

# The Financial Crisis and Policy Responses



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Disclaimer: Any opinions expressed are only the author’s own and should not be regarded as opinions of the European Central Bank or the Eurosystem. Some of the figures used in the charts and tables may change around the time of the presentation. In general, data available until around mid/end February could be considered.

# Introduction



- We currently experience a truly **systemic financial crisis** (De Bandt and Hartmann, 2000; De Bandt, Hartmann and Peydro-Alcalde, 2008)
- Raises issues with regard to many aspects of the functioning of modern financial systems
- Has severe implications for **growth and welfare worldwide**
- Today's focus: What has happened and how does policy respond?
- Relevant for all dimensions of the **international financial architecture**
  - Regulation and supervision
  - Macroeconomic policy
  - International and European institutions

# Outline



- **Short overview of the crisis and its origins**
- **Crisis management**
  - **Central banks**
  - **Governments and supervisory authorities**
  - **Considering macroeconomic developments**
- **Addressing structural weaknesses**
- **Relationships between financial integration and financial stability**
  
- **Overall: Good deal of modesty or even humbleness**



# Short overview of the crisis and its origins

# Short overview of the crisis



- Sources: Building up of imbalances
  - **Macro**: Global imbalances and low interest rates
  - **Financial**: High liquidity, low volatility and risk premiums
  - “**Search for yield**” and **herding behaviour** fuelled complex and intransparent credit innovations and enhanced leverage
  - Incentive (governance, short-termism, compensation, regulatory arbitrage etc.), valuation and risk management problems
- Triggers: Emerging tensions in credit markets
  - Main factor: 2006-07 rising **delinquencies in US “sub-prime”** mortgages
  - 06/07: Break down of 2 Bear Stearns hedge funds and rising CDS premiums
  - Generalised **re-pricing of risk** (ABS und CDO ratings, AAA CDO index tranches)

# Short overview



- Emergence of systemic risk
  - 08/07: Sharp increase in money market rates and volatility
  - Failures/bailouts of some medium-sized banks
  - Central bank intervention necessary as major **money markets became dysfunctional**
  - But medium-term money market rates remain stubbornly high
- “Waves” of tensions and relaxations (09/07-08/08)
  - Increasing losses of LCFIs
  - Problems of monoline credit insurers
  - 03/08: **Bear Stearns** takeover (“too complex to fail”)
  - 07/08: Rescue plan for Fannie Mae and Freddie Mac
  - Economic slowdown in **US** and significant uncertainty in **EU**

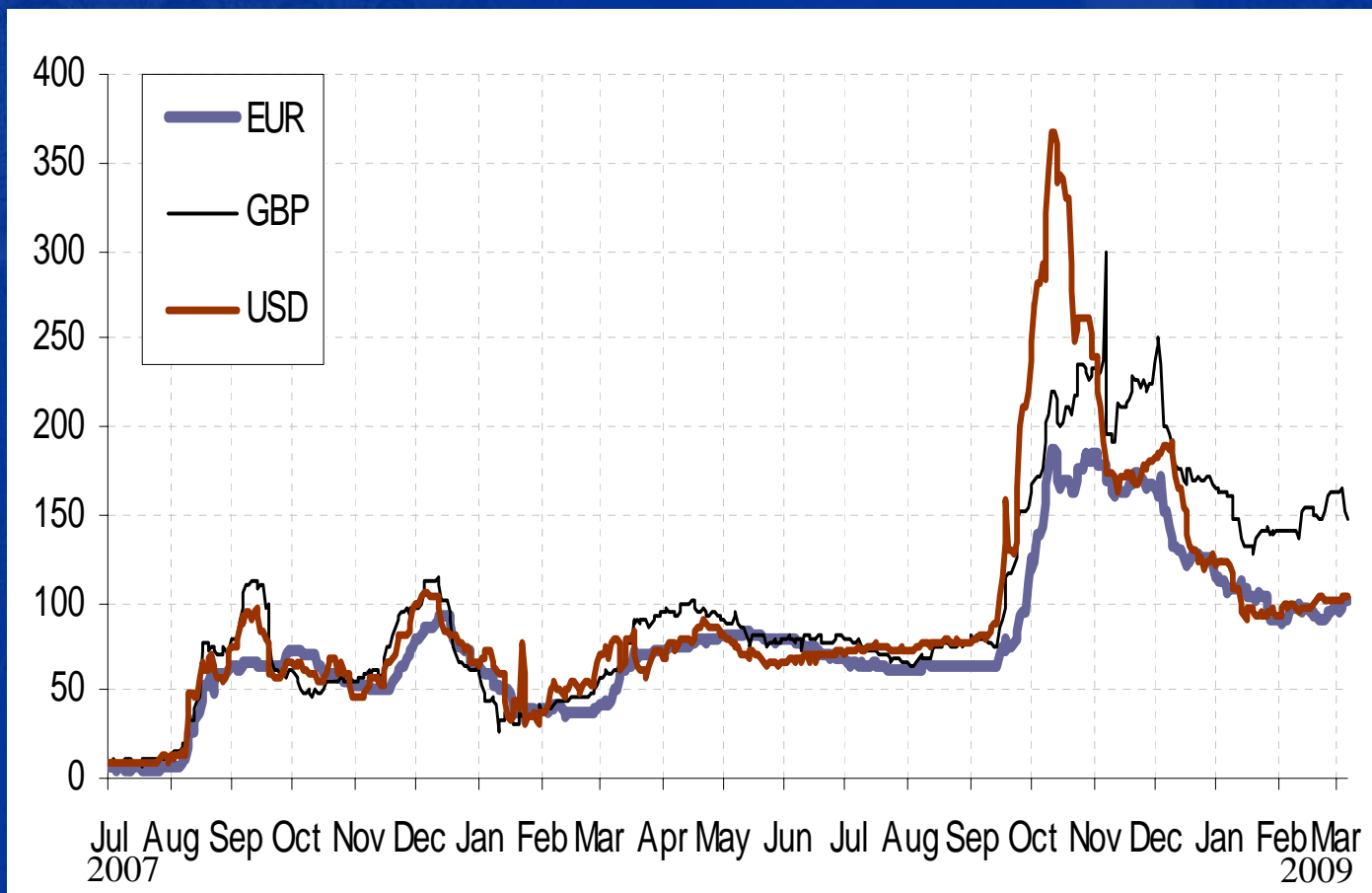
# Short overview



- General loss of confidence since 09/08
  - Important factor: **Lehman Brothers** failure
  - Dramatic further increase of medium money market spreads
  - „Conservatorship“ of Fannie Mae und Freddie Mac
  - Bailout of **AIG** and takeover of **Washington Mutual**
  - Announcement and negotiations about **TARP**
  - End of the **US** investment banking model
  - Transmission to Europe
    - **Dexia, Fortis, HBOS, Hypo Real Estate, Royal Bank of Scotland** etc.
    - Economic downturn also reaching Europe
  - Transmission to emerging market economies
- Since then **progressive worsening of the economic outlook worldwide**

