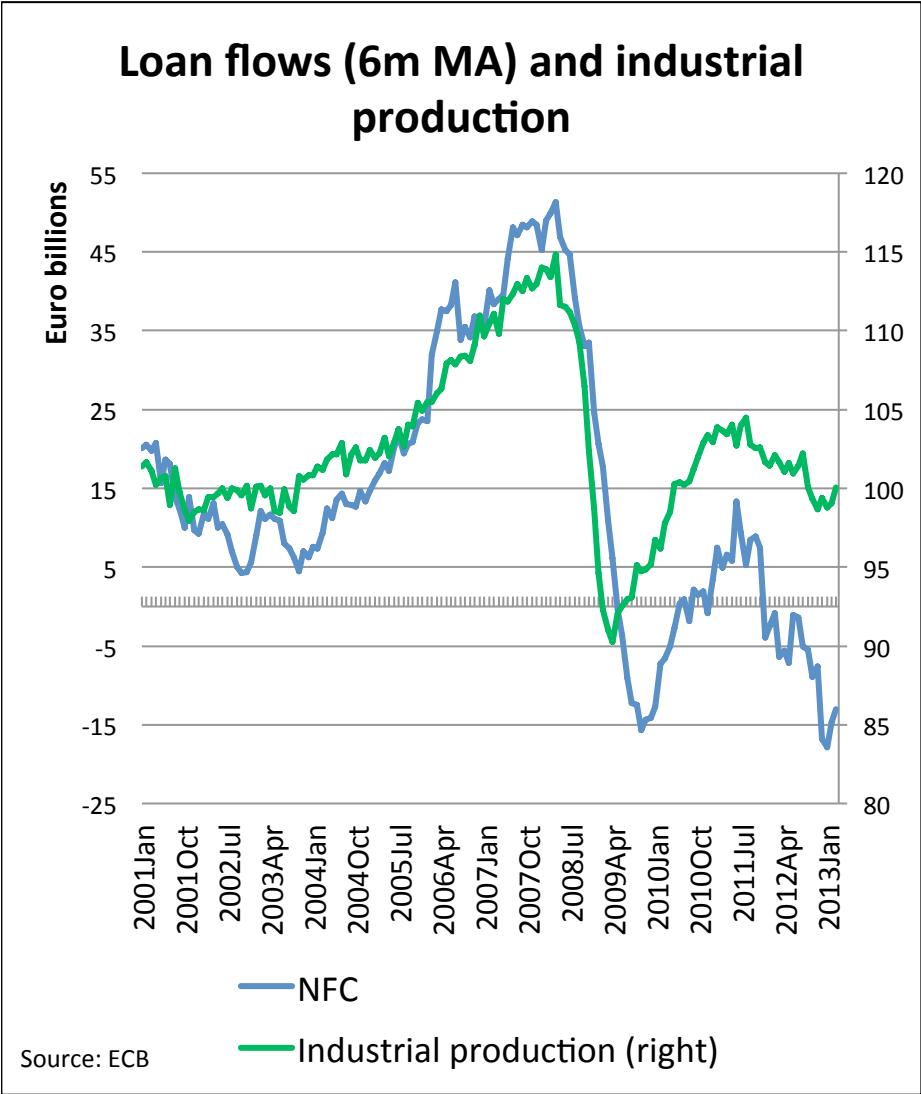
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ECB LIQUIDITY PROVISION AND LOANS TO CORPORATE



THIS PAPER

There have been two crises in the euro area: the global crisis of 2008-09 and the sovereign crisis

ECB action was effective in first crisis but not in the second

2 problems:

-- characteristics of the euro area financial market

-- a policy designed for liquidity cannot deal with solvency. Result :

(a) nasty redistribution consequences;

(b) macro ineffectiveness

In 2003 Tommaso Padoa Schioppa, responding to critics pointing to the vulnerability of the euro area institutional framework to financial crisis ...

On lender of last resort:

- Classical runs on deposits don't happen in our modern financial system
- A more likely run would be a rapid outflow of uninsured inter-bank liabilities
- In the case of an inter-bank run the ECB can provide emergency liquidity: *'market operation approach' to lending of last resort*

On likelihood of a liquidity crisis generated by counter-party risk:

- In an integrated liquid financial system generalized counter-party risk is unlikely

What can we say after the crisis?

TPS correctly predicted that

- the run was going to be on the inter-bank market and not by retail depositors
- the euro-system was capable to act in providing liquidity through repo operations

As others he under-estimated the mechanisms of contagion generated by counter-party risks after Lehman – everywhere

He did not see the limits of the “market operations approach” to lender of last resort in a market where

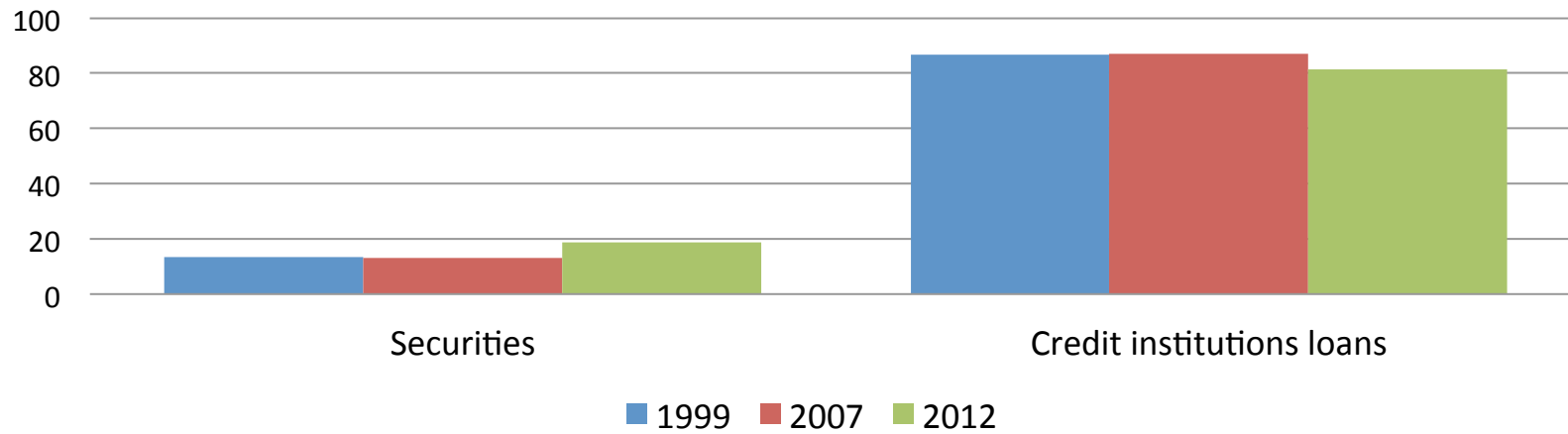
- (i) banks are dominant in the financial market**
- (ii) they have (traditionally) a large role as intermediaries in the sovereign bond market**
- (v) solution of solvency issues are not dealt with because of lack of tools at the European level**

CHARACTERISTICS OF THE EURO AREA FINANCIAL SECTOR

1. Banks based

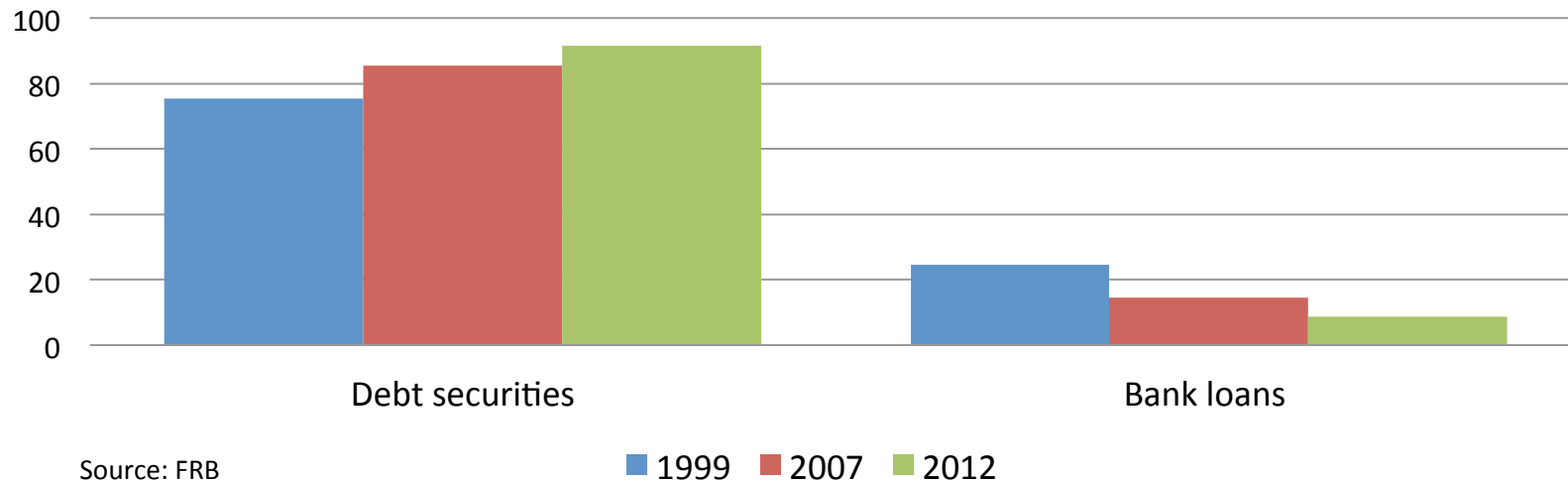
BANKS BASED – corporate financing

Euro area - relative weight of loans from credit institutions and securities



Source: ECB

US - Relative weight of bank loans and debt securities



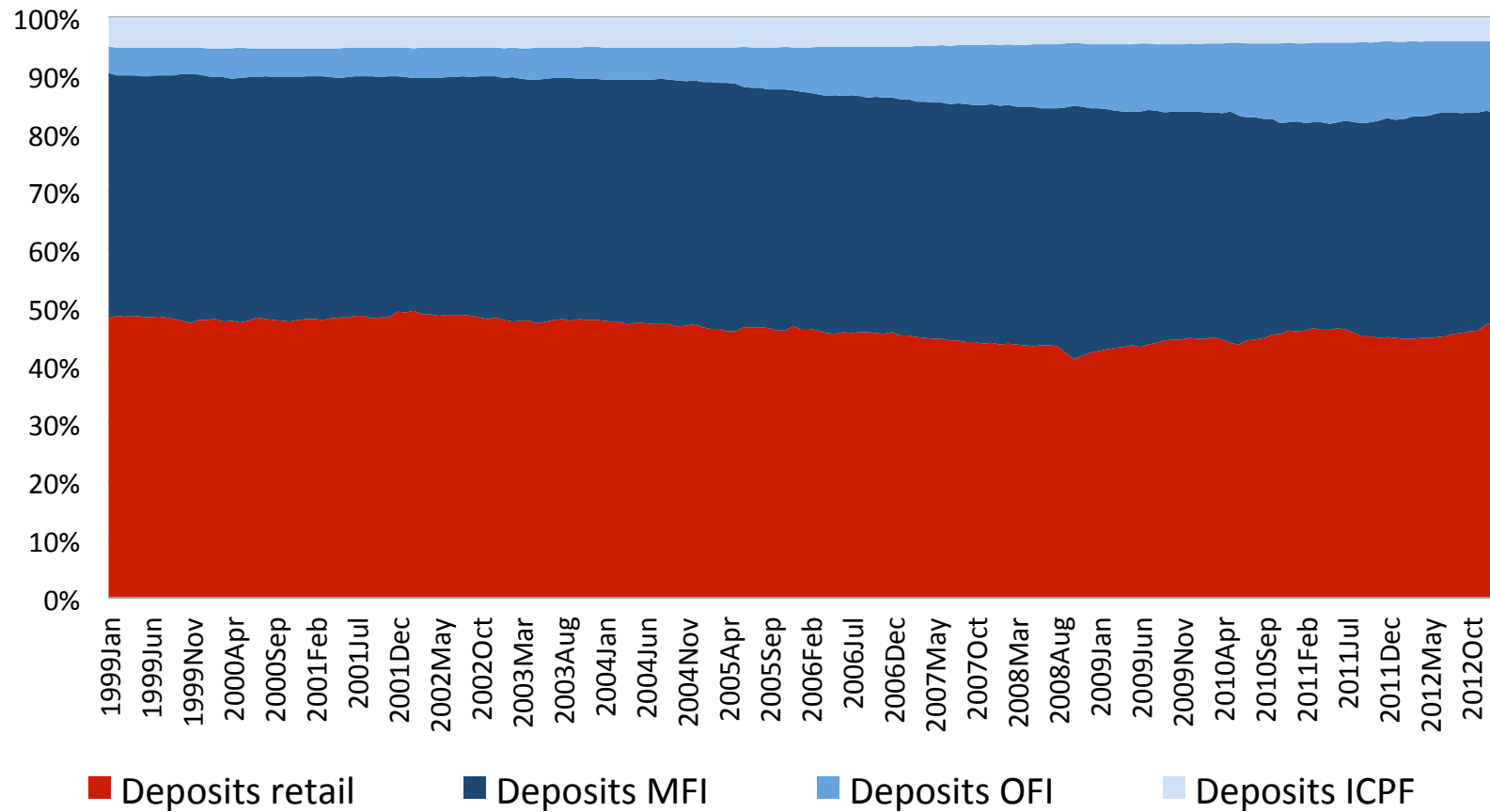
Source: FRB

CHARACTERISTICS OF THE EURO AREA FINANCIAL SECTOR

1. Banks based
2. Importance of wholesale, in particular interbank funding (mostly unsecured and on balance sheet)

SIZEABLE INTER-BANK FUNDING

MFI (excl. ESCB) deposits - Euro Area counterpart

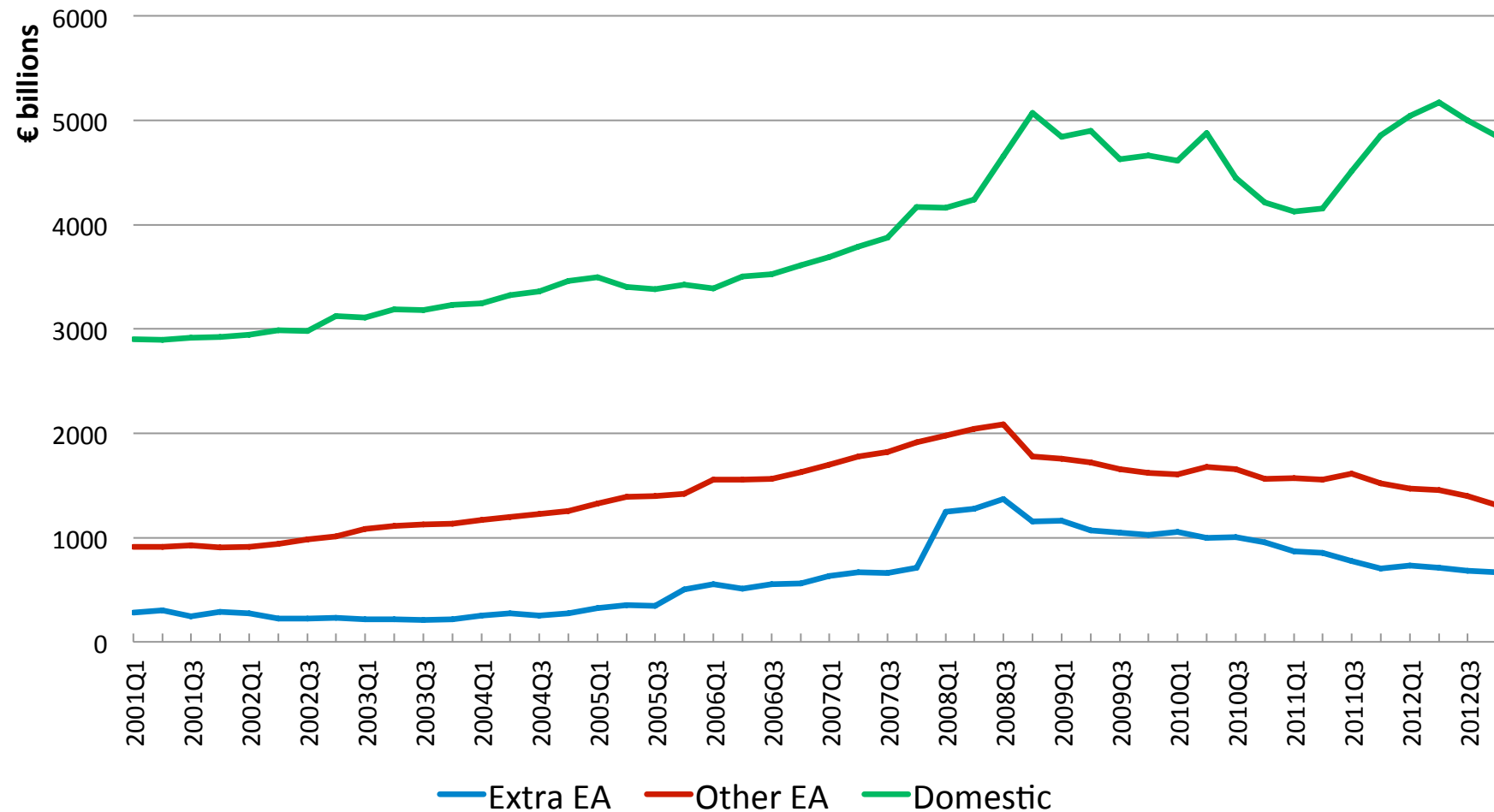


CHARACTERISTICS OF THE EURO AREA FINANCIAL SECTOR

1. Banks based
2. Importance of wholesale, in particular interbank funding (mostly unsecured and on balance sheet)
3. Financially integrated within the euro area