# Three crisis phases illustrated in term market

## 3-month LIBOR minus OIS rates (basis points)



# Structure of policy responses



**Crisis management**

**Enhancing resilience/  
addressing structural  
weaknesses**

**Central banks**

**Governments and  
supervisors**



# Central bank crisis management

# Central bank crisis management

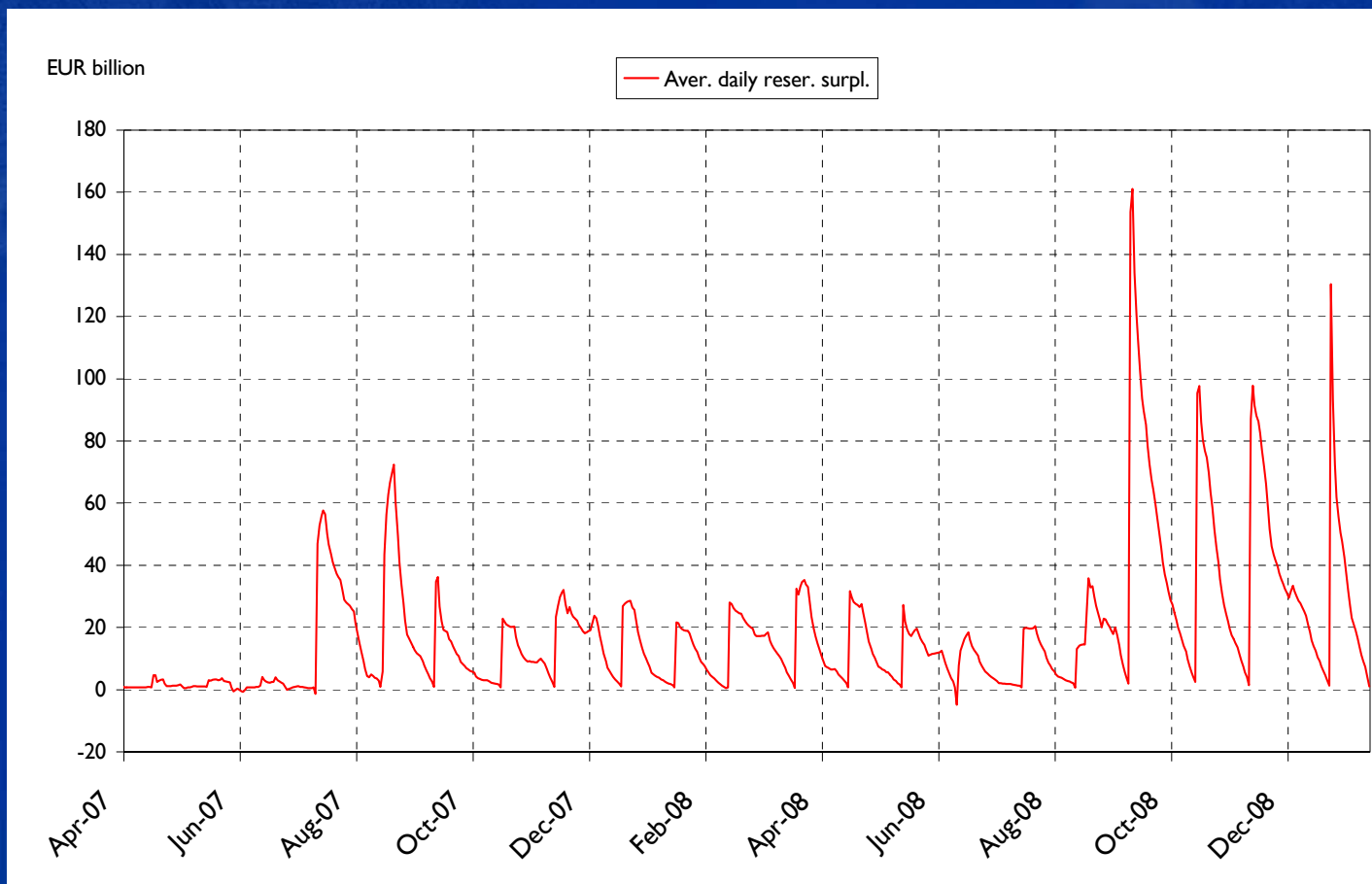


- **Market operations**
  - Liquidity provision (to the market)
  - Wide range of counterparties, collateral and maturities
  - Even foreign currency liquidity and collateral
  - ECB: Separation principle
- **Monetary policy**
  - Depends also on the mandate of the CB
  - Question of relative effectiveness (e.g. zero bound)
  - May lay the ground for future bubble if interest rates “too low for too long”
  - Non-standard measures (“Quantitative easing”)?
- **Advice to governments**

# ECB market operations



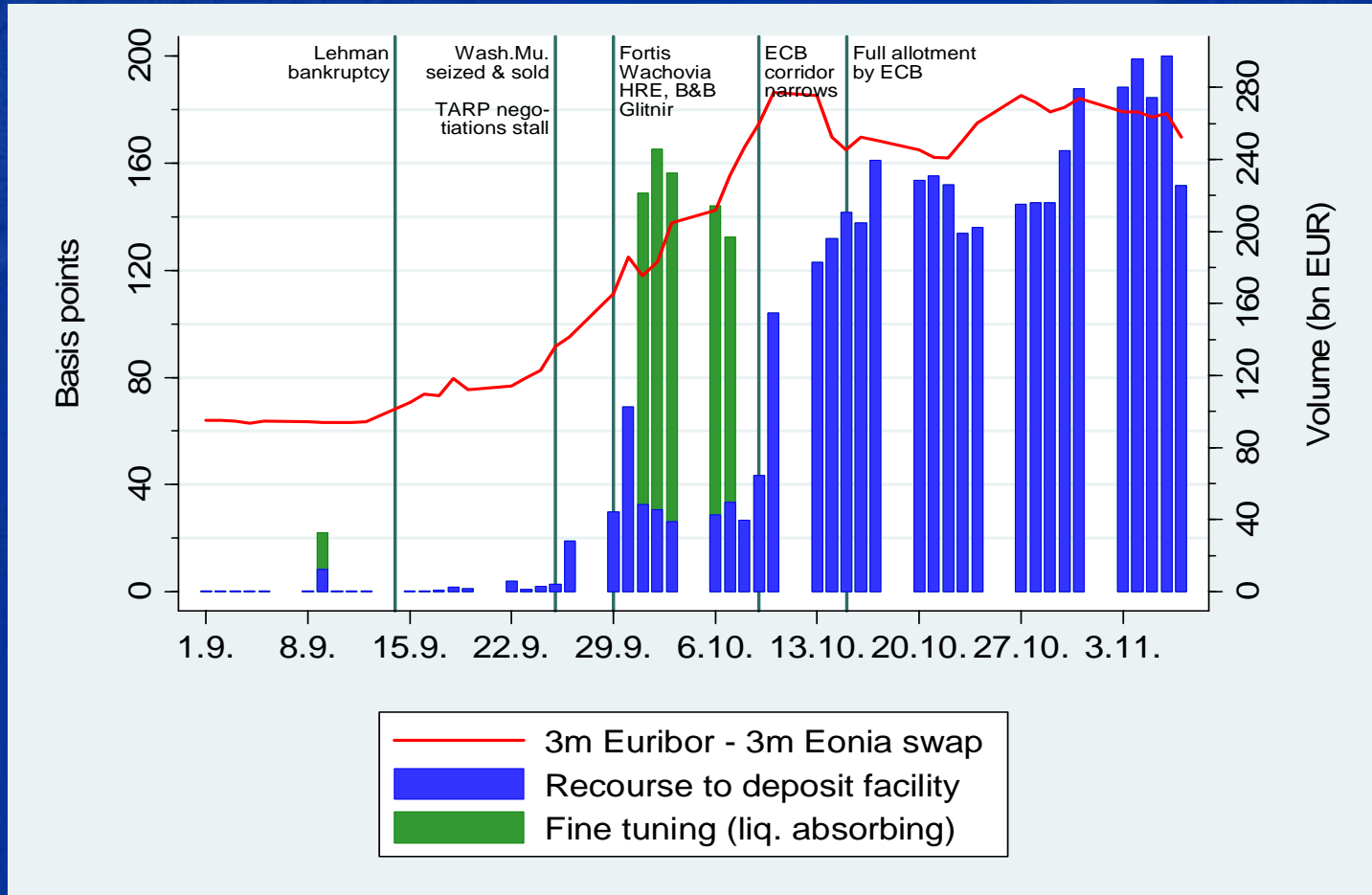
## “Frontloading” (08/07-09/08; bn. EUR)