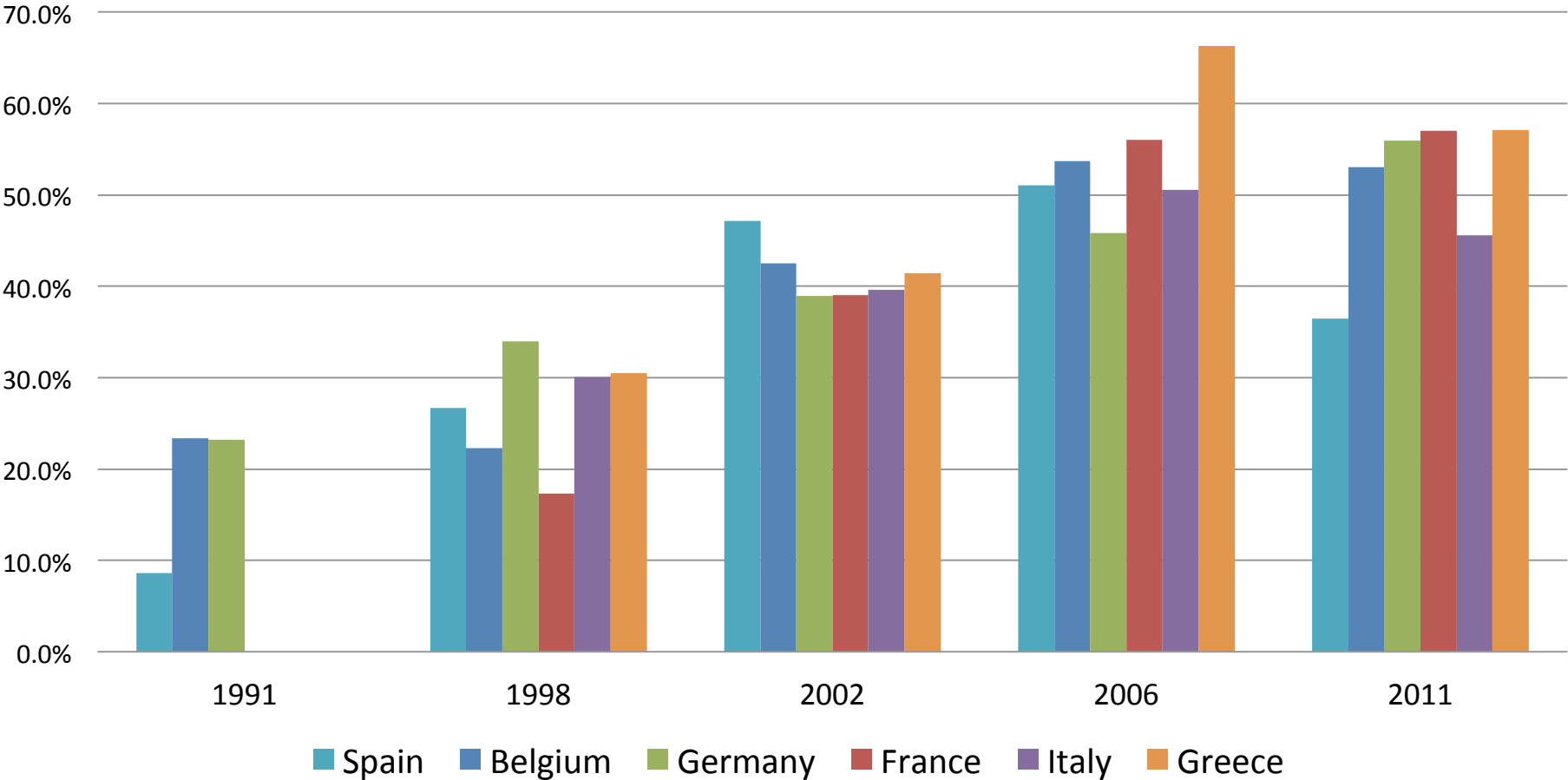
SIZEABLE NON DOMESTIC COMPONENT IN THE INTER-BANK FUNDING (not in retail or institutional support ...)

MFI (escl. ESCB) interbank deposits



INCREASING INTERNATIONAL INTEGRATION OF THE SOVEREIGN BOND MARKET WITH THE INCEPTION OF THE EURO

Gov. bonds holders - % of non residents

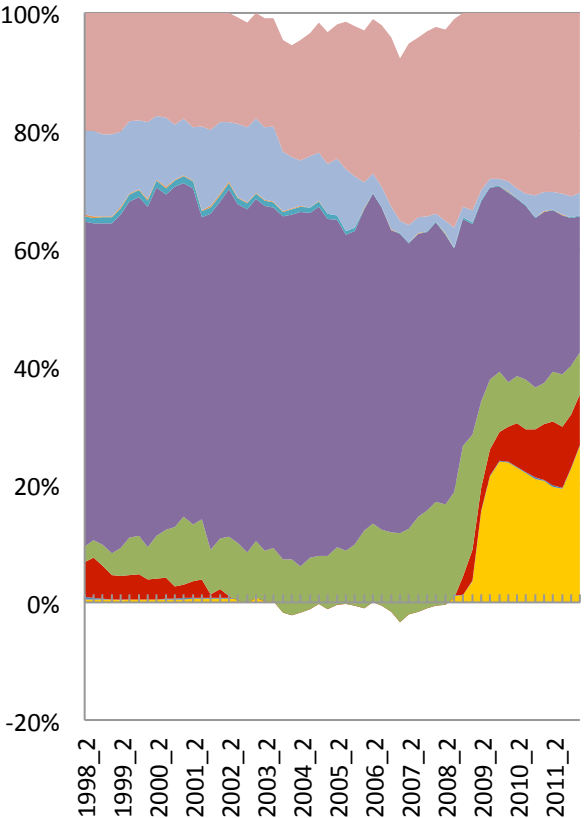


CHARACTERISTICS OF THE EURO AREA FINANCIAL SECTOR

1. Banks based
2. Importance of wholesale, in particular interbank funding (mostly unsecured and on balance sheet)
3. Financially integrated within the euro area
4. Banks in the euro area have big role in intermediating government

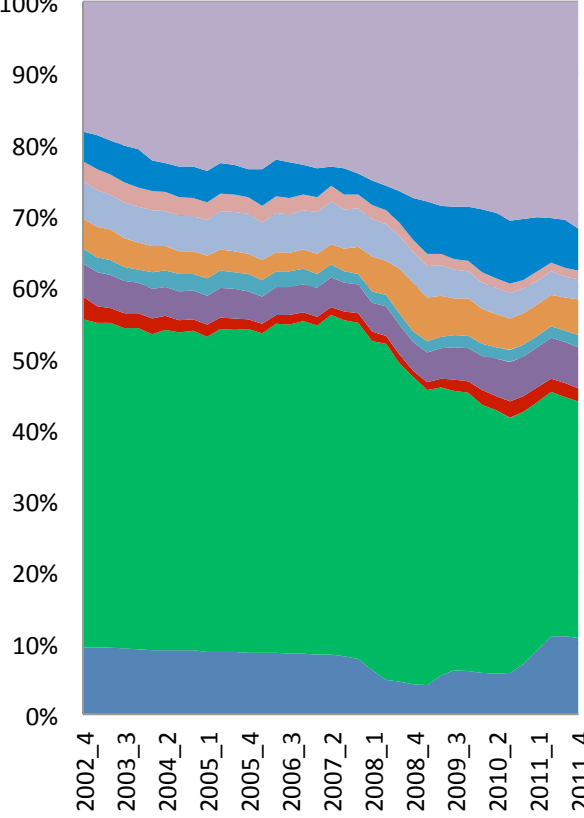
Banks are main holders of government debt in continental Europe

UK



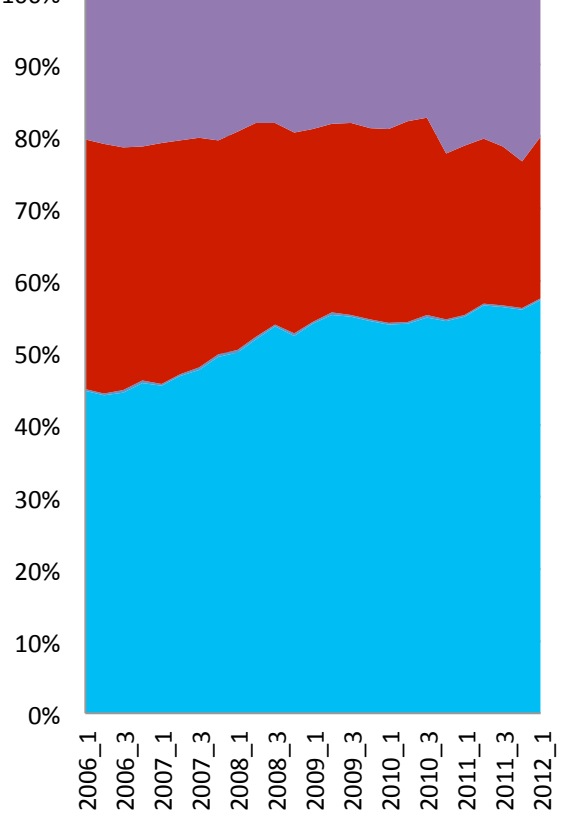
- Non-residents
- HHs and NPISHs
- Local government
- Public Corporations
- Insurance and pension funds
- Other financial intermediaries and auxiliaries
- MFI excl. CB
- Private non-financial corporations
- Central Bank

US



- Foreign and international
- Other investors
- U.S. savings bonds
- State and local governments
- Mutual funds
- Insurance companies
- Pension funds
- Depository institution
- Intragovernmental holdings
- FED

Germany



- other domestic non banks
- Credit Institutions
- Central Bank
- Non-residents

THE TALES OF TWO CRISES: 2008-09 and 2011-...?

BANKS AND THE GLOBAL CRISIS : 2007-2008

The facts

1. Sudden stop involving inter-bank transactions with non domestic financial institutions
2. Both extra euro area and other euro area countries see a persistent decline which is beyond historical correlation with business cycle
3. Domestic and retail loans and deposits stable relatively to business cycle conditions
4. Flight to safety: increase in government bonds in MFI balance sheet – as in other downturns

Giannone, Lenza, Pill and Reichlin *Economic Journal* 2012 and 2013 mimeo provide quantitative analysis based on counterfactuals

1-3 in line with literature on financially integration of inter-bank market and contagion

LITERATURE

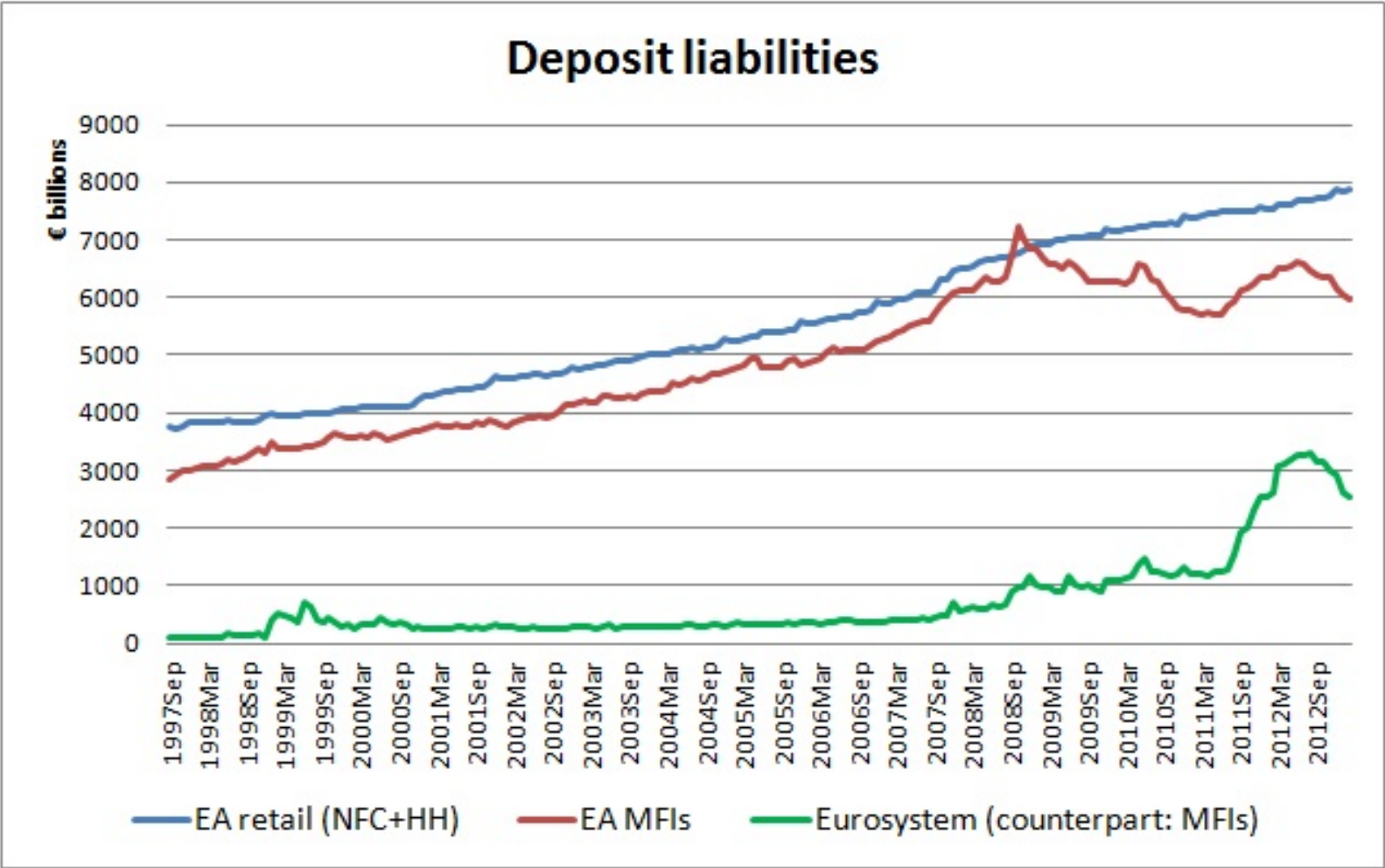
contagion through an integrated inter-bank market

Allen and Gale 2000 and Freixas, Parigi and Rochet 2000 : interbank linkages can act as a source of contagion, generating chains of bank liquidations.

Freixas and Holthausen 2005: integration may magnify the asymmetry of information, as banks start trading with a pool of foreign banks on which they have less precise information.