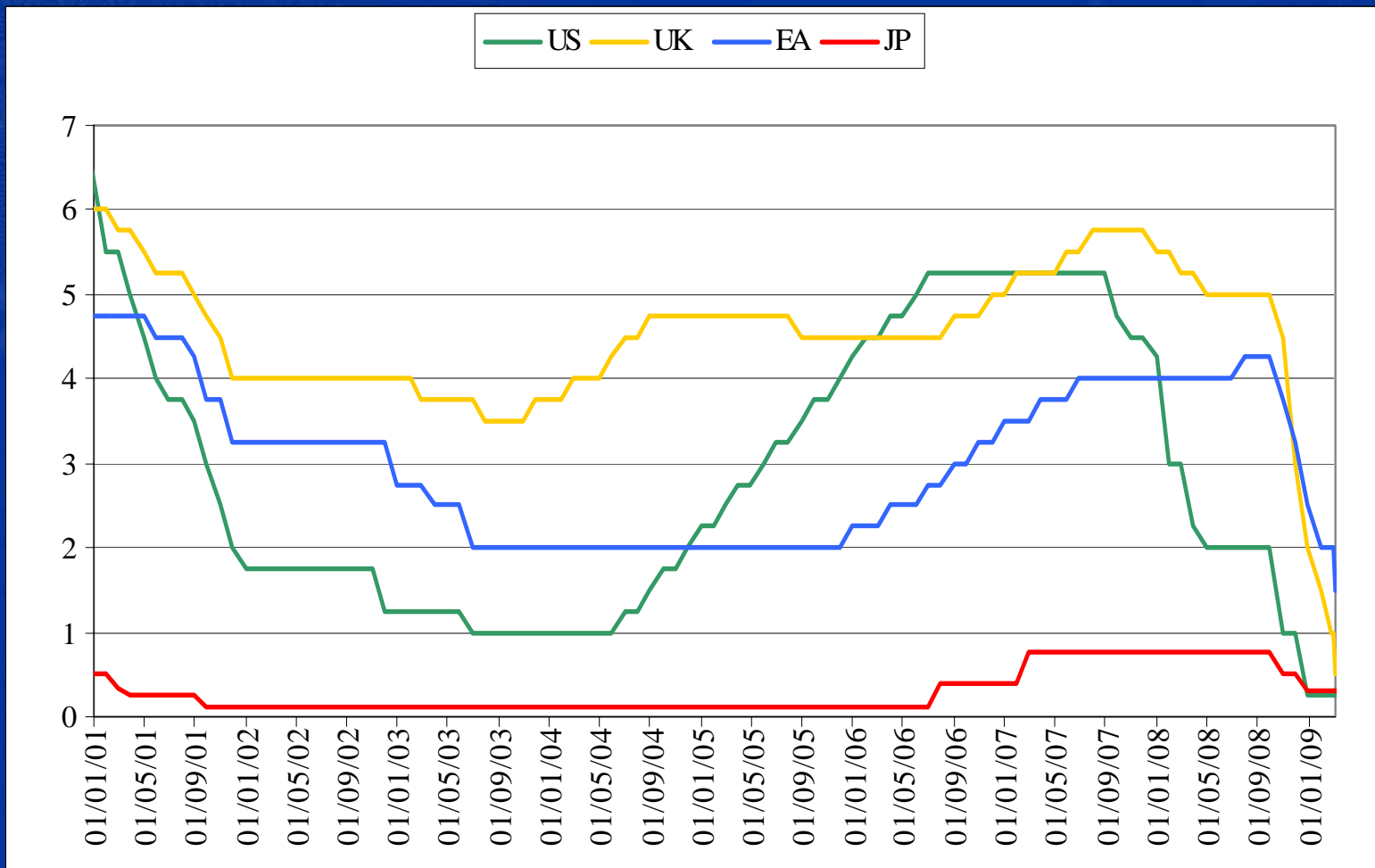


# ECB market operations

## “ Full allotment” (10/08-...)



# Monetary policy (policy rates, %)





# Government and supervisory crisis management

# Government and supervisory crisis management

- **Stabilisation plans** start with US draft TARP proposal (20 September 2008), adopted 3 October
- UK support package 8 October
- Euro area Paris summit 12 October
- Main elements of financial stabilisation plans
  - Recapitalisation programs
  - Asset purchase or swap arrangements (only a few countries so far)
  - Funding guarantee schemes (interbank deposits?)
- Programs may change over time, e.g. US TARP
  - from mortgage purchases to recapitalisations to loan modifications for households and non-financial firms back to asset purchases

# National stabilisation programs (bn. EUR)

	Ceilings			(as of Feb 20, 2009)	
	Capital injections	Guarantees	Asset purchase/swaps	Total commitment	Ceilings Commitment (% of GDP)
Austria	15	75	0	90 *	33%
Belgium	0	99	0	99	5%
Cyprus	0	0	0	0	
Finland	4	50	0	54	30%
France	40	320	0	360	19%
Germany	80	400	0	480 *	20%
Greece	5	15	8	28	12%
Ireland	10	485	0	495 *	260%
Italy	20	0	40	60	4%
Luxemburg	0	0	0	0	
Malta	0	0	0	0	
Netherlands	20	200	0	220	42%
Portugal	4	20	0	24	15%
Slovakia	0	0	0	0 *	
Slovenia	0	12	0	12 *	35%
Spain	0	100	50	150	14%
<b>Euro area</b>	<b>198</b>	<b>1,776</b>	<b>98</b>	<b>2,072</b>	<b>23%</b>
Sweden	1	142	0	143	49%
United Kingdom	55	273	55	383	25%
<b>Europe total</b>	<b>259</b>	<b>2,246</b>	<b>194</b>	<b>2,699</b>	<b>22%</b>
US	191	1,767	1,062	3,020	29%
<b>Grand Total</b>	<b>450</b>	<b>4,615</b>	<b>1,256</b>	<b>6,321</b>	<b>27%</b>

Source: Public information by national authorities

\* Unlimited deposit insurance, not included in guarantees except for Ireland

EUROPEAN CENTRAL BANK

# National stabilisation programs (bn. EUR)

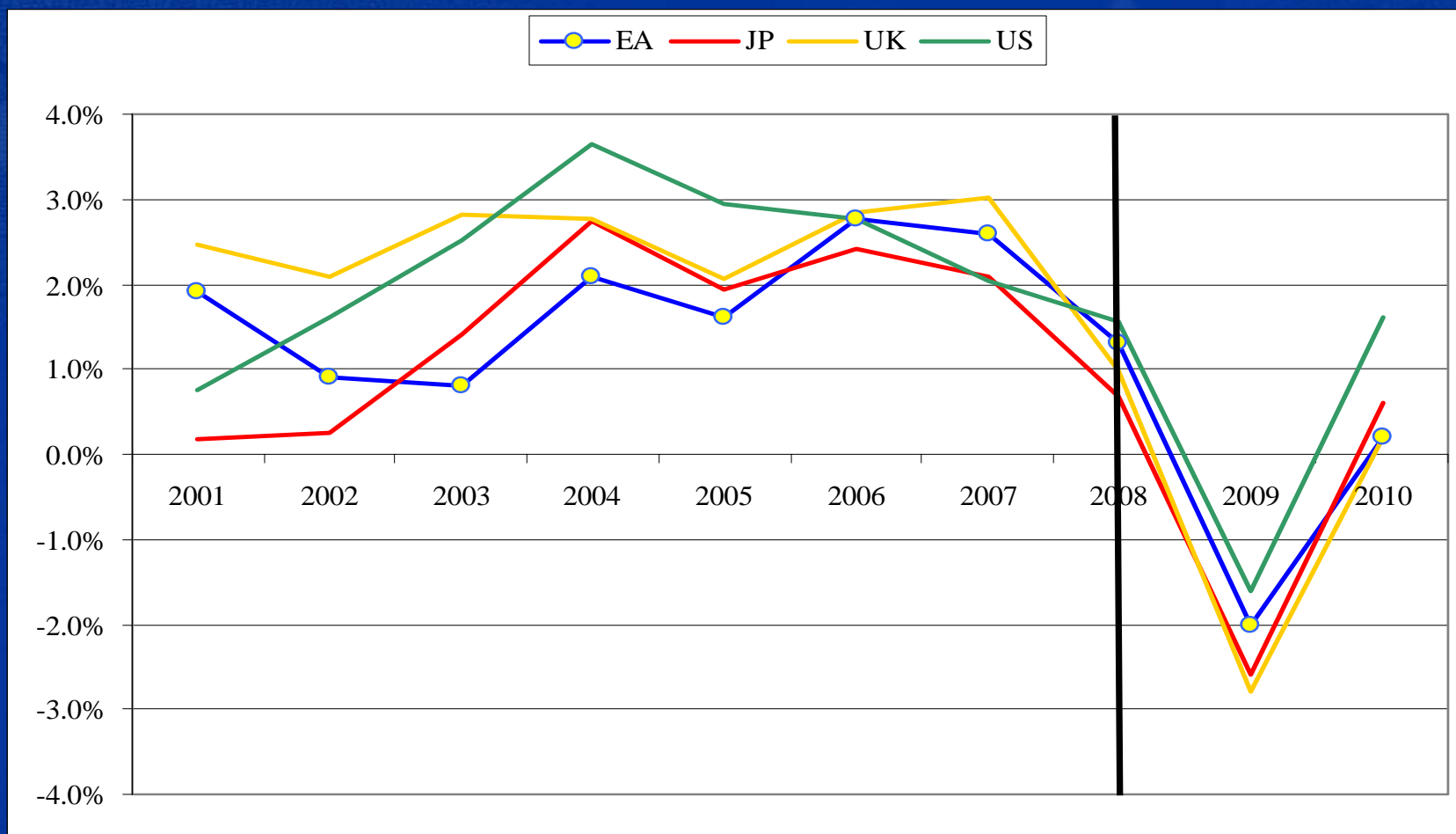
	Issued or injected			(as of Feb 20, 2009)	
	Capital injections	Guarantees	Asset purchase/swaps	% of the Total commitment	Issued or injected Commitment (% of GDP)
<b>Austria</b>	7	5	0	14%	5%
<b>Belgium</b>	18	91	0	110%	6%
<b>Cyprus</b>	0	0	0		
<b>Finland</b>	0	0	0	0%	0%
<b>France</b>	16	93	0	30%	6%
<b>Germany</b>	44	155	0	41%	8%
<b>Greece</b>	3	1	4	25%	3%
<b>Ireland</b>	9	11	0	4%	10%
<b>Italy</b>	0	0	0	0%	0%
<b>Luxemburg</b>	3	5	0		
<b>Malta</b>	0	0	0		
<b>Netherlands</b>	31	17	0	22%	9%
<b>Portugal</b>	0	4	0	18%	3%
<b>Slovakia</b>	0	0	0		
<b>Slovenia</b>	0	0	0	0%	0%
<b>Spain</b>	0	6	9	10%	1%
<b>Euro area</b>	<b>131</b>	<b>387</b>	<b>13</b>	<b>26%</b>	<b>6%</b>
<b>Sweden</b>	0	12.4	0	9%	4%
<b>United Kingdom</b>	40	58	0	26%	6%
<b>Europe total</b>	<b>176</b>	<b>467</b>	<b>54</b>	<b>26%</b>	<b>6%</b>
<b>US</b>	243	423	40	23%	7%
<b>Grand Total</b>	<b>418</b>	<b>936</b>	<b>94</b>	<b>23%</b>	<b>6%</b>