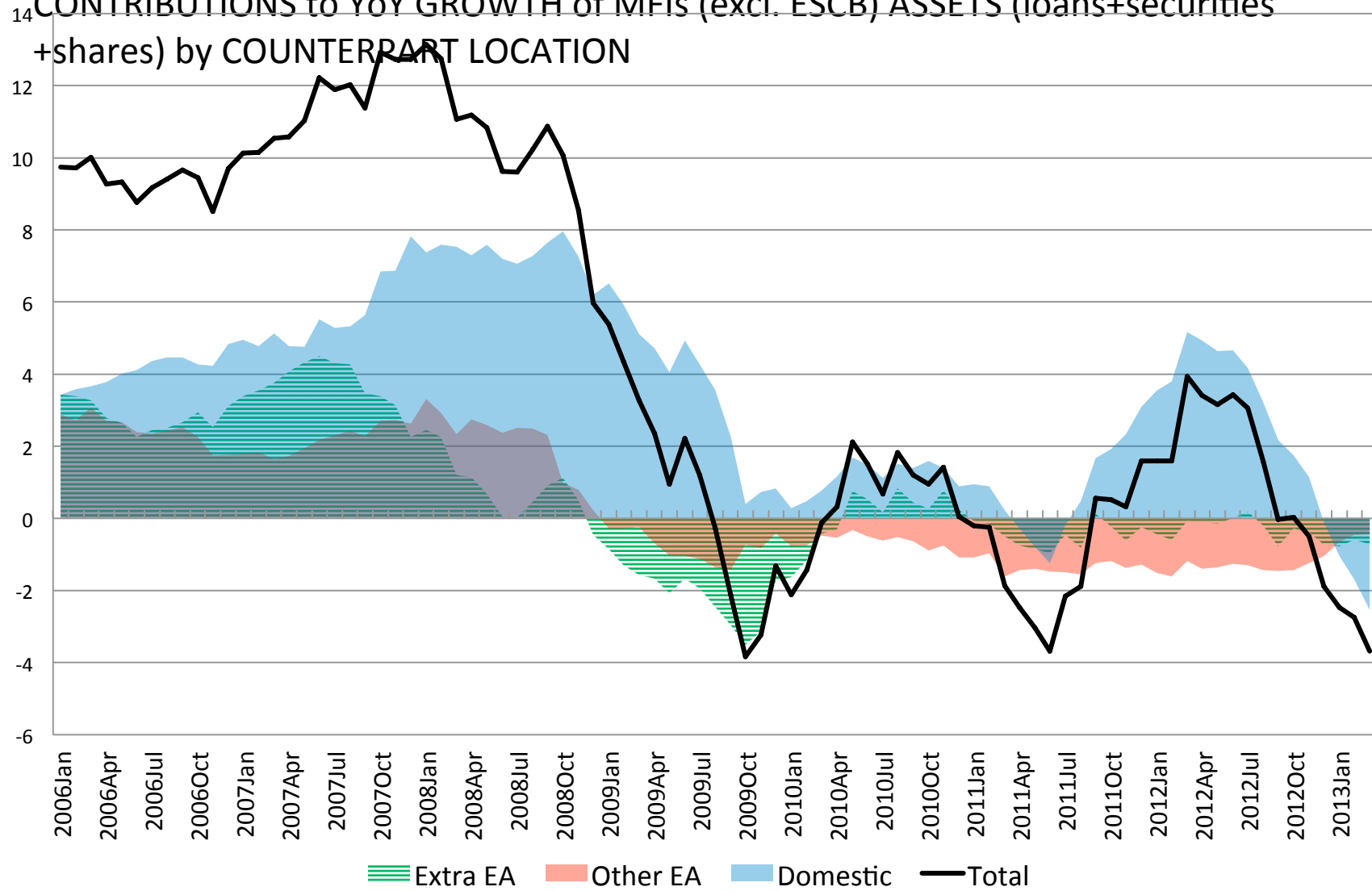
Castiglionesi, Ferriozzi, Lorenzoni 2010: Integrated interbank market leads to more stable interbank interest rates in normal times, but to larger interest rate spikes in crises driven by global shocks. Similarly, on the real side, financial integration leads to more stable consumption in normal times and to larger consumption drops in crises.

RETAIL STABLE



DOMESTIC ASSETS MOVE WITH THE BUS CYCLE – NON DOMESTIC MORE VOLATILE

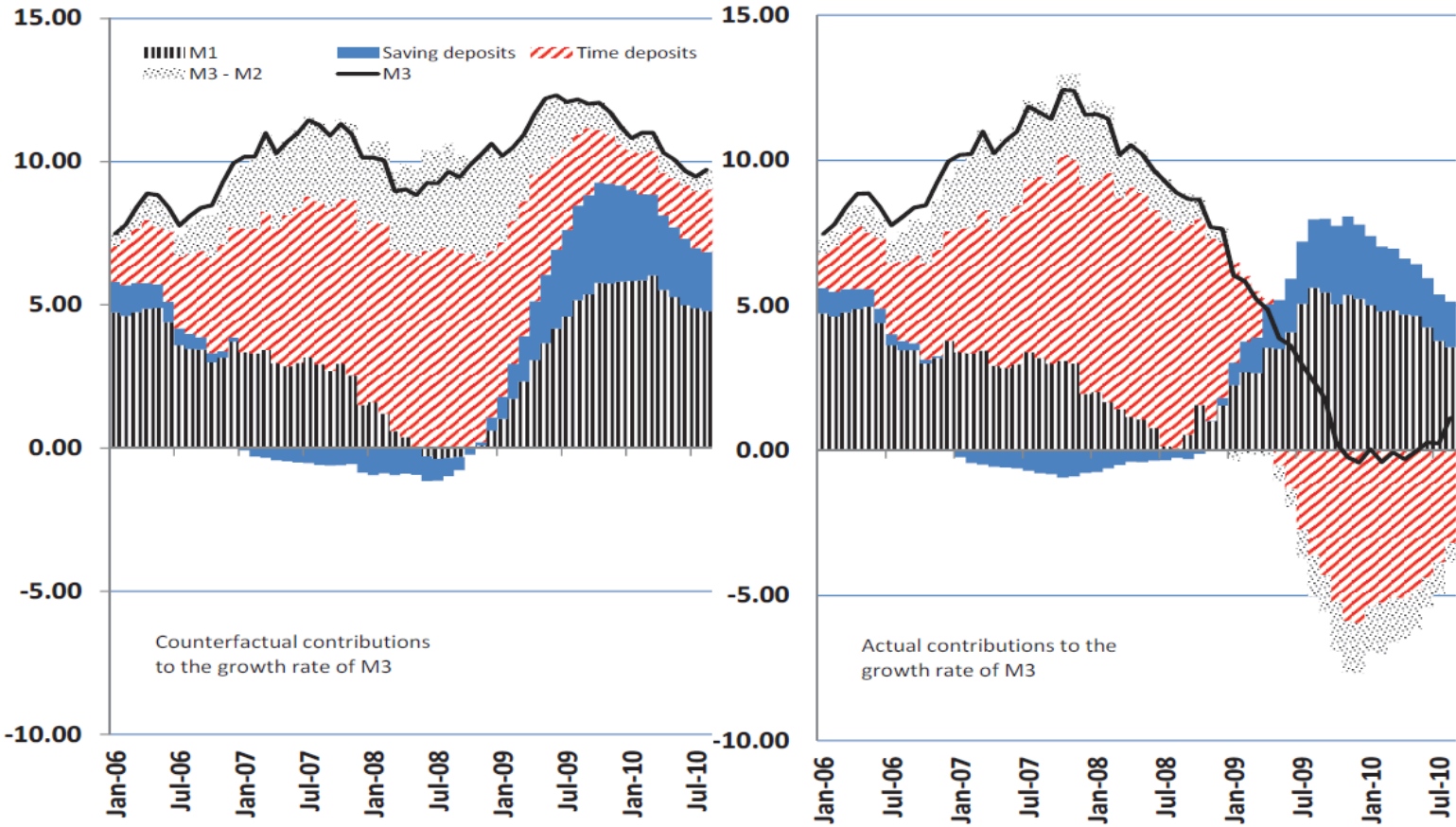
CONTRIBUTIONS to YoY GROWTH of MFIs (excl. ESCB) ASSETS (loans+securities +shares) by COUNTERPART LOCATION



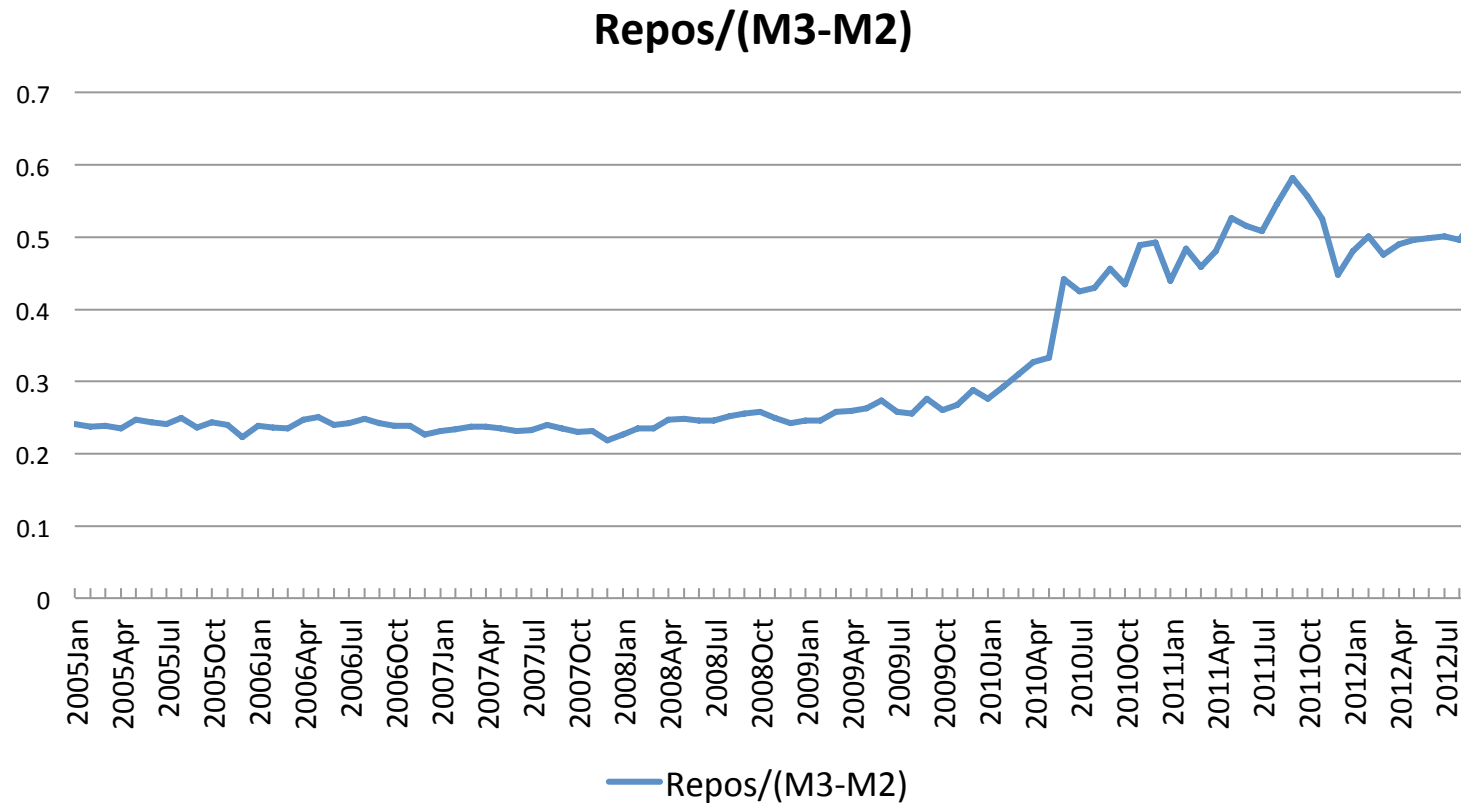
MONEY: actual and counter-factual dynamics (Giannone, Lenza and Reichlin 2013)

M1 in line with previous business cycle regularities

Unusual collapse of M3-M2 due to longer term deposits – medium term funding



CONTRARY TO THE US INCREASE IN REPOS (substitution of non-secured funding with secured repos) inverting pre-crisis increase in unsecured lending

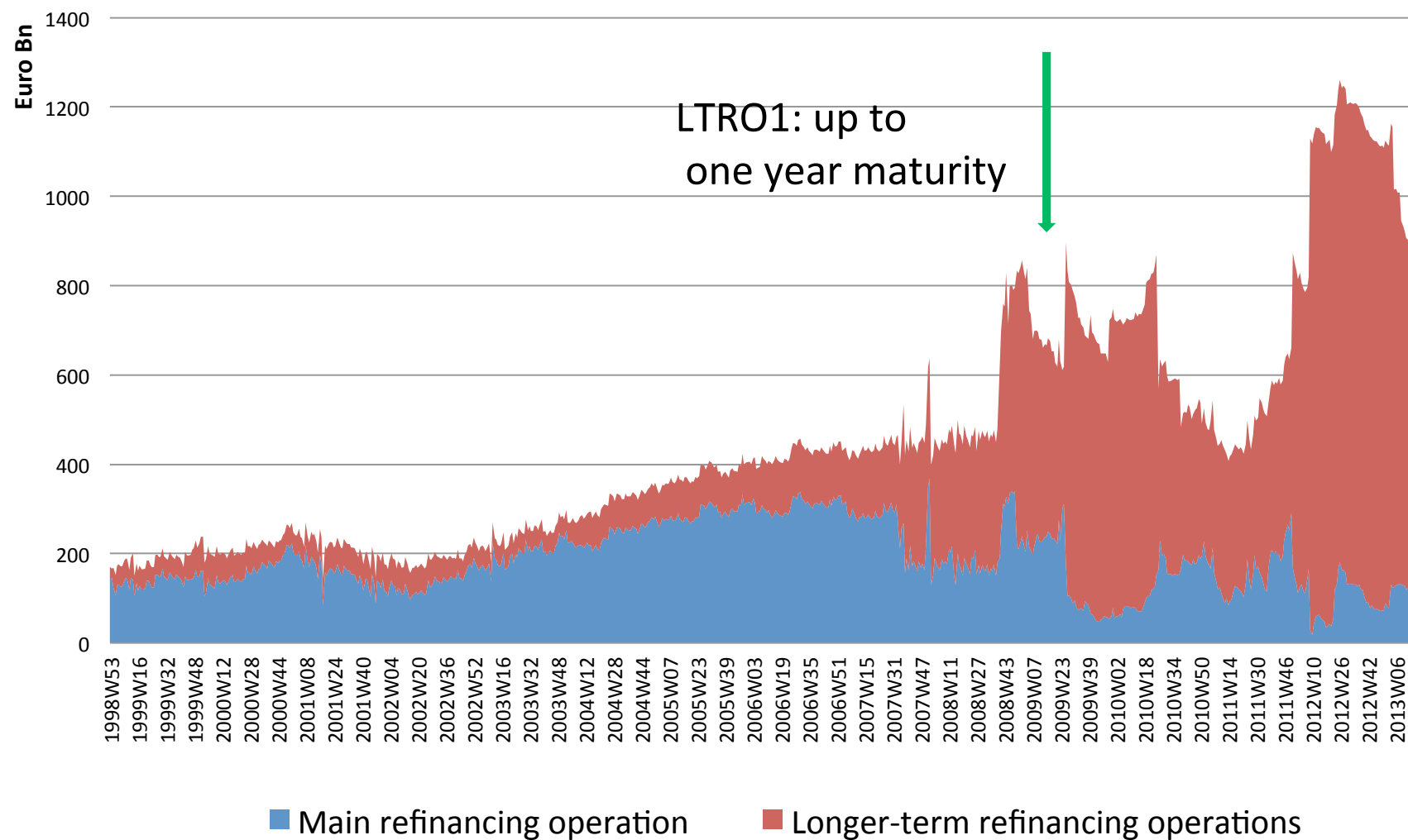


THE ECB RESPONSE: MARKET OPERATION APPROACH TO LENDER OF LAST RESORT

While the ECB has not adopted the rhetoric of “quantitative easing”, it has expanded its balance sheet, increasing reserves on the liabilities side against (largely) conventional assets (repos) on the asset side

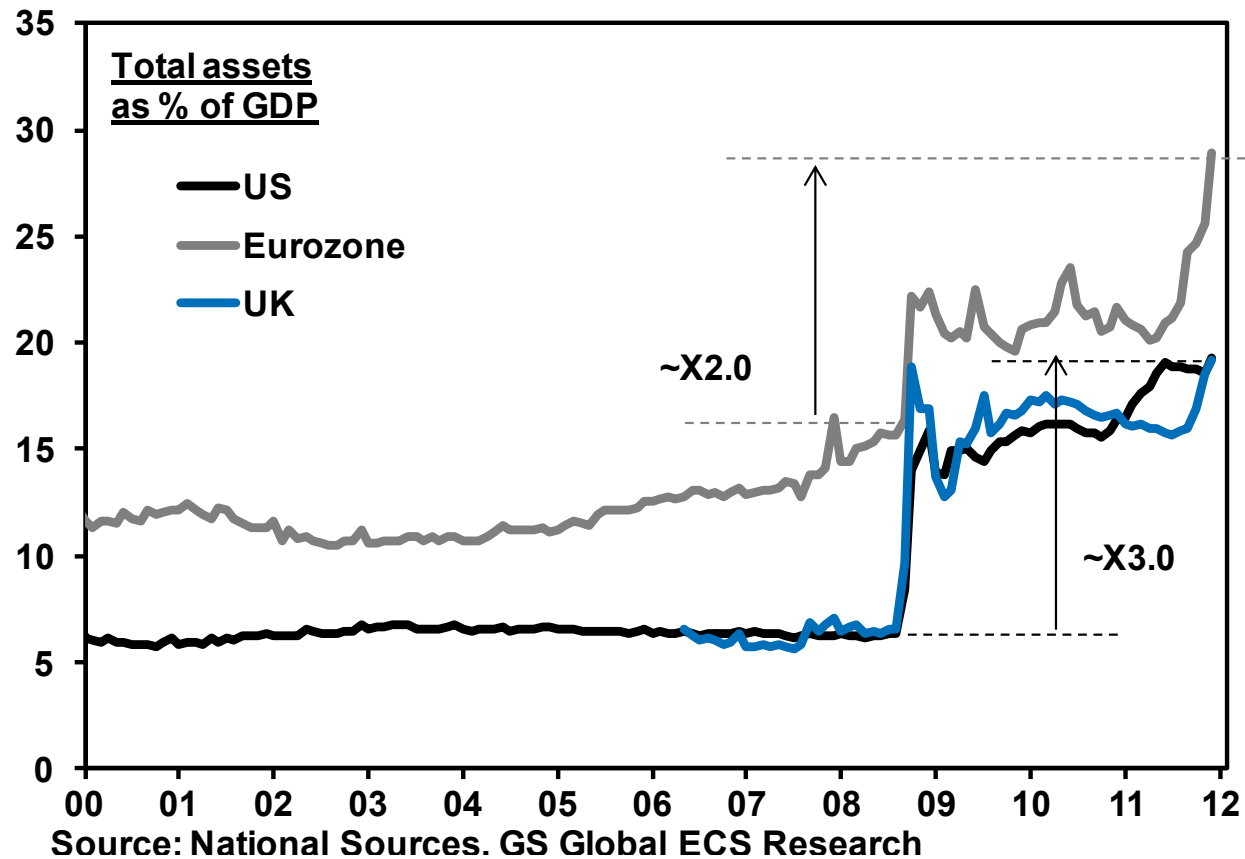
- Liability side: allow increasing recourse to deposit facilities
 - Asset side: expand scope of repo operations
-
- ❑ The ECB largely dealt with banks by applying the pure version of the Bagehot rule the
 - ❑ ECB was the most conventional but also the most aggressive of the central banks

THE SIZE OF THE LTRO - PROVIDING BANKS WITH LIQUIDITY



Source: ECB

ECB INTERMEDIATION: THE EA, THE US AND THE UK



As of end of January 2012 (using 2011 GDP figures)

Source: GS Global ECS Research

DID IT WORK?

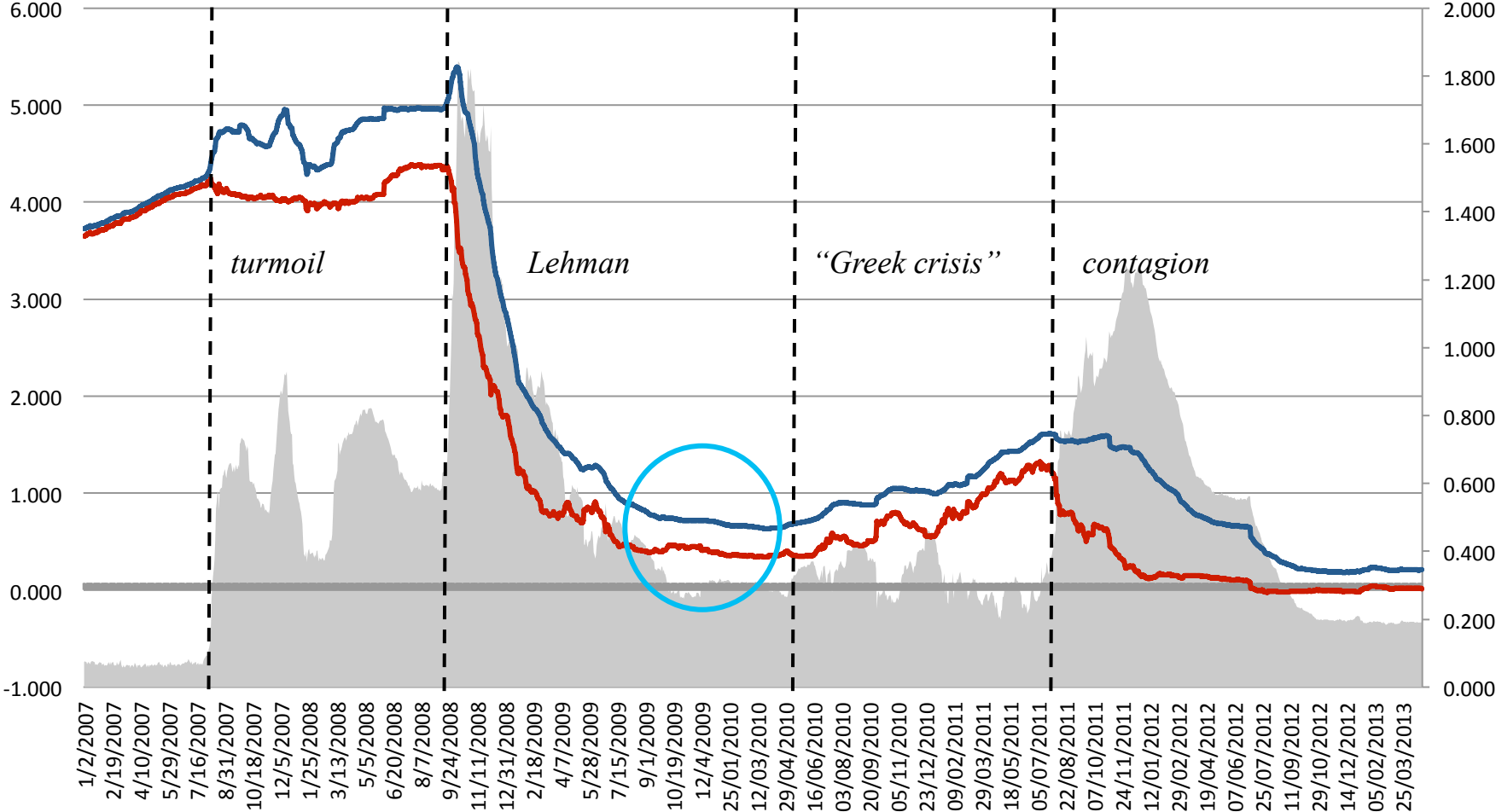
- Lenza, Pill and Reichlin, *Economic Policy* 2010
 - Giannone, Lenza and Reichlin, mimeo 2012
 - Giannone, Lenza, Pill and Reichlin, chapter in *CUP book*, 2011
 - Giannone, Lenza, Pill and Reichlin, *Economic Journal*, 2012
 - Giannone, Lenza, Pill and Reichlin, mimeo 2013
-
- Significant effects on credit markets
 - Macroeconomic effects small but significant

OVERALL CONCLUSIONS OF QUANTITATIVE ANALYSIS: ECB NON STANDARD POLICIES 2008:9-2011:4

- Rapid and effective response to a liquidity crisis. Followed the Bagheot rule: providing unlimited liquidity against collateral
- Financial stability function: avoided the melt-down
- Monetary policy function: some macro effects



Symptoms : stabilization in 2nd part of 2009 money market rates and spreads



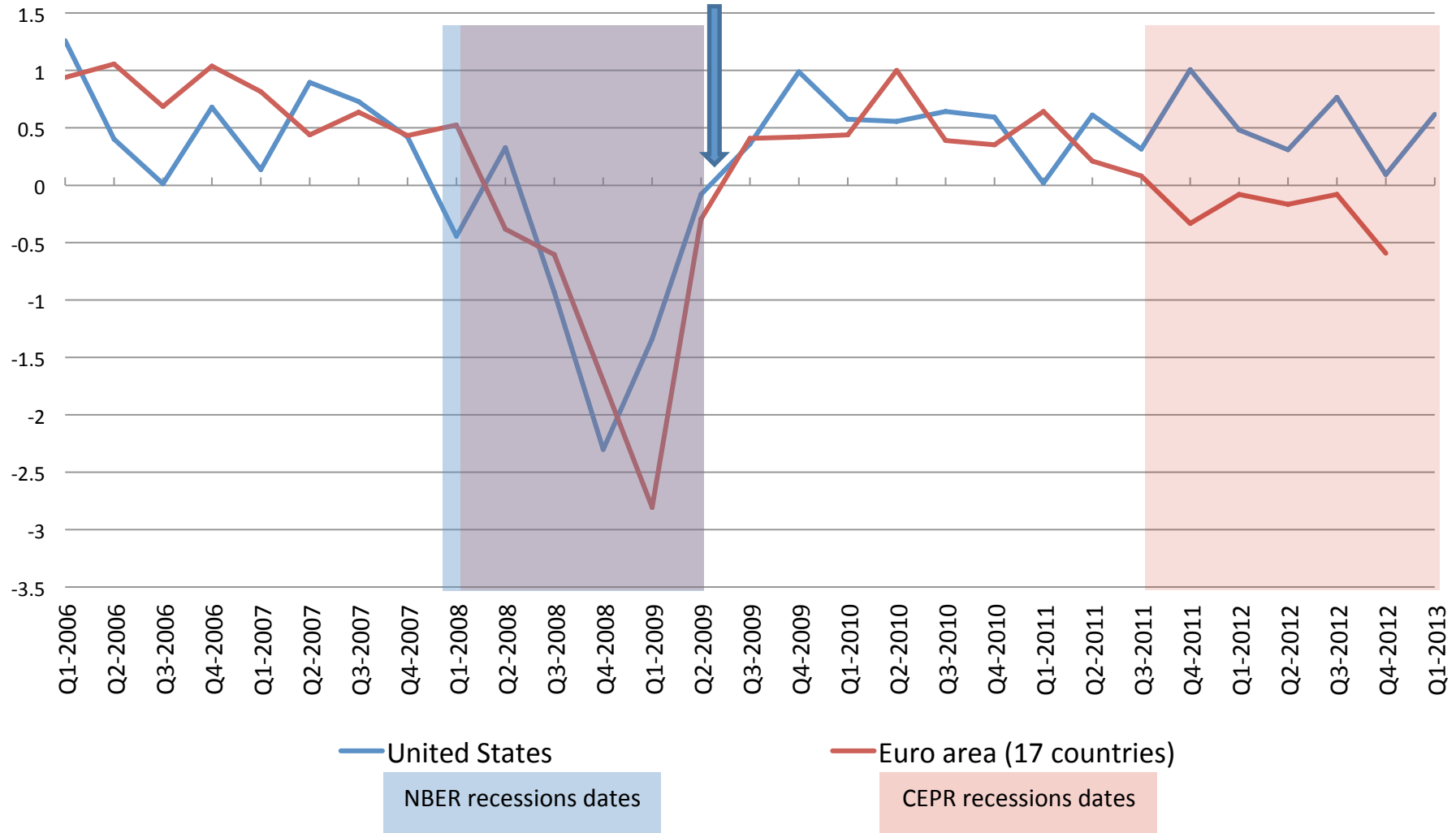
Source: European Banking Federation

Spread (right)
 EURIBOR 3m
 EUREPO 3-months

THE TALE OF TWO CRISES: RECOVERY IN 2009Q2

GDP growth, QoQ

Source: OECD



HOWEVER ... CUMULATION OF TENSIONS

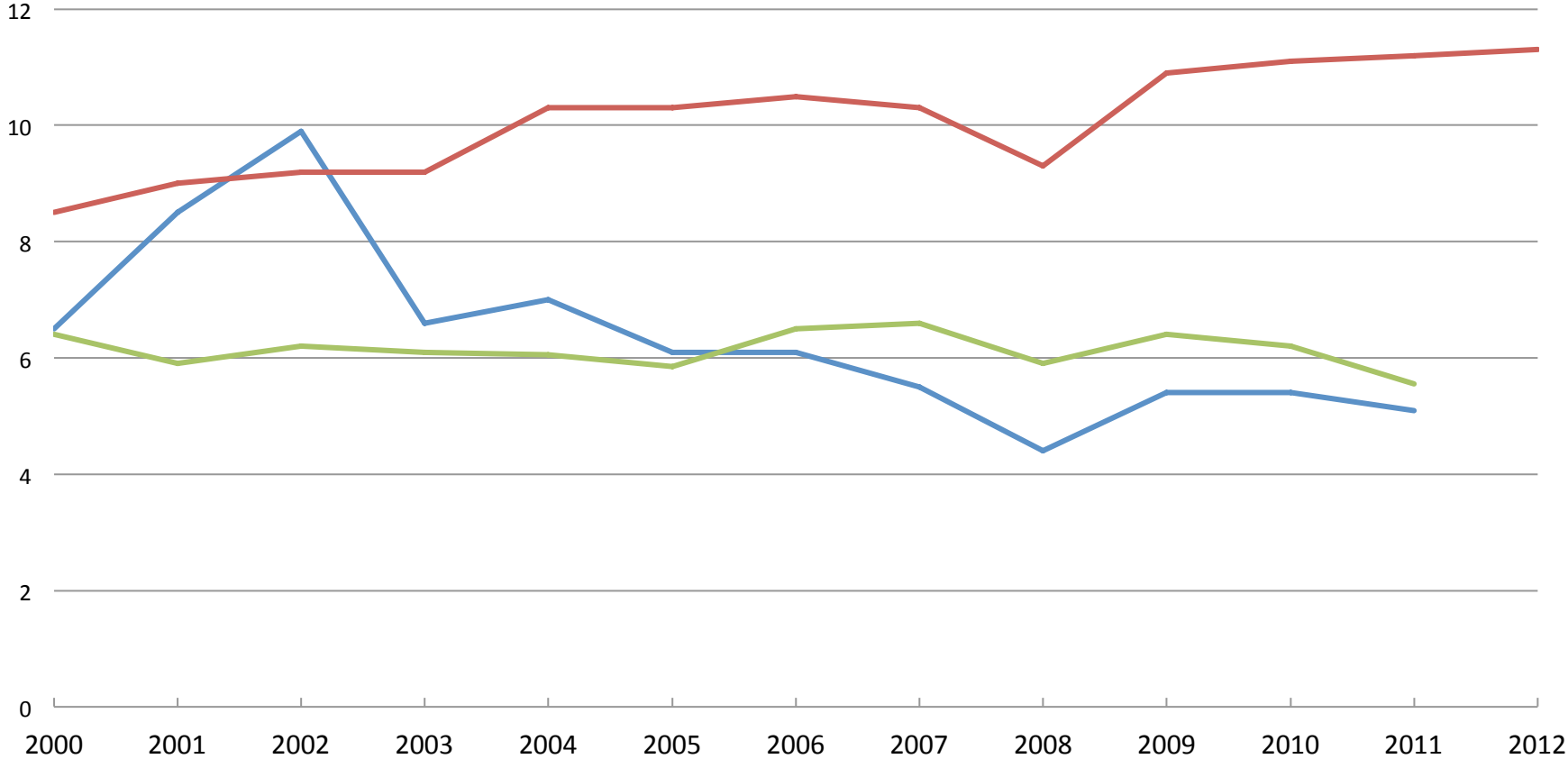
Problems persist even when the economy comes out of the recession in 2009 – increasing financing needs of governments and banks

1. Collateral deteriorates
2. Structural dependence of (some) banks. Not clear whether it is liquidity or solvency : some banks remain under stress because of capital but liquidity issues also persist
3. Non domestic interbank does not come back and the ECB keeps its intermediation role via LTRO1
4. Sovereign problem starts gradually to emerge as a result of weak economic conditions and/or fiscal consequences of banking crisis

..... Leading to a new phase

BANKS' SOLVENCY PROBLEMS NOT FIXED

Bank capital to assets ratio (%)