# Other interventions



- **Mergers and acquisitions**
- **Nationalisations**
- **Relaxation of IAS39**
- **Short-sale restrictions for financial stocks (SEC September 2008, other countries introduce them as well)**
- **Support of non-financial firms?**

# Sharp deterioration of growth outlook (GDP)



# Downward revisions of growth forecasts



## Euro area

	Release	2008		2009		2010	
OECD	25-Nov-08	1.0	(-0.1)	-0.6	(-0.1)	1.2	-
ECONOMIST	10-Jan-09	0.7	(-0.2)	-1.4	(-0.5)	-	-
EU COMMISSION	19-Jan-09	0.9	(-0.3)	-1.9	(-2.0)	0.4	(-0.5)
SPF 2009Q1 *	15/21-Jan-09	-	-	-1.7	(-2.0)	0.6	(-0.8)
IMF	28-Jan-09	1.0	(-0.2)	-2.0	(-1.5)	0.2	(-0.7)
CONSENSUS ECONOMICS	09-Feb-09	0.9	(-0.1)	-2.0	(-0.6)	0.7	(-0.1)
EURO ZONE BAROMETER	09-Feb-09	0.8	(-0.1)	-1.9	(-0.4)	0.7	(-0.2)
Eurosystem Staff Projections	05-Mar-09	0.8	-	-3.2/ -2.2	(-2.2/ -2.2)	-0.7/ 0.7	(-1.2/ -0.8)

\* Survey of Professional Forecasters

# Budgetary support to economic activity\*



	Change in budget deficit 2009/10				
	Total	Change in cyclically adjusted balance	Estimated impact automatic stabilisers	2009	2010
% of GDP					
<b>Austria</b>	3.0	1.4	1.6	2.4	0.6
<b>Belgium</b>	3.5	1.2	2.3	2.2	1.3
<b>Cyprus</b>	2.0	1.3	0.7	1.6	0.4
<b>Finland</b>	4.0	2.1	1.9	2.5	1.5
<b>France</b>	1.8	0.2	1.6	2.3	-0.5
<b>Germany</b>	4.1	2.3	1.8	2.8	1.3
<b>Greece</b>	0.7	-1.0	1.7	0.2	0.5
<b>Ireland</b>	6.7	5.0	1.7	4.7	2.1
<b>Italy</b>	0.9	-0.6	1.5	1.0	-0.1
<b>Luxemburg</b>	4.4	2.1	2.3	2.6	1.8
<b>Malta</b>	-1.0	-1.6	0.6	-0.9	-0.1
<b>Netherlands</b>	3.9	1.5	2.4	2.5	1.3
<b>Portugal</b>	2.3	1.1	1.2	2.4	-0.1
<b>Slovakia</b>	1.4	0.0	1.4	0.7	0.7
<b>Slovenia</b>	1.8	0.0	1.8	2.2	-0.4
<b>Spain</b>	2.3	0.5	1.8	2.8	-0.5
<b>Euro area-16</b>	<b>2.7</b>	<b>0.9</b>	<b>1.7</b>	<b>2.3</b>	<b>0.4</b>
<b>United Kingdom</b>	5.0	3.1	1.9	4.2	0.8
<b>EU-27</b>	<b>2.8</b>	<b>1.1</b>	<b>1.7</b>	<b>2.4</b>	<b>0.4</b>

Source: European Commission (January 2009)

\* Excluding measures only affecting debt (e.g. equity injections into private companies) and outside budget (e.g. activities by public companies)

# Outlook



- How can **confidence** be re-established?
- Tackle the sources and not the symptoms
- Key question: Treatment of **“toxic” assets**
- Central bank liquidity policies will not be enough
- Stabilisation programs of governments help, but have not triggered a decisive turnaround so far
- Losses can still increase and exceed capital injections
- Need bad assets be removed from banks‘ balance sheets?  
**“Bad Bank” proposals**
- Justify the benefits for the real economy the fiscal costs?
- Transition from crisis management to structural solutions  
**(“Ordnungspolitik”, regulatory reforms)**



# Addressing structural weaknesses and enhancing resilience

# Addressing structural weaknesses: 3 initiatives

- **Financial Stability Forum (FSF) report** “Enhancing market and institutional resilience”
  - Request by G-7 ministers and governors in October 2007
  - Causes, underlying weaknesses and recommended actions
  - Approved at 11-12 April 2007 G-7 meeting in Washington
  - Pursued since then
- **G-20 summit on the international financial architecture**
  - Washington 15 November 2008 integrating major emerging market countries
  - Adopted action plan
  - Next summit London 2 April 2009

# Addressing structural weaknesses



- **De Larosière report (High-level Group on Financial Supervision in the EU)**
  - Request by European Commission in October 2008
  - Make proposals to strengthen European supervisory arrangements covering all financial sectors
    - How to organise supervision of European institutions and markets
    - How to strengthen European cooperation on financial stability oversight
    - How to cooperate with other jurisdictions in the world on financial stability
  - Report delivered in February 2009
  - Receives political support (with some criticism)

# FSF report



- **Concrete actions in five areas**
  - Prudential oversight of capital, liquidity and risk management
  - Transparency and valuation
  - Role and uses of credit ratings
  - Authorities' responsiveness to risks
  - Arrangements for dealing with stress in the financial system
- **Overall more than 60 recommendations**
- **Ambitious timing (100 days/end 2008)**
- **Includes follow ups for all relevant parties**
  - Bank, market and insurance supervisors, central banks, FSF, IMF, market participants (underwriters, investors etc.), credit rating agencies, accounting standard bodies, auditors

# G-20 communiqué



- Reinforces and builds on FSF report
- Action plan
  - Strengthening transparency and accountability
  - Enhancing sound regulation
  - Prudential oversight
  - Risk management
  - Promoting integrity in financial markets
  - Reinforcing international cooperation
  - **Reforming international financial institutions**
- Immediate actions by March 2009, other “medium term”
- Missing pieces on international architecture and macroeconomic policies?

# De Larosière report



- 31 recommendations
- Policy and regulatory repair, including
  - CESR regulating credit rating agencies
  - harmonisation and pre-funding of deposit insurance
- EU supervisory repair, including
  - **Macro-prudential** oversight
    - ECB chair European Systemic Risk Council (ESRC)
    - ECB receive necessary information from national supervisors
  - **Micro-prudential** oversight
    - Decentralised European System of Financial Supervisors (ESFS)
    - Gradually develop level-3 committees in European Authorities
- Global repair (including FSF, IMF)

# Role of regulation and supervision



- Will need to be strengthened and improved
- Better, not necessarily more regulation
- Not credible without enhancing the **quality and quantity of supervisory resources**
  - in micro and macro prudential functions
  - including pay and composition of staff in regulatory authorities
- Still **regulatory lag** unavoidable, but shorten it
- Identity of the **industry, governance practices** very important (see IIF, 2008)
- Has also started to be asked: Is the present overall regulatory approach still appropriate?

# Two hypotheses and a main question



- Some main lessons to be learnt relate to the **build-up phase**: Accumulation of imbalances (incentives and transparency)
- **Similarity to previous crises** or turbulences: Financial innovations or liberalisations followed by boom-bust episode
- General question: Is it possible to attenuate/remove the tendency of financial sectors towards recurrent **boom-bust episodes** without impairing the long-run contribution of finance to growth?



# Financial integration and financial stability

# Basic arguments



## I) Financial integration enhances financial stability

- Provides access to a wider range of assets and therefore helps to **improve diversification of risks**
- **Enhances the liquidity of markets** and hence their resilience to shocks
- **Enhances** liquidity, information and **competitiveness** of markets, which should reduce the likelihood of mispricing in financial instruments
- Enhances competitive pressures, which strengthens market discipline and thereby favours robust and healthy financial institutions in the long term

# Basic arguments



## 2) Financial integration may create new channels for financial instability

- In particular, more **cross-border contagion risk** and faster transmission
- Enhances **bank competition**, which could increase **incentives for risk-taking in the short term**
- It is not clear what the net effects are, so the relationship is ambiguous?
- Welfare assessment is a priori not clear
- What about the reverse causality: Does financial instability impair integration?