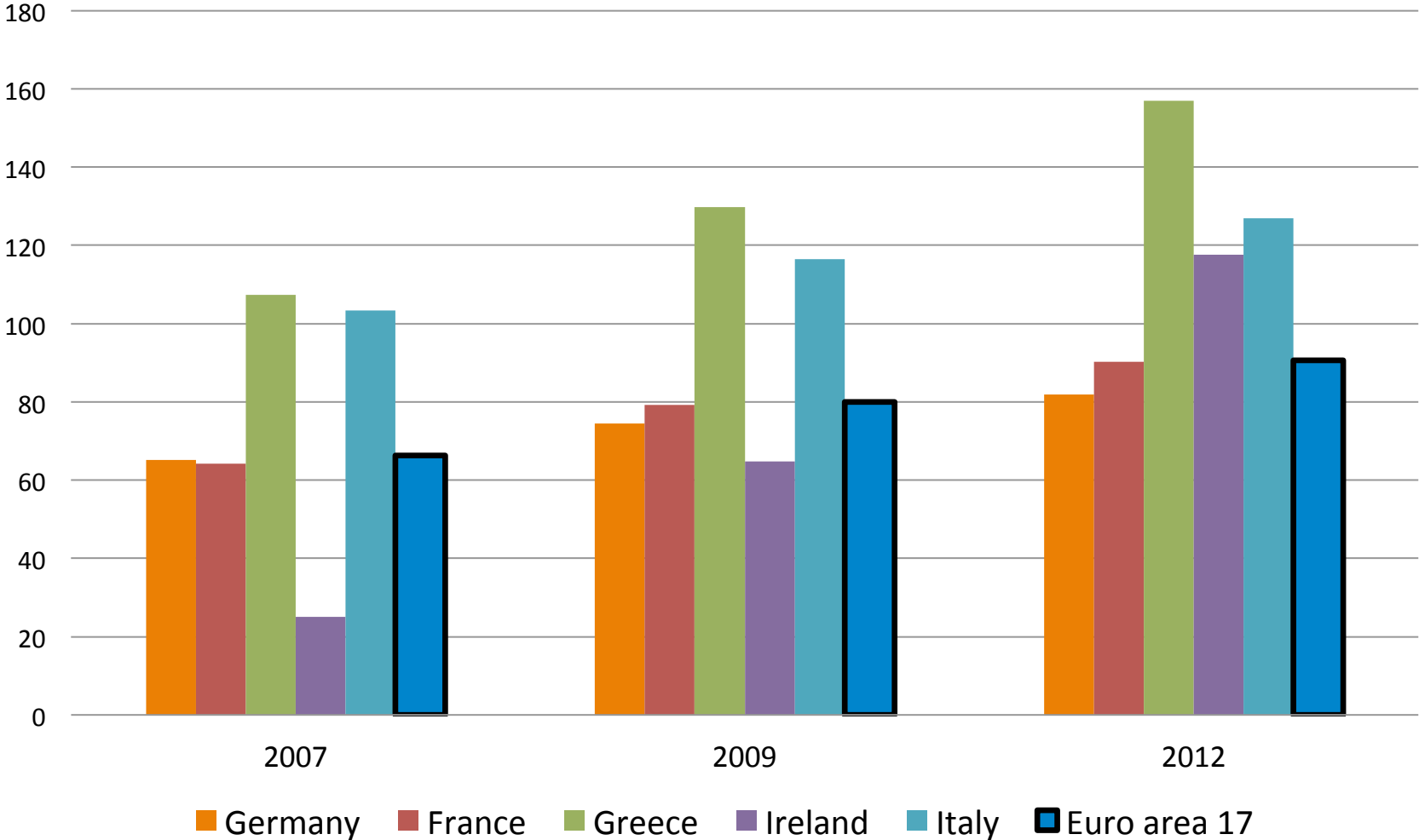
Source: World Bank

— GBR — USA — EMU

AND INCREASING PRESSURES ON GOVERNMENT FINANCES

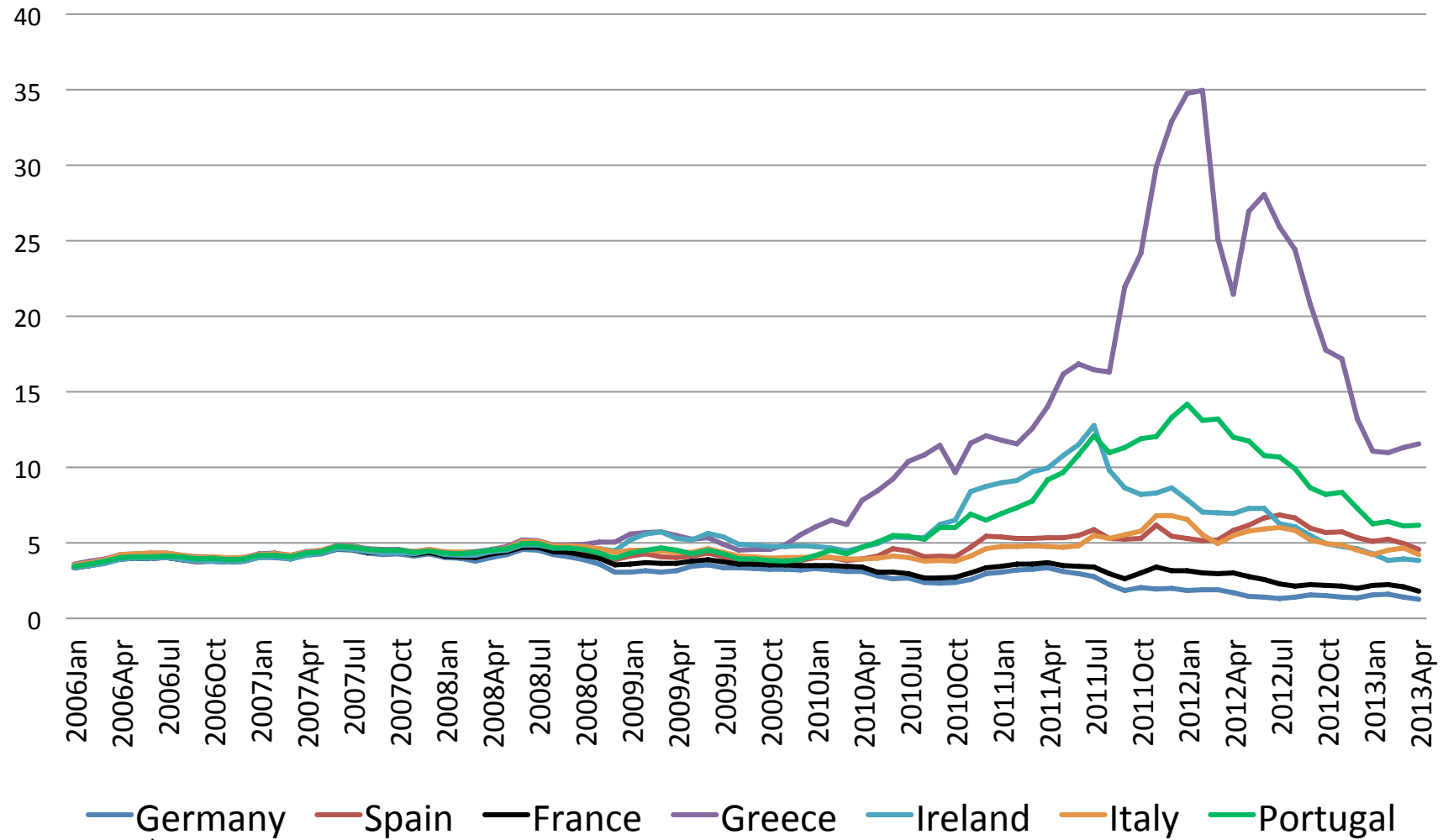
Government debt/GDP

Source: ECB



THE SOVEREIGN CRISIS

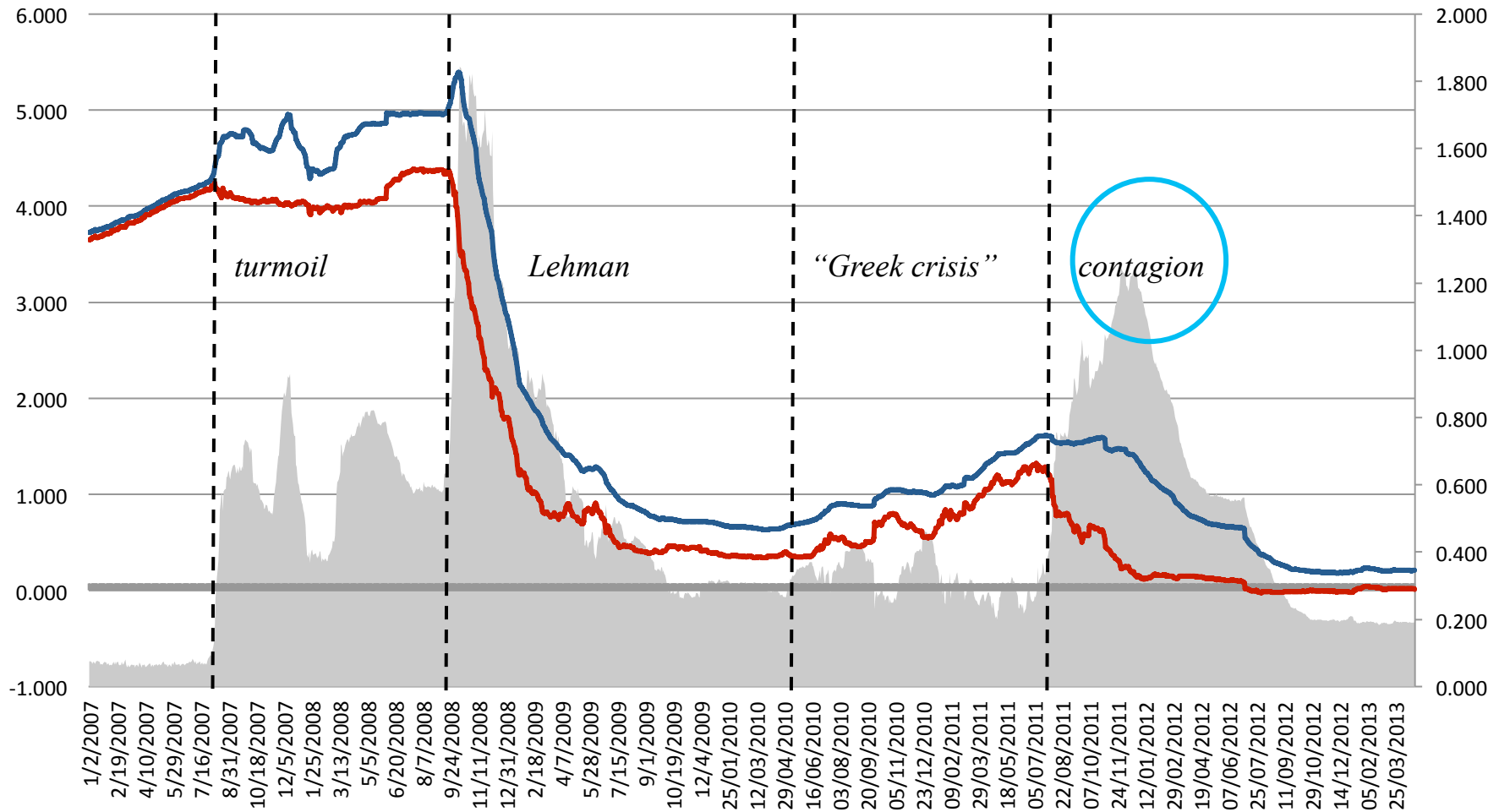
GOVERNMENT BONDS YIELD - 10y



Source: Banque de France

Symptoms : contagion in the Summer 2011

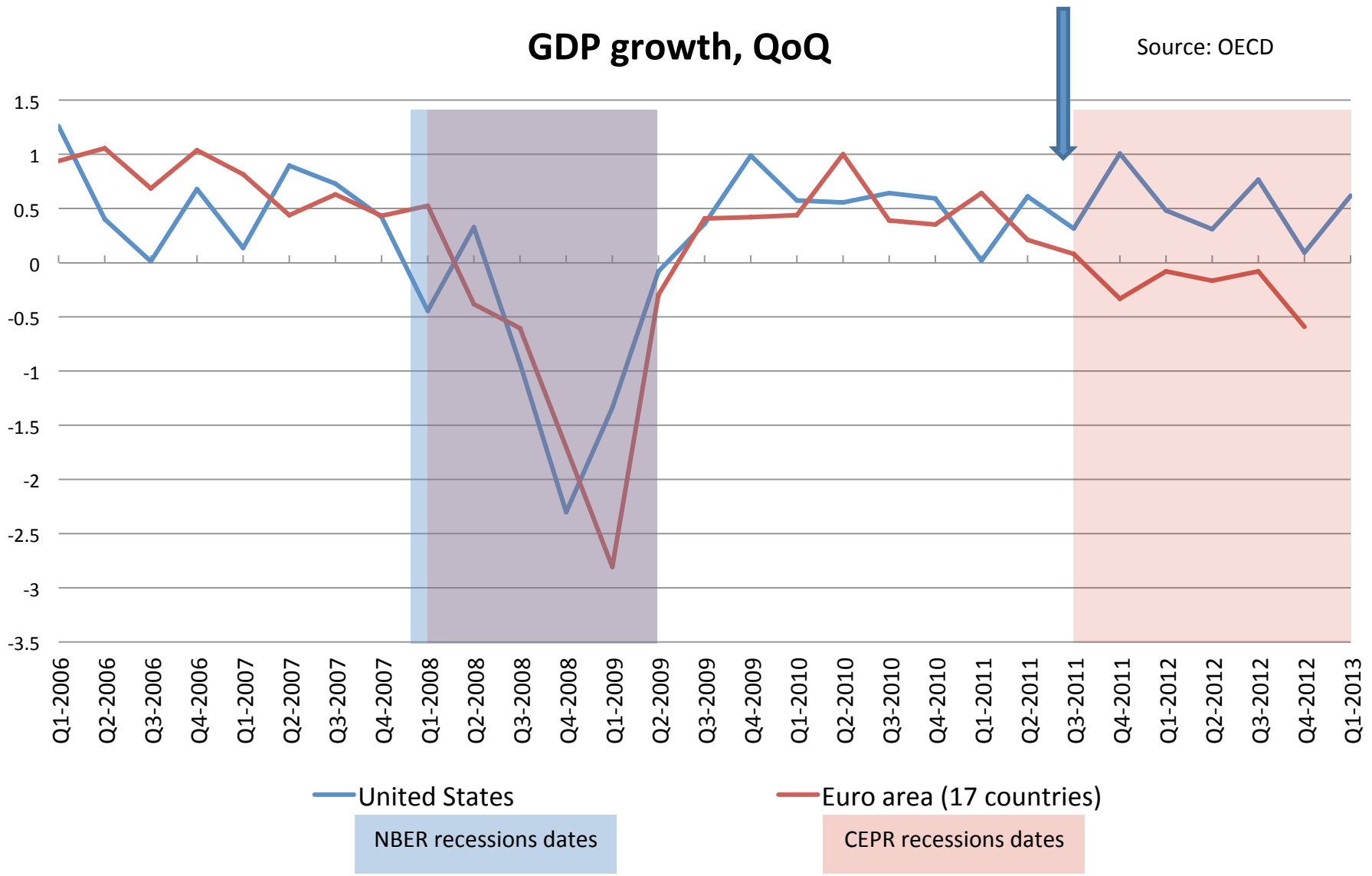
money market rates and spreads



Source: European Banking Federation

■ Spread (right) — EURIBOR 3m — EUREPO 3-months

THE TALE OF TWO CRISES: NEW RECESSION IN 2011Q3



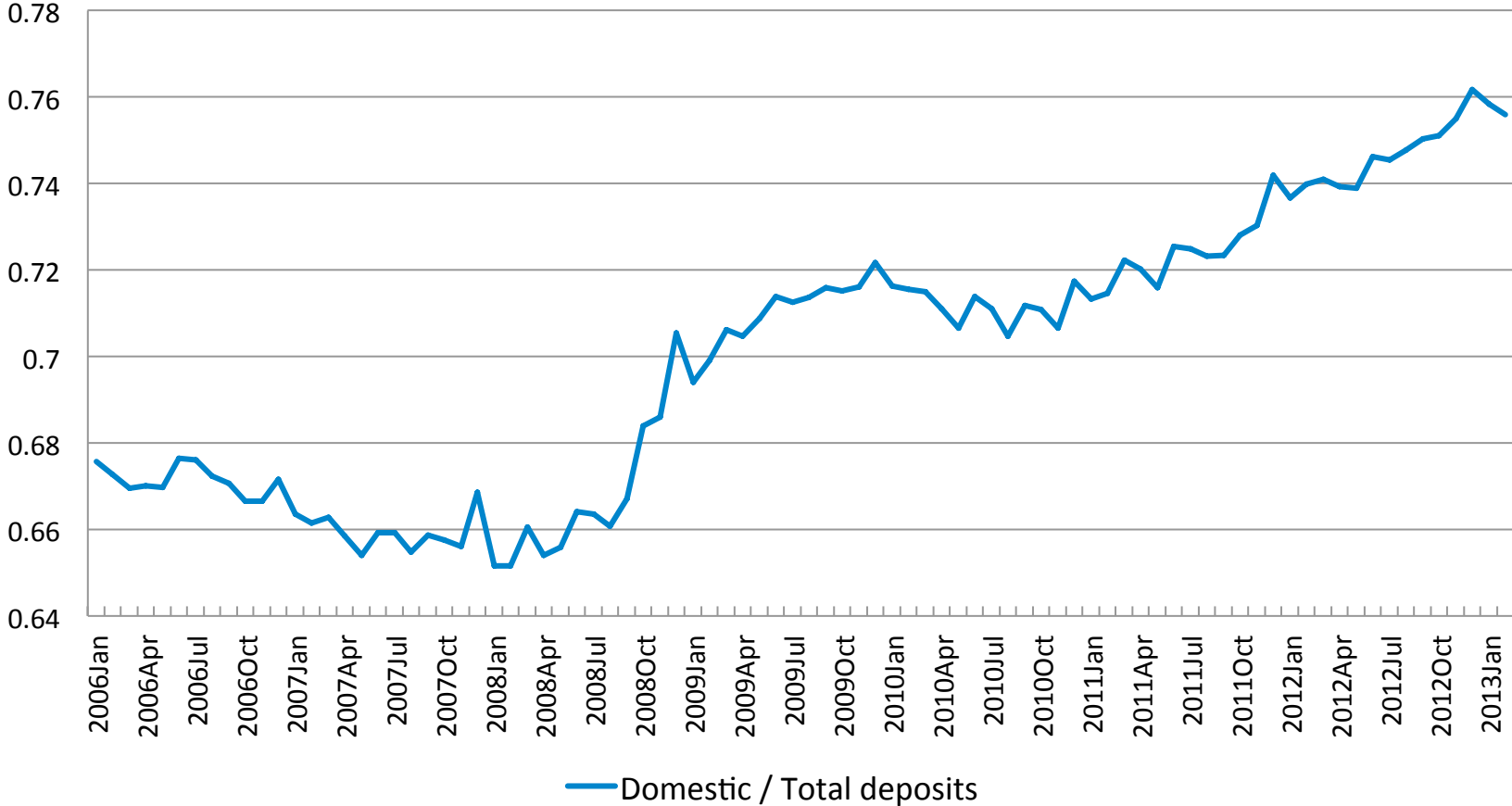
BANKS AND THE SOVEREIGN CRISIS

The facts

- Some continuation of post-Lehman trends:
 - *Home bias* – more domestic assets (or deposits) over total assets (or deposits)
- Cyclical
 - *Flight to quality* - government securities in MFI assets is anti-cyclical
- **New trends:**
 - **But from May/July 2010 sharp decline of securities held against other euro area countries and increase in domestic government bonds** (home bias in this market seems to be stronger than carry trade emphasized by *Acharya and Steffen 2013*)

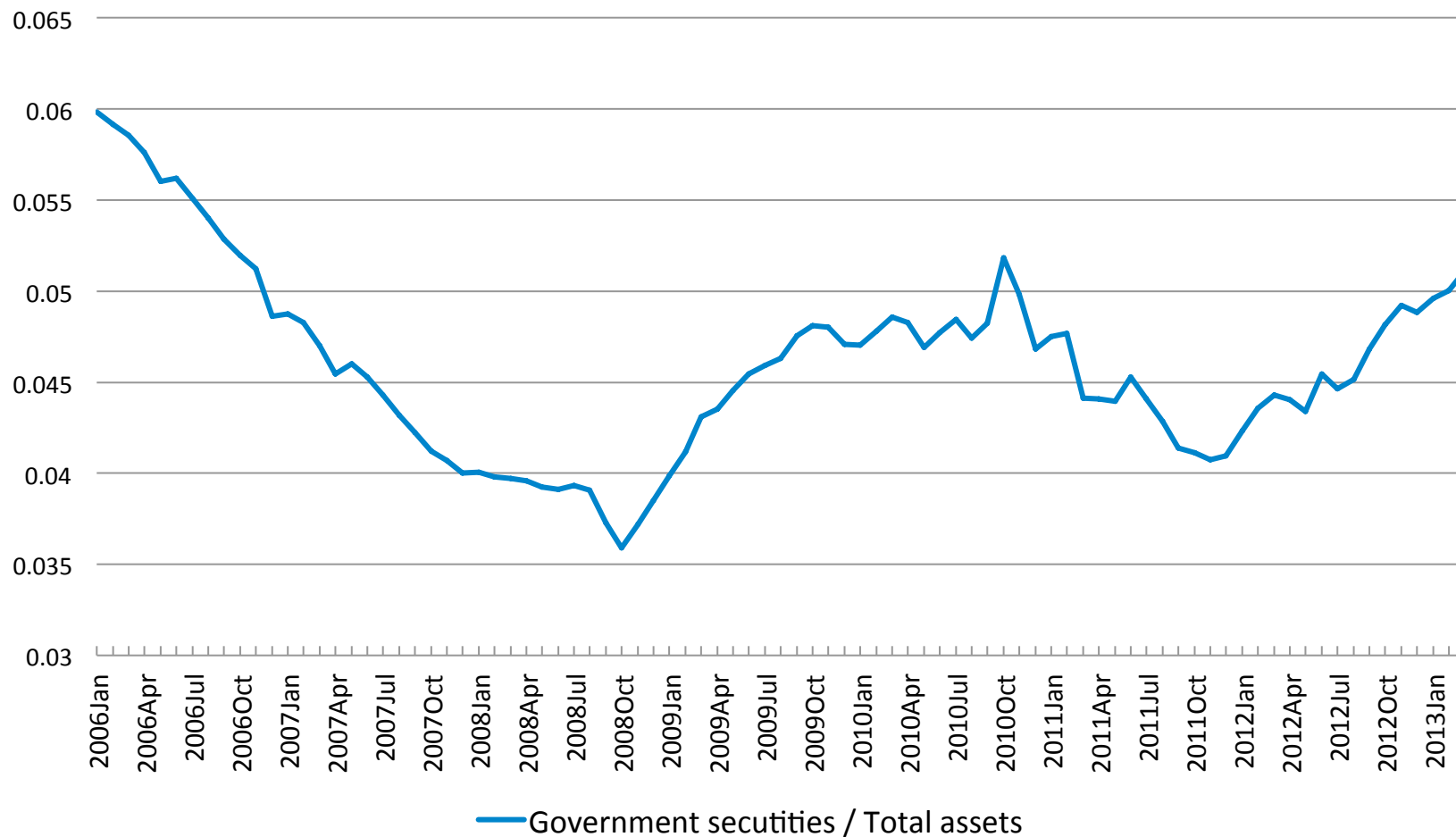
HOME BIAS SINCE THE 2008 CRISIS

MFI (excl ESCB) Domestic deposits / Total deposits



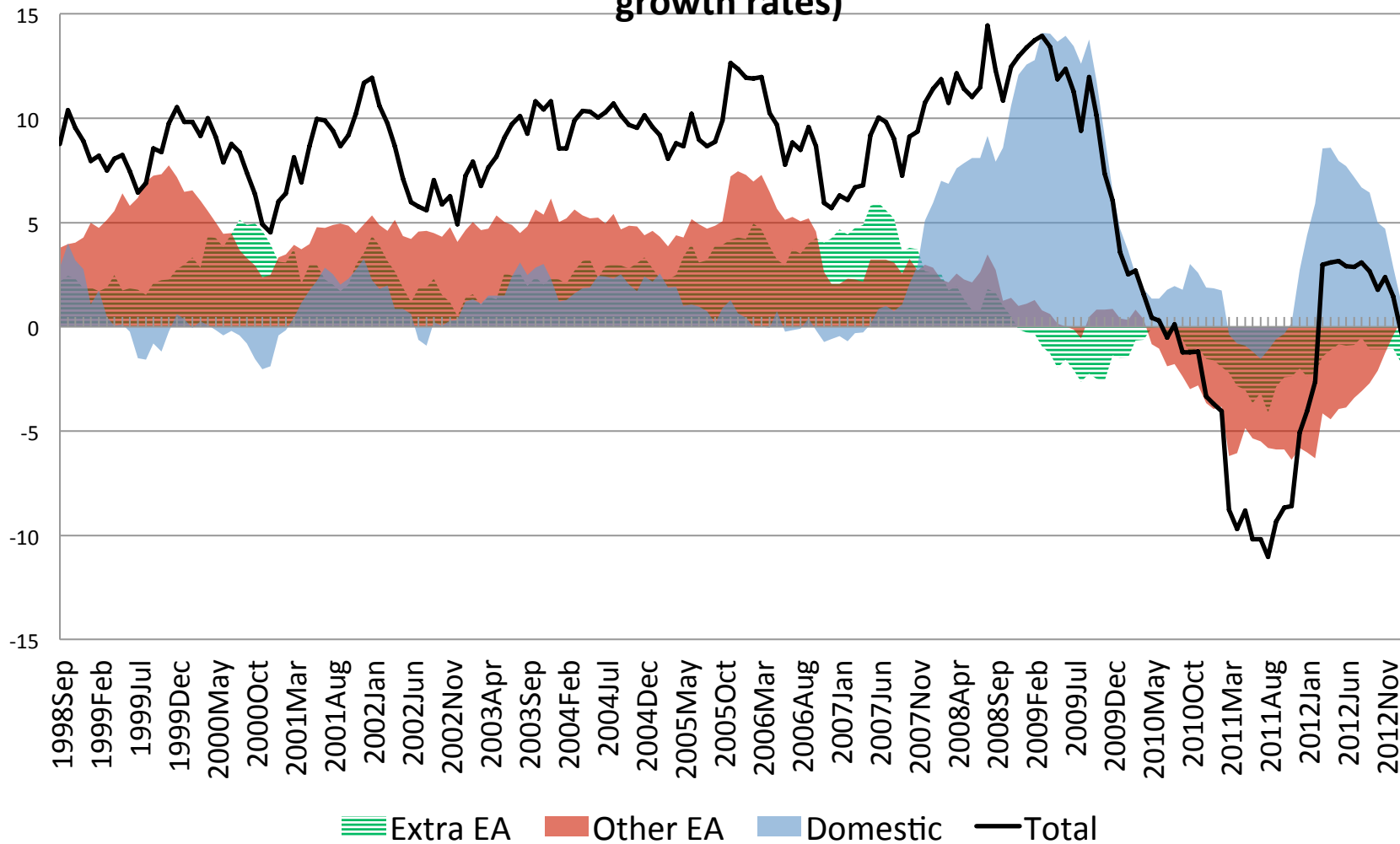
HOLDING OF GOVERNMENT SECURITIES IS ANTI-CYCLICAL

MFI (excl. ESCB) government securities / Total assets



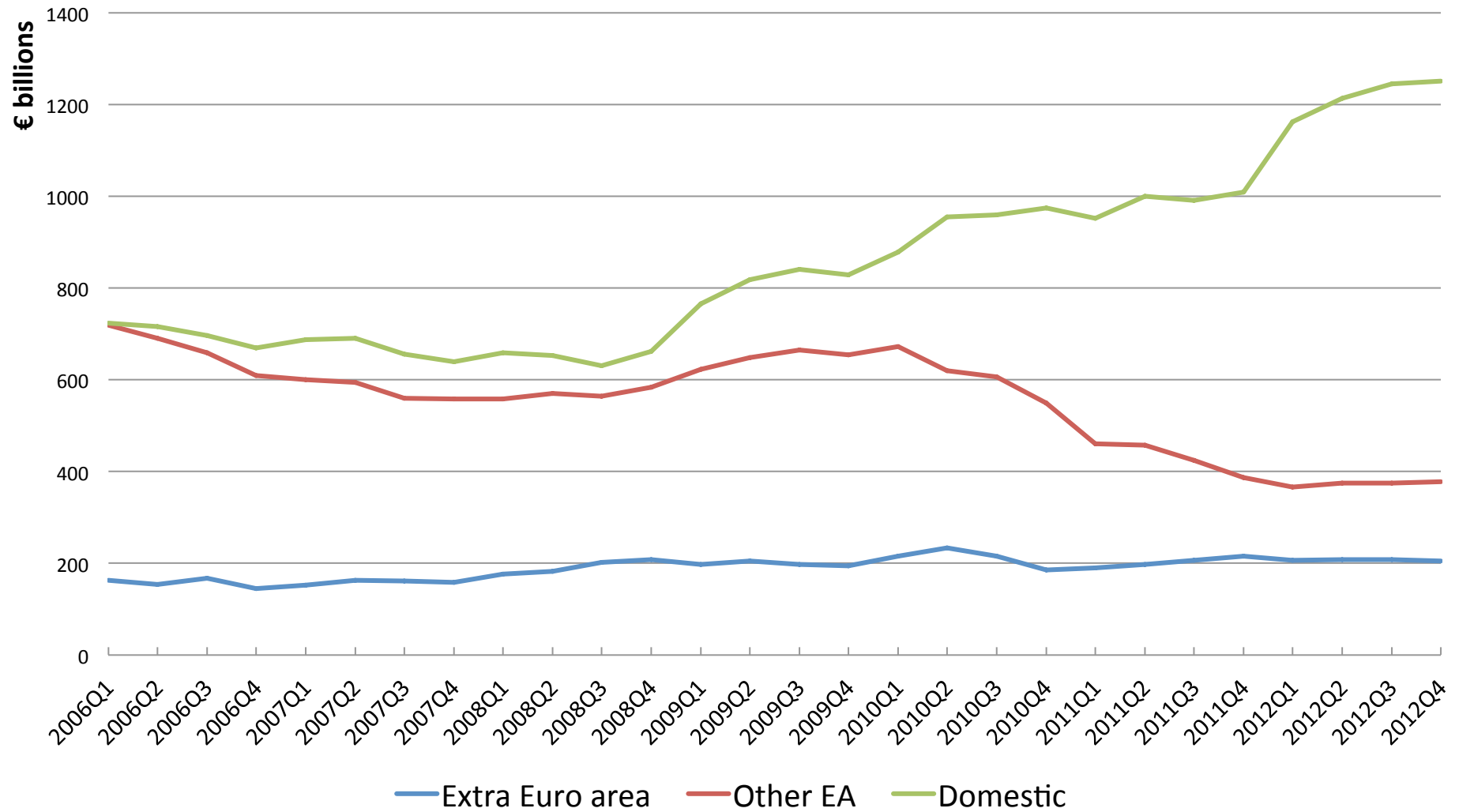
SINCE MAY/JULY 2010 FURTHER DROP IN SECURITIES WITH OTHER EURO AREA COUNTRIES

MFIs (excl. ESCB) assets - securities (contributions to total YoY growth rates)



... AND BANKS SHIFT TO DOMESTIC GOVERNMENT SECURITIES

MFI assets - government securities



CONSEQUENCE

Correlation between bank risk and sovereign risk

This appears in 2010 when the home bias which manifested itself in the interbank after 2008 took the specific form of rebalancing government bonds holding in favor of domestic