# Estimating systemic risk in banking

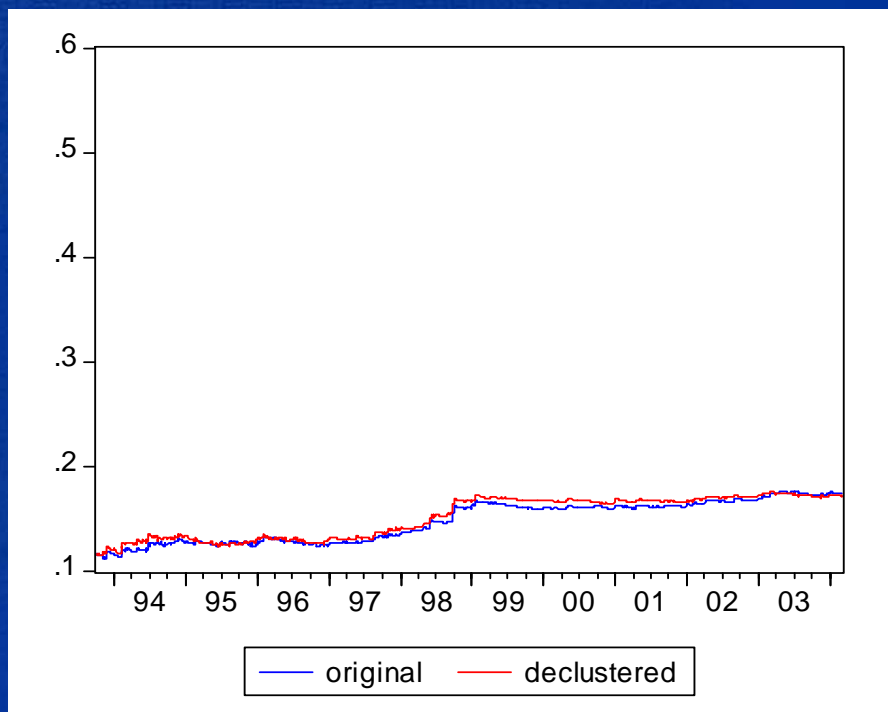


- First perspective: Take periods of banking integration and look how systemic risk evolves
- **Results from extreme value analysis** for euro area and US banks for the period 1992-2004
- Today I focus only on **extreme bank spillover risk** and not on extreme systematic risk
- Multivariate measure  $\eta$  of extreme negative bank stock co-movements (25 LCBOs)
- Hartmann, Straetmans and de Vries (2005), Banking system risk: A cross-Atlantic perspective, for the NBER project on “The Risks of Financial Institutions”

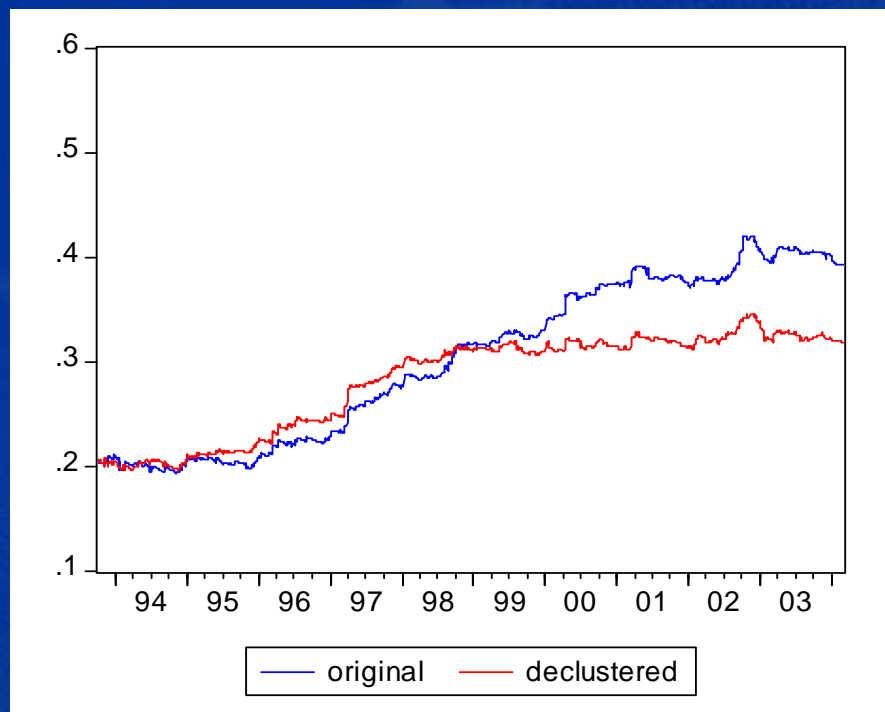
# Evolution in the euro area and US



## Euro area (N=25)

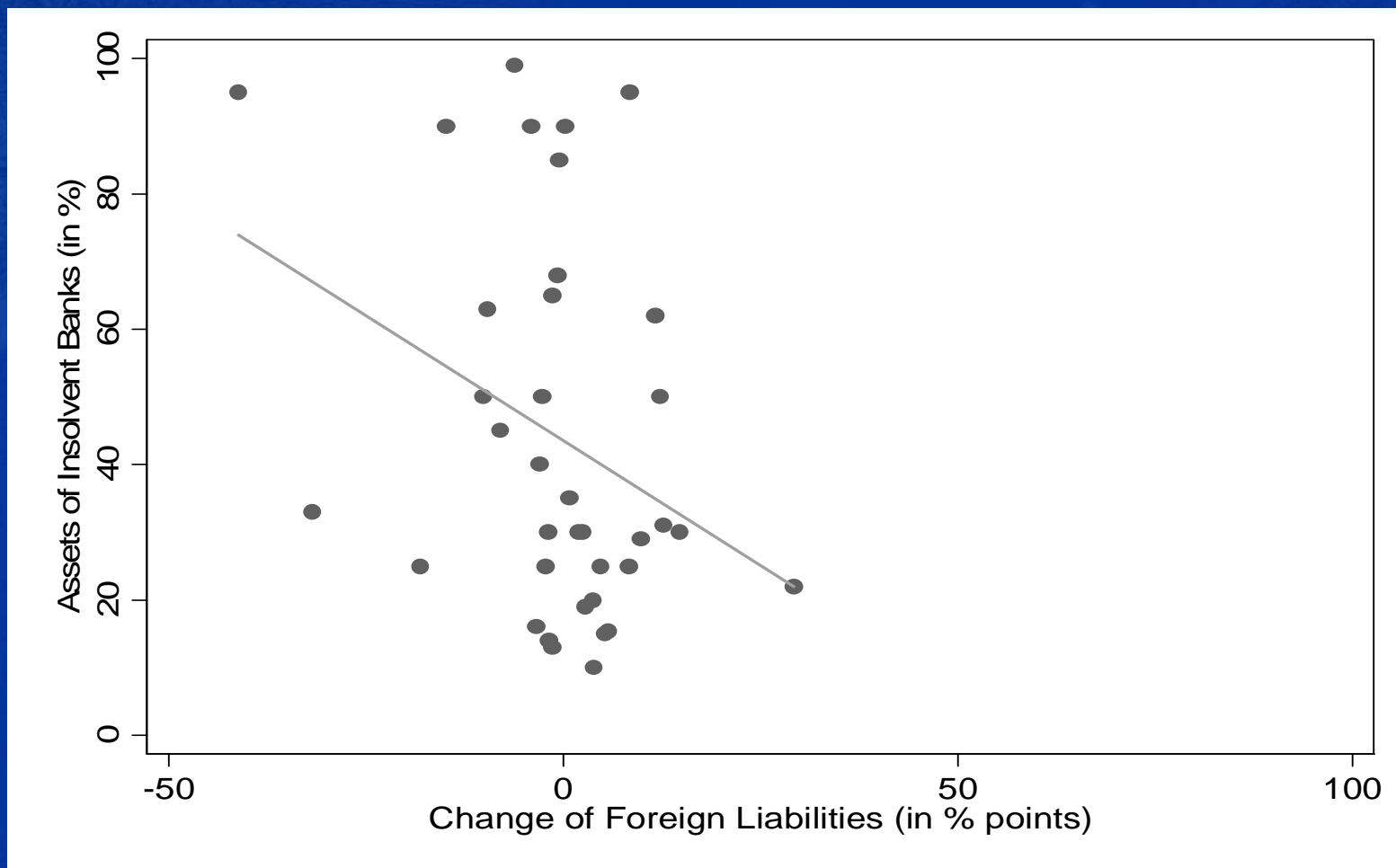


## United States (N=25)

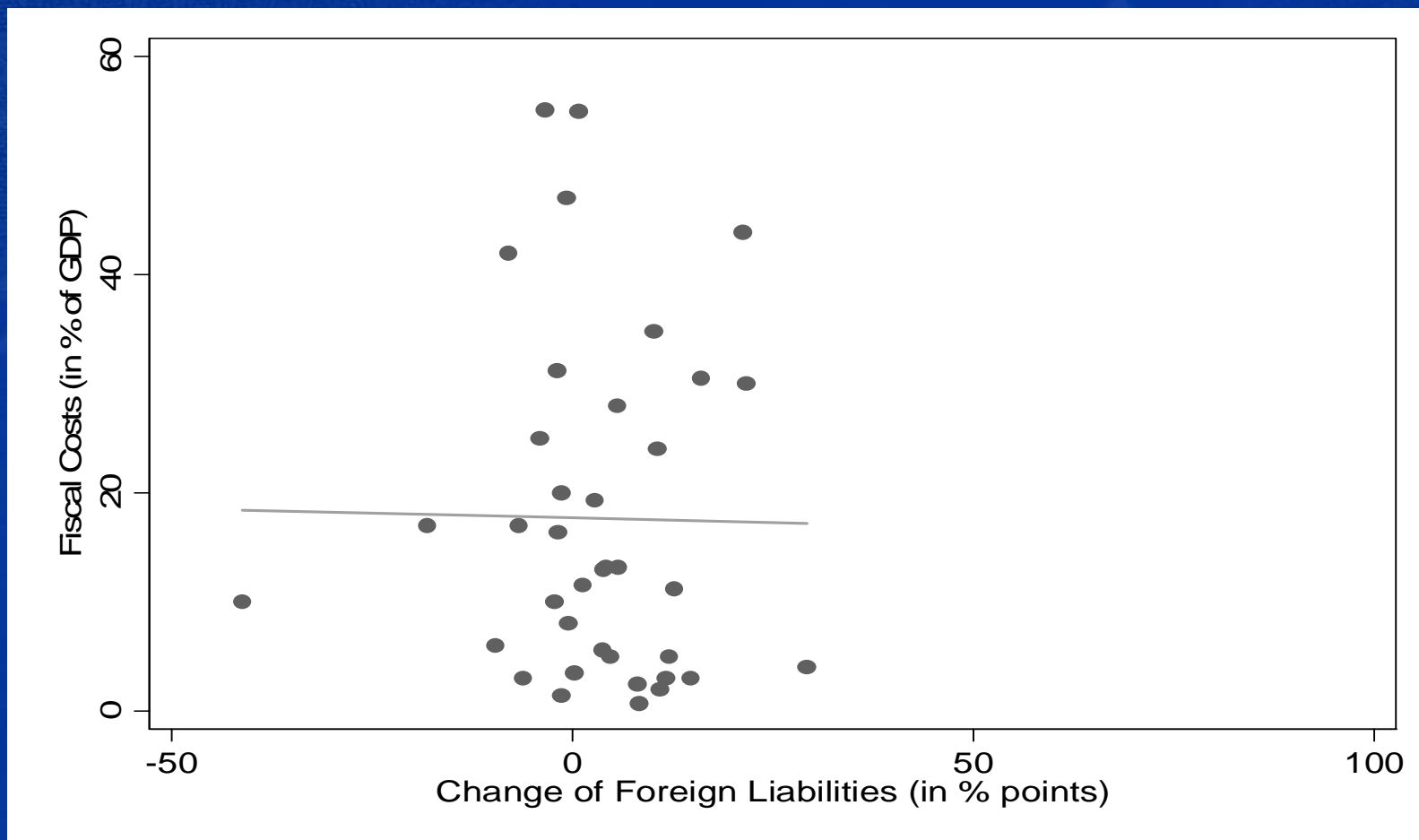


- **Spillover risk increases** on both sides of the Atlantic in the late 90s
- **Very gradual in the euro area**, but structural break 96/97
- **Euro** in January 99 had if anything a **reductionary effect**

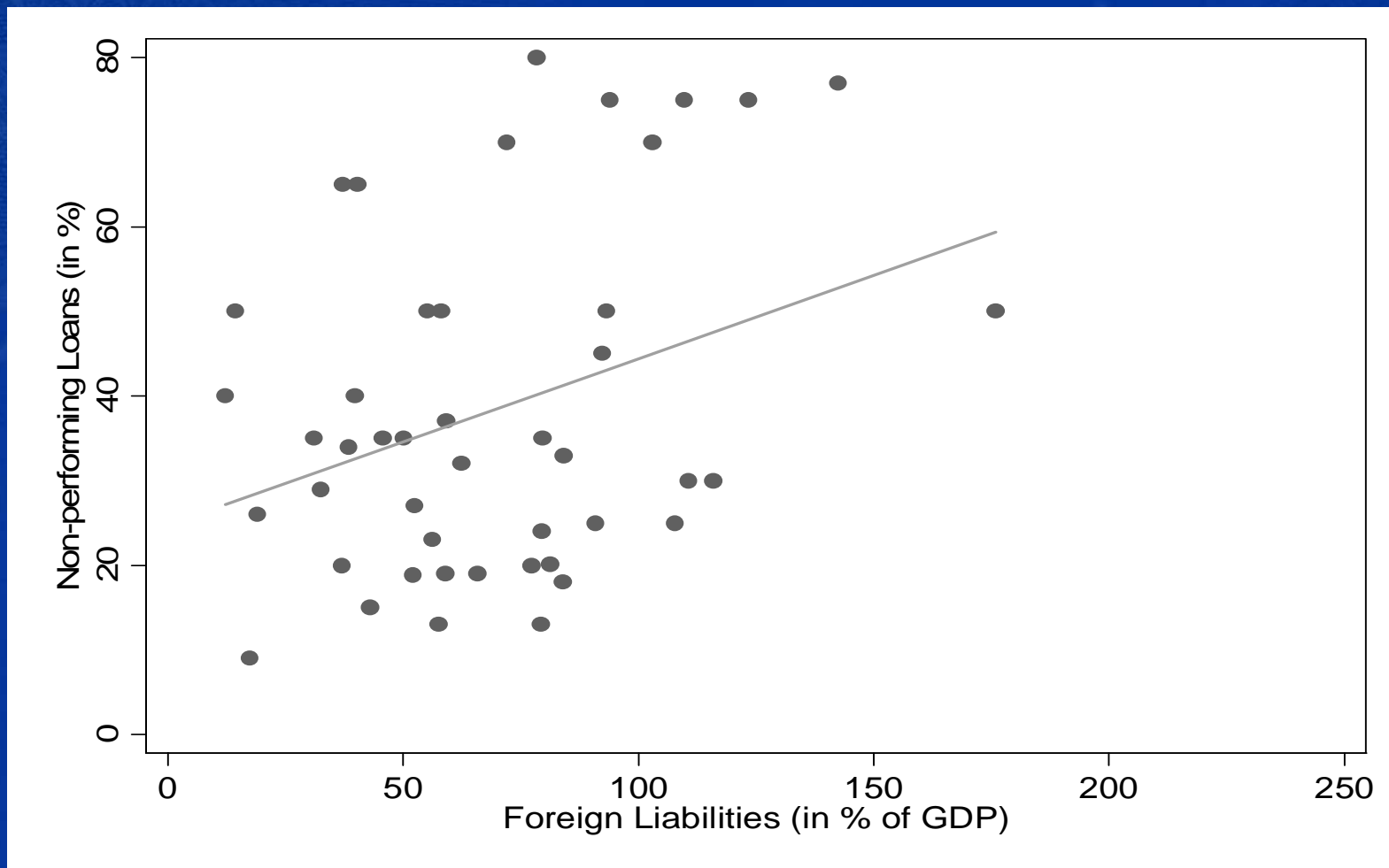
# Financial openness and costs of crises