It gets worse in 2011 when Italy and Spain get affected by the sovereign crisis

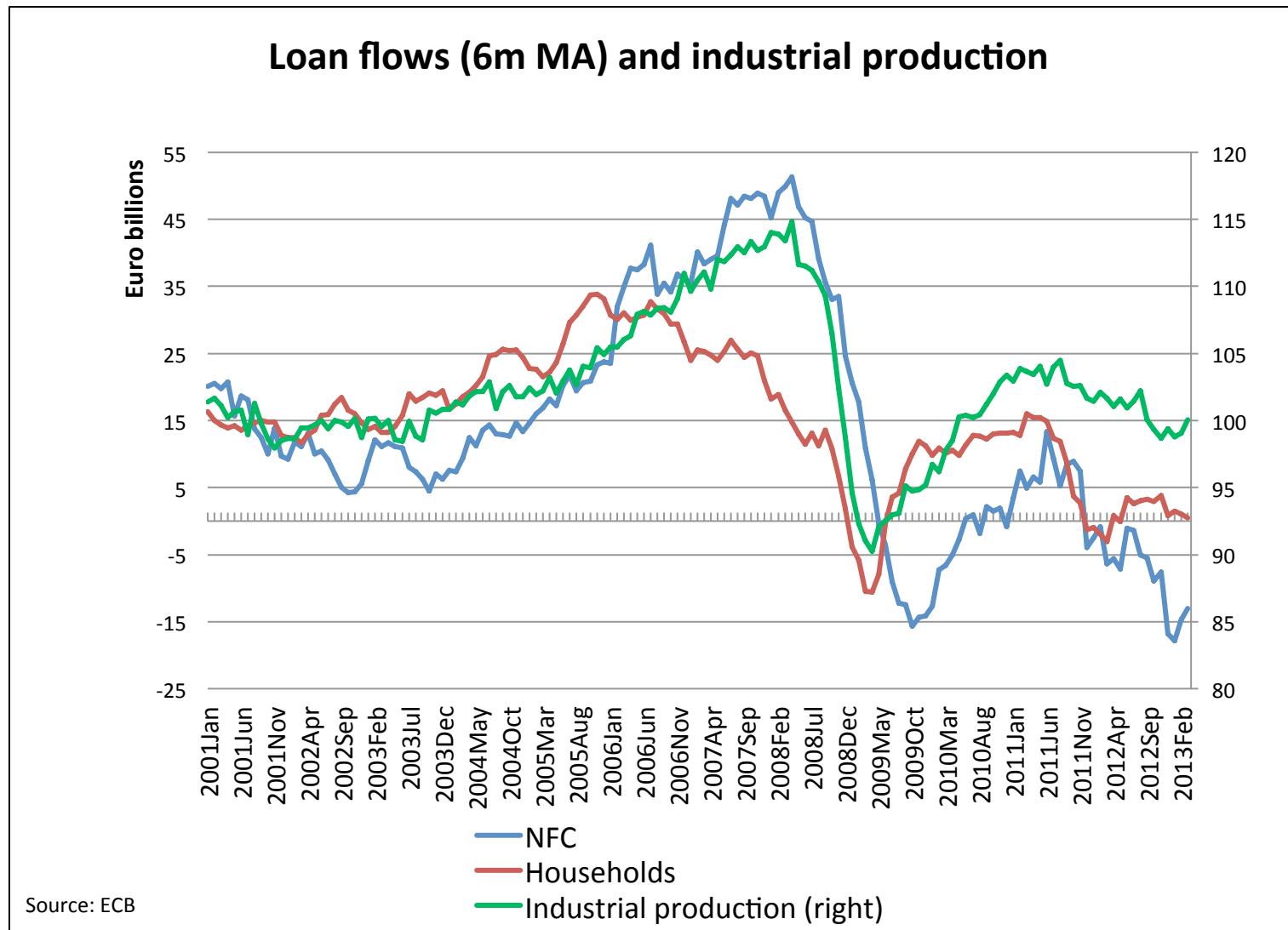
CONTAGION THROUGH SOVEREIGN MARKET – KEY FACTOR OF THE SECOND CRISIS IS HOME BIAS+ACQUISITION OF SOVEREIGN DEBT FROM BANKS

Literature

Bolton and Jeanne 2011 have made the point that in a financially integrated market banks buy cross border sovereign bonds to diversify risk but assume risk of contagion in case of crisis. After the crisis there is an under-supply of safe government bonds and over-supply of risky bonds. Safer countries extract rent

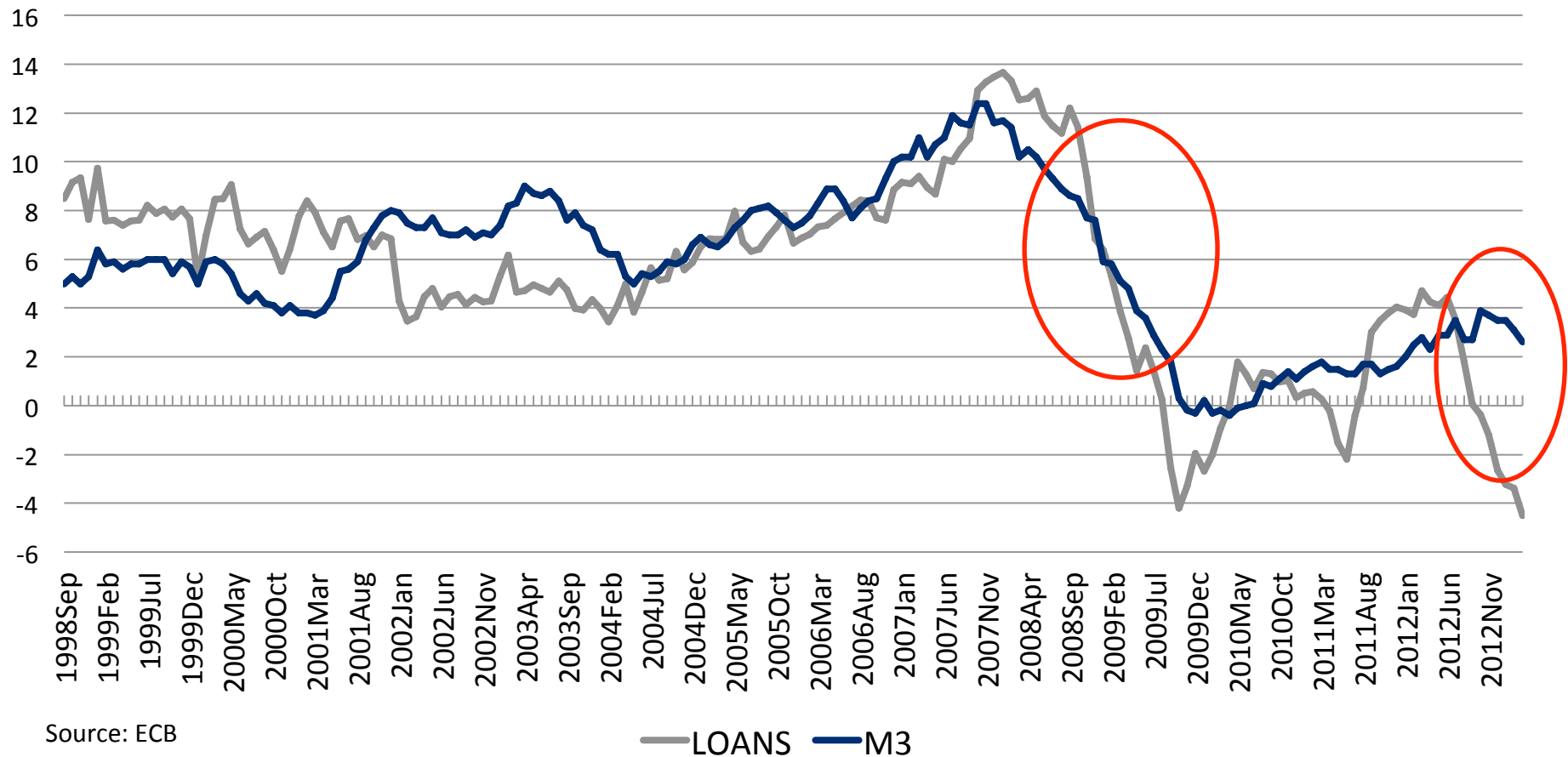
The data support this story and suggest that contagion between sovereign and banks is even more dangerous if there is a combination of financial integration + banks based financial system + banks intermediation in sovereign bonds market

LOANS VOLATILITY: larger drop in the second cycle, conditionally to real economy



DECOUPLING BETWEEN MONEY AND CREDIT INDICATES RELATIVE STABILITY OF DEPOSITS AGAINST AN OVERALL DECREASE IN THE SIZE OF MFI BALANCE SHEETS

Money and credit (YoY growth)

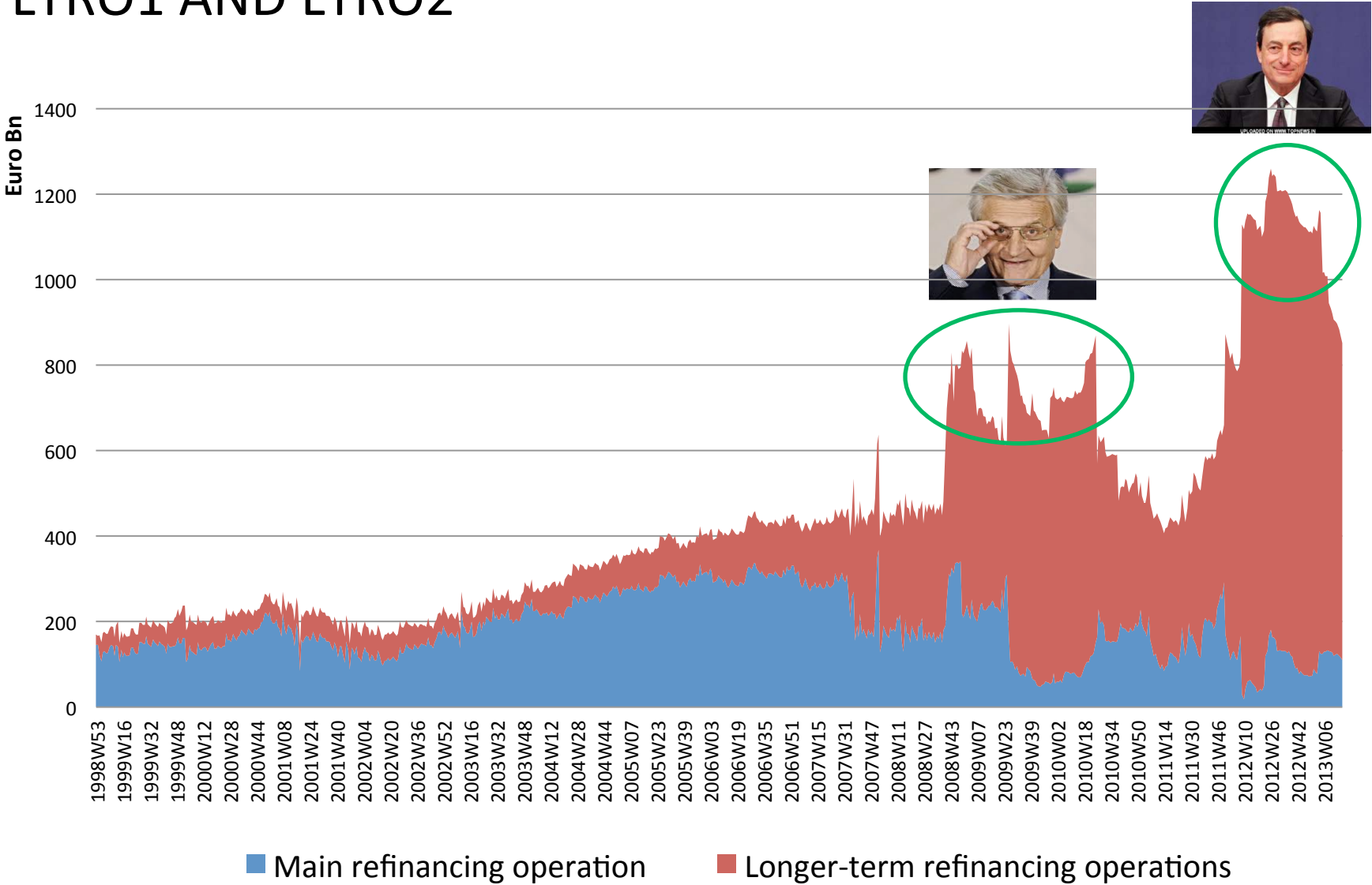


Source: ECB

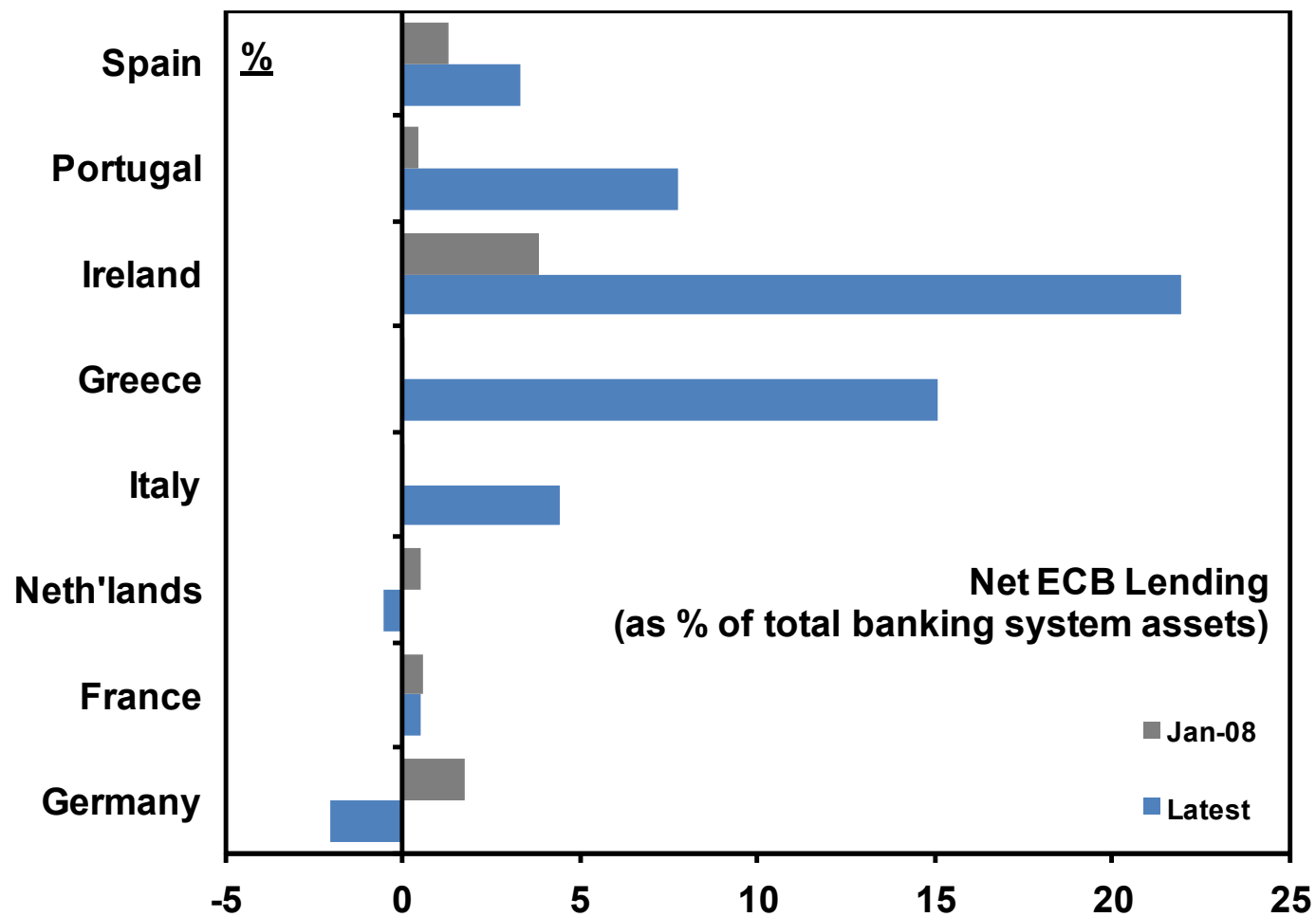
ECB RESPONSE TO THE SOVEREIGN CRISIS AND ITS EFFECTIVENESS

- The central bank by providing liquidity to banks in the periphery in order to deal with financial stability risks ends up assuming fiscal risk (link between monetary and fiscal policy).
- This allows the safer North to extract the rent (the risk of their banks are transferred to the ECB and interest rates are depressed by the scarcity of safe assets)
- Standard monetary policy (geographical transmission of interest rates) is impaired