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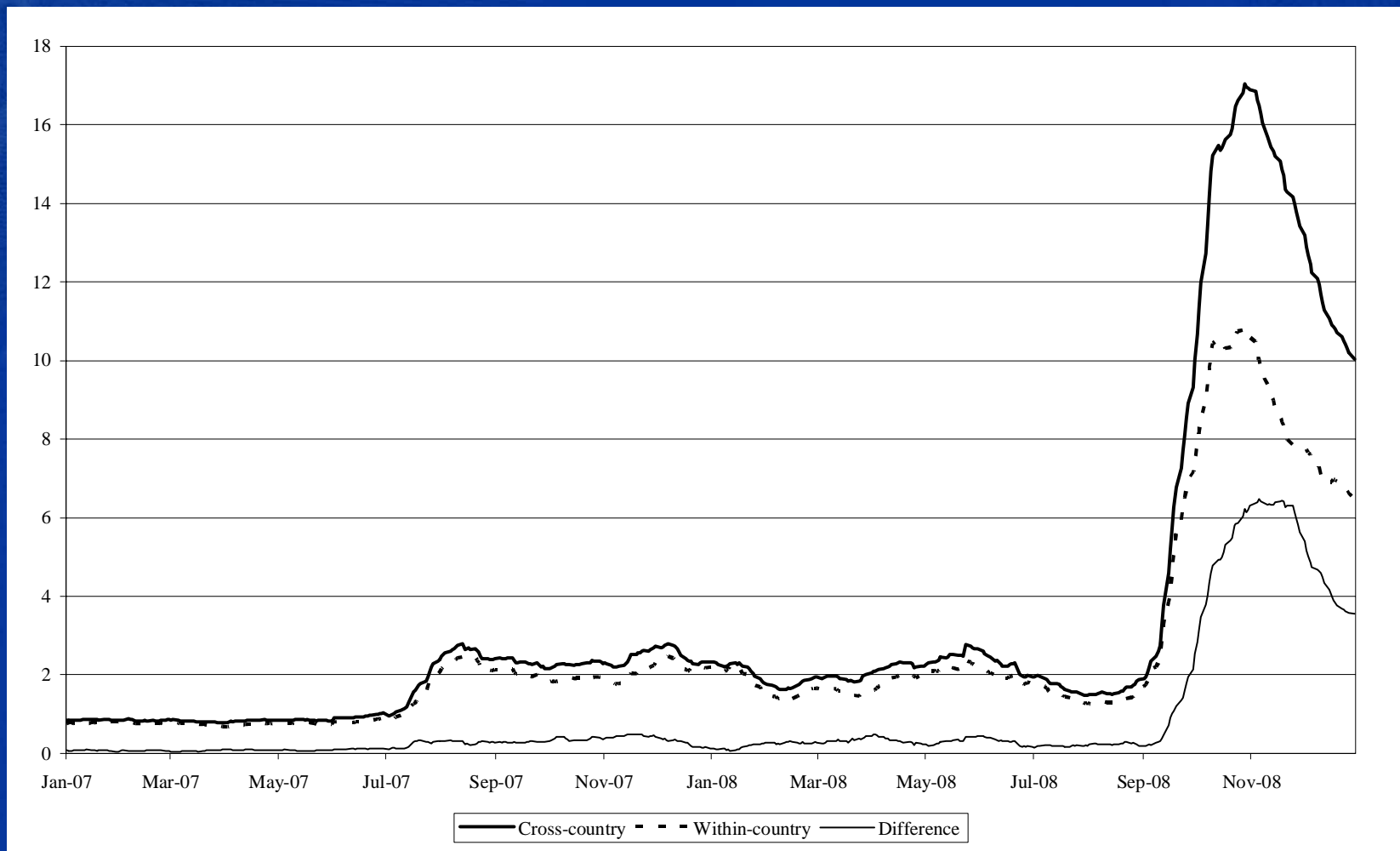
# Financial openness and costs of crises



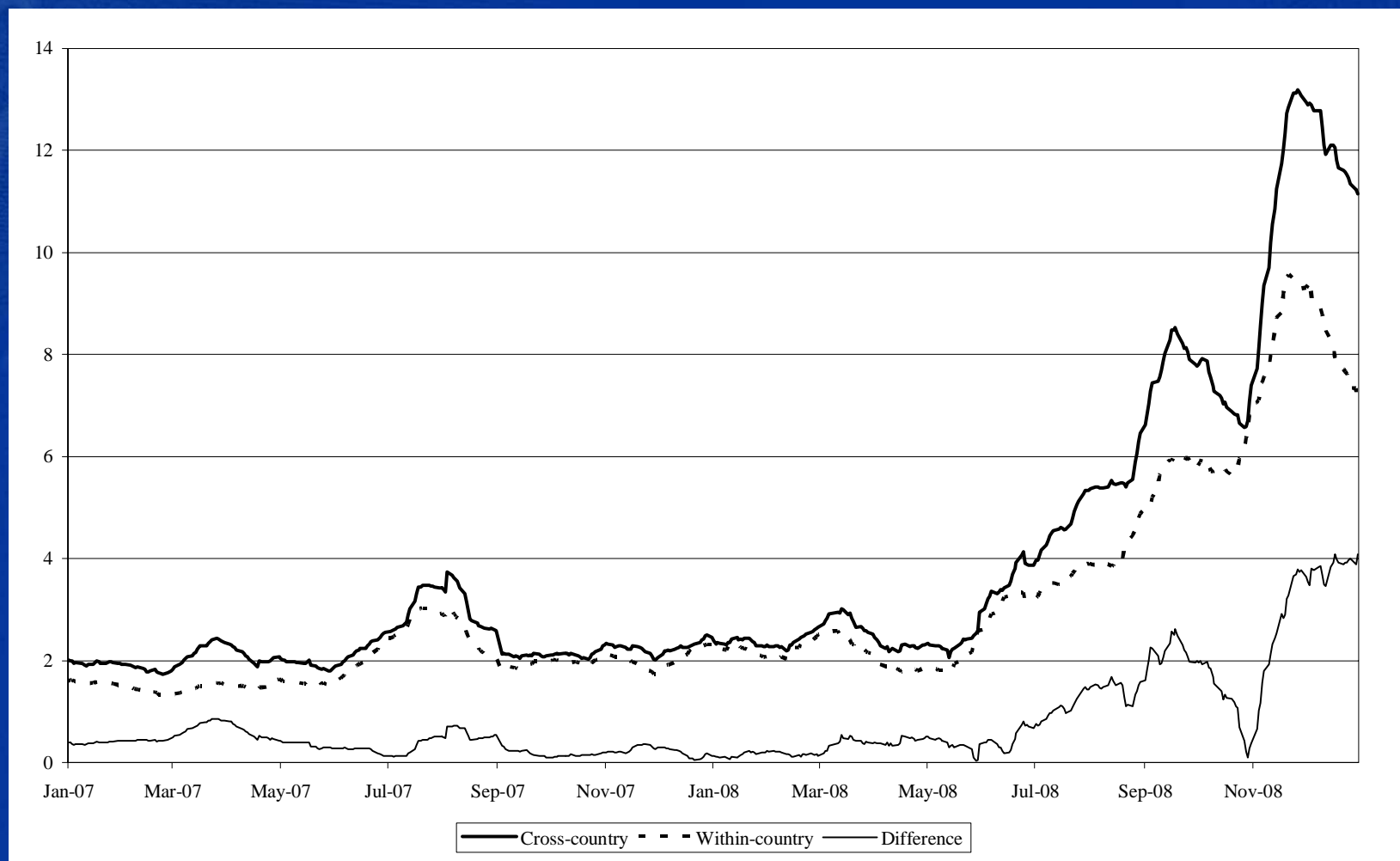
# Financial integration, stability and welfare

- **Are increases in cross-border contagion risks an argument against financial integration?**
  - Probably not if the federal supervisory setup is effective
  - Not if welfare effects of financial integration compensate for welfare costs of financial instability
- **Theory incorporating both financial integration and systemic risk could be helpful**
- **Fecht, Grüner and Hartmann (2007), Welfare effects of financial integration, CEPR DP, no. 6311, May**
- **Fecht, Grüner and Hartmann (2006), Financial integration, specialisation and systemic risk, mimeo., February, forthcoming ECB WP**

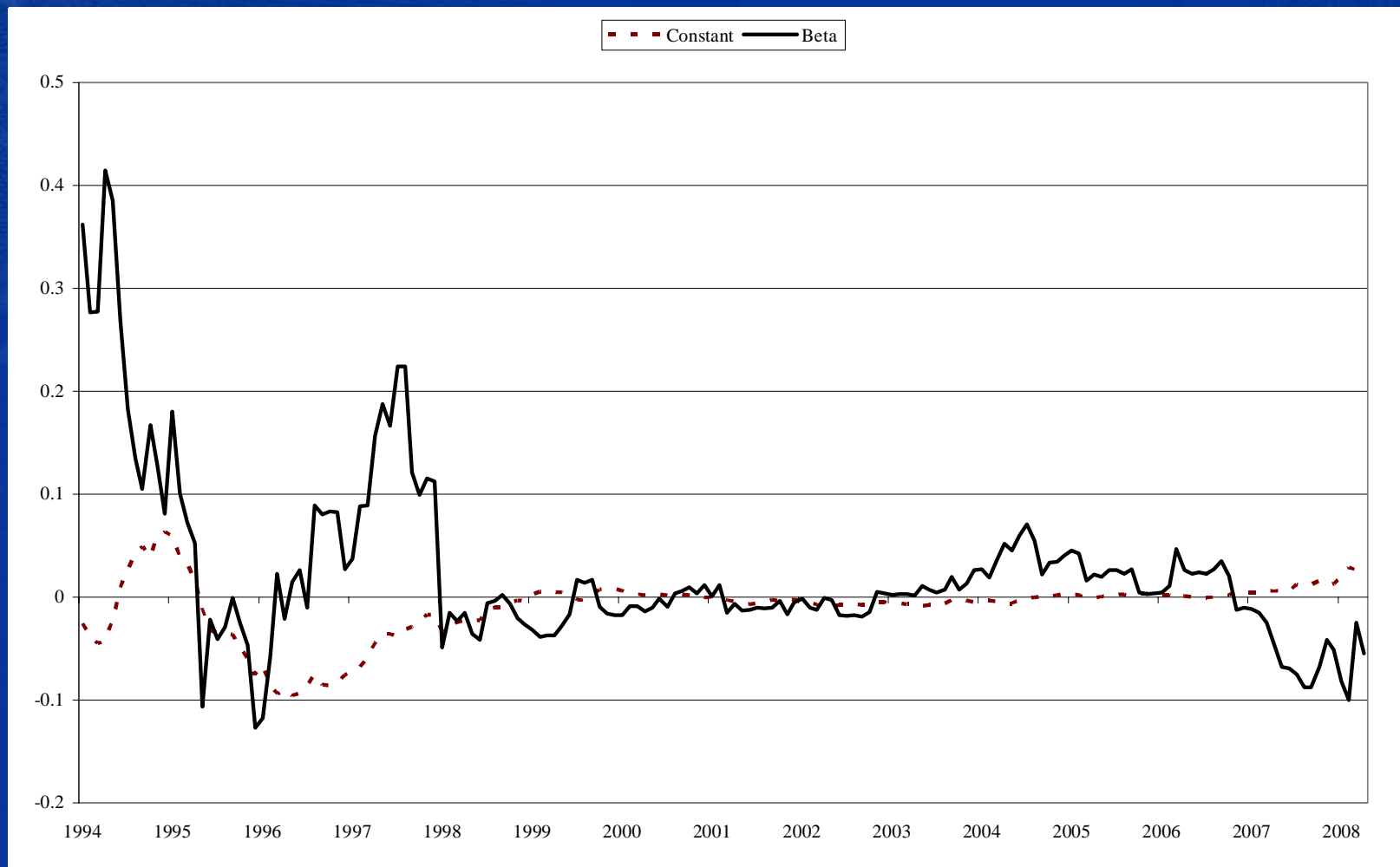
# Standard deviation of 12-month Euribor (bp)



# Standard deviation of 12-month Eurepo (bp)



# Beta 10-year sovereign yields relative to DE



# References I



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- **Cassola, Drehmann, Hartmann, Lo Duca and Scheicher (2008), A research perspective on the propagation of the credit market turmoil, *ECB Research Bulletin*, no. 7, June**
- **De Bandt and Hartmann (2000), Systemic risk: A survey, ECB WP, no. 35, November**
- **De Bandt, Hartmann and Peydro-Alcalde (2008), Systemic risk: An update, forthcoming *Oxford Handbook of Banking***
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# References 3

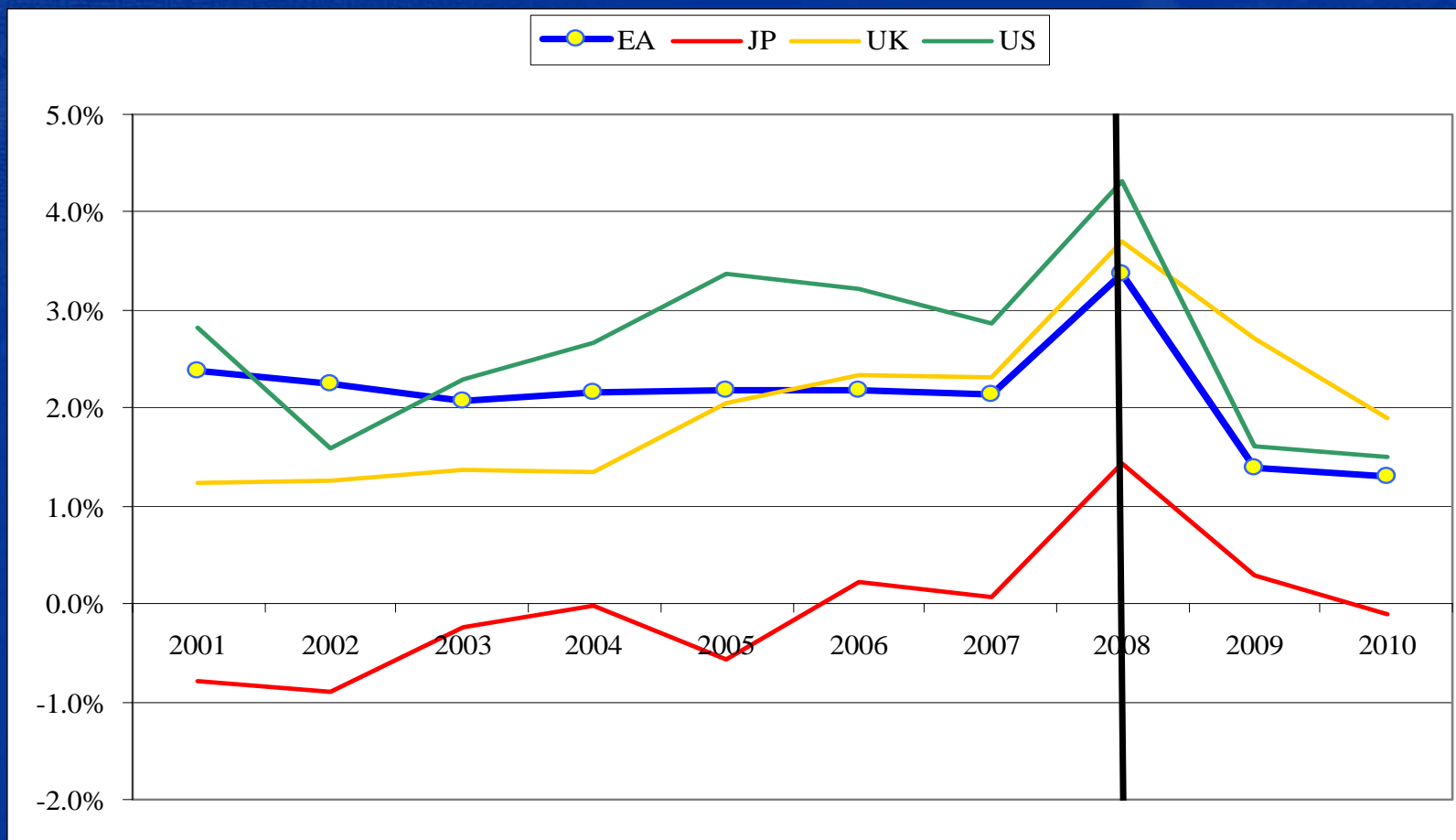


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- **High-level Group on Financial Supervision in the EU (2009), Report , Brussels, 25 February**
- **Institute of International Finance (2008), Final report of the IIF committee on market best practice: Principles of conduct and best practice recommendations, Washington, July**
- **Senior Supervisors Group (2008), Observations on risk management practices during the recent market turbulence, 6 March**



# Annex

# Inflation developments (CPIs)



# Financial integration and systemic risk



- Risks of delayed loan repayments can be shared in different ways among banks (Fecht, Gruener and Hartmann, 2007)
  - 1) **Secured market**: Not contagion risk but high incentives to free-ride on the liquidity of the interbank market
  - 2) **Unsecured market**: Contagion risk but incentives to hold insufficient reserves contained
  - 3) **Retail market integration**: High setup costs but no incentives to free-ride on liquidity
- 1) only efficient for very small economic areas, 2) for intermediate areas and 3) for large areas
- **Risk sharing benefits compensate for instability costs**
- **Highlights great importance of retail integration**

# Financial integration, specialisation and SR

- Has **financial integration real effects** that may further change the allocation of risks? (Fecht, Gruener and Hartmann, 2006)
  - Assume that retail integration is limited
  - Assume that banks have a **comparative advantage in lending to local sectors** that are more productive at home
- If an interbank market is available to share risk, then **banks specialise in the local sector**
- This **increases their liquidity risk, raising the need to share it through the interbank market and assume contagion risk**
- This is **optimal with a well-functioning interbank market**