LTRO1 AND LTRO2



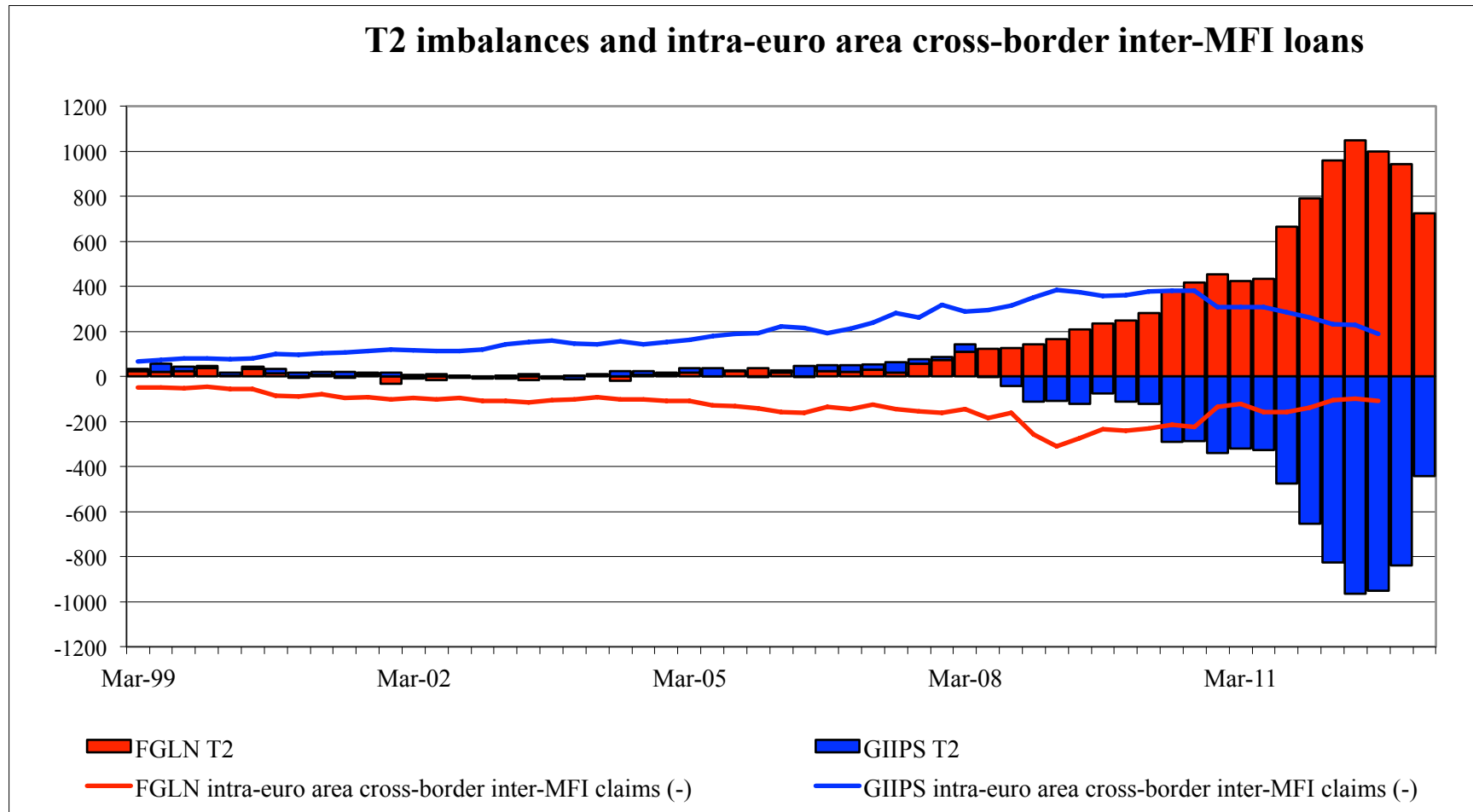
BANKS BECOME INCREASINGLY DEPENDENT ON THE ECB: SPAIN AND ITALY ONLY AFTER 2011q3



Source: National Central Banks

THE ECB REPLACES THE MARKET: IN THE SECOND CRISIS CLEAR GEOGRAPHICAL CONNOTATION

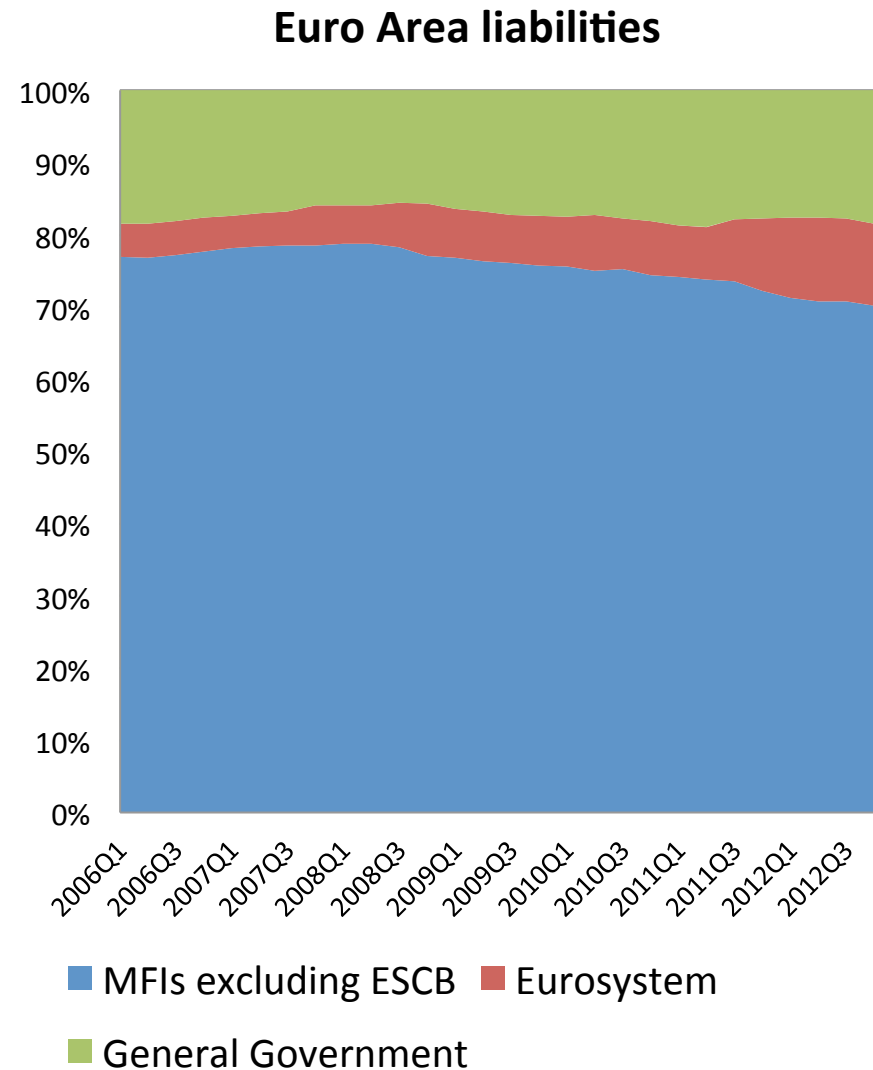
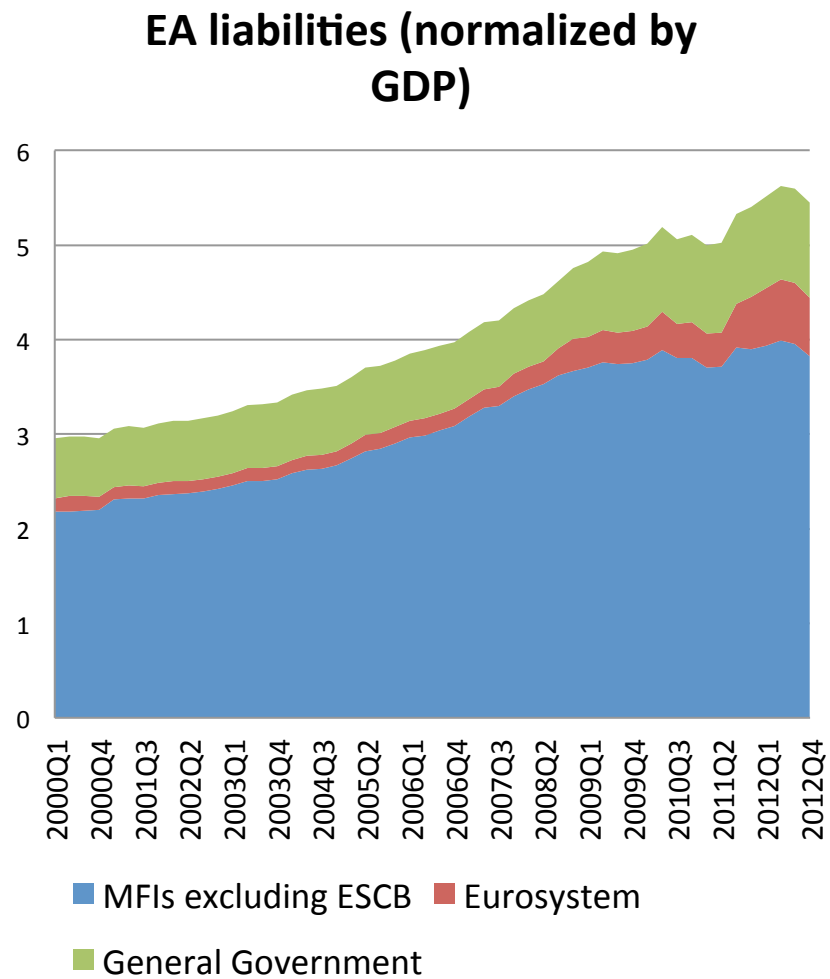
Target 2 imbalances



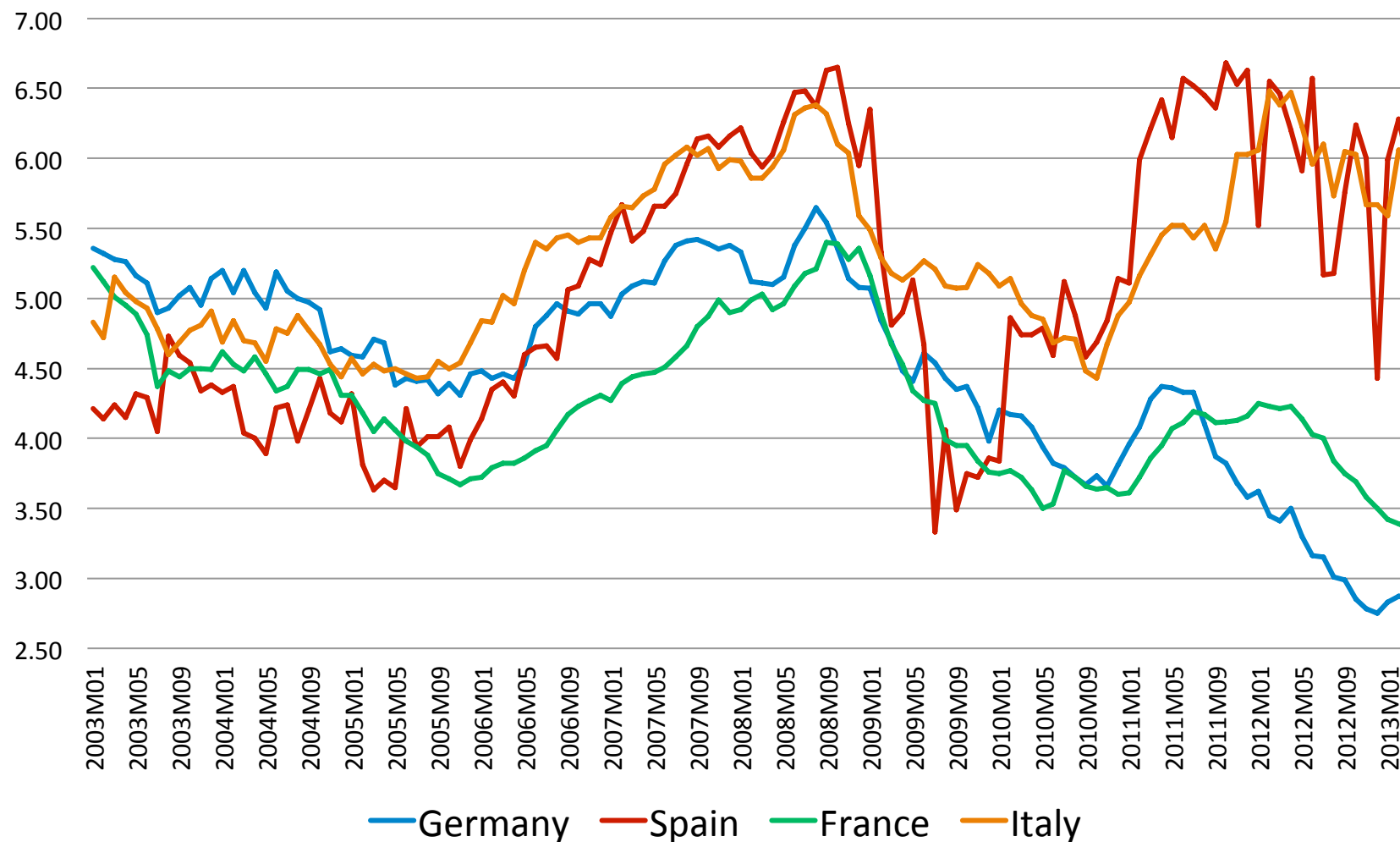
**FGLN = France, Germany, Lux
and Netherlands**

**GIIPS = Greece, Ireland, Italy,
Portugal, Spain**

BANKS, GOVERNMENT AND EURO-SYSTEM LIABILITIES: very little adjustment of size in total

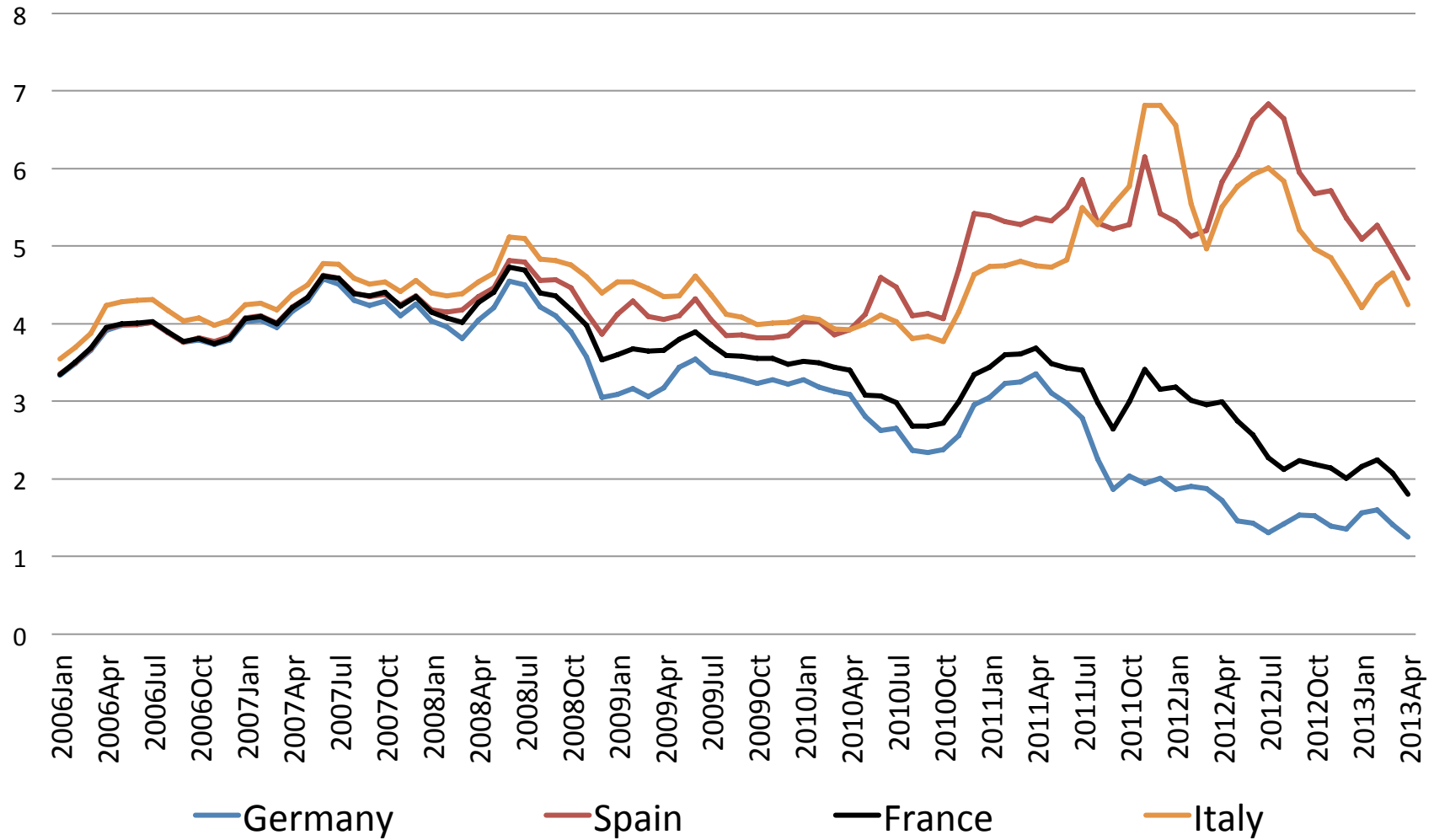


INTEREST RATES ON LOANS TO CORPORATES



MFI interest rates - Loans to non-financial corporations, new business. Maturity: over 5 years. Value: 1 million euros or less. Source: Eurostat.

... REFLECT INTEREST RATES ON GOV'T BONDS



Source: Banque de France

What have we learned?

It is all about banks and the perils of financial integration

Two types of amplification mechanisms of global shocks:

-- from banks to banks (first crisis)

-- from sovereign to banks and viceversa (second crisis)

The central bank has the tools to deal with the first problem (Padoa Schioppa's conjecture) even when counter-party risk is generalized but if factors lead to the postponement of dealing with solvency (.....), the central bank cannot deal with the second problem.

Two issues:

1. Geographical risk in their balance sheet and hidden redistribution effects
2. Impairment of transmission of interest rates