

Banks, Markets and Financial Innovation

Bocconi

Discussion of «Financial Contagion During Lehman Default and Sovereign Debt Crisis» by Monica Gentile and Luca Giordano

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CAREFIN/CENTRO BAFFI CONFERENCE

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Contagion (and interdependence)

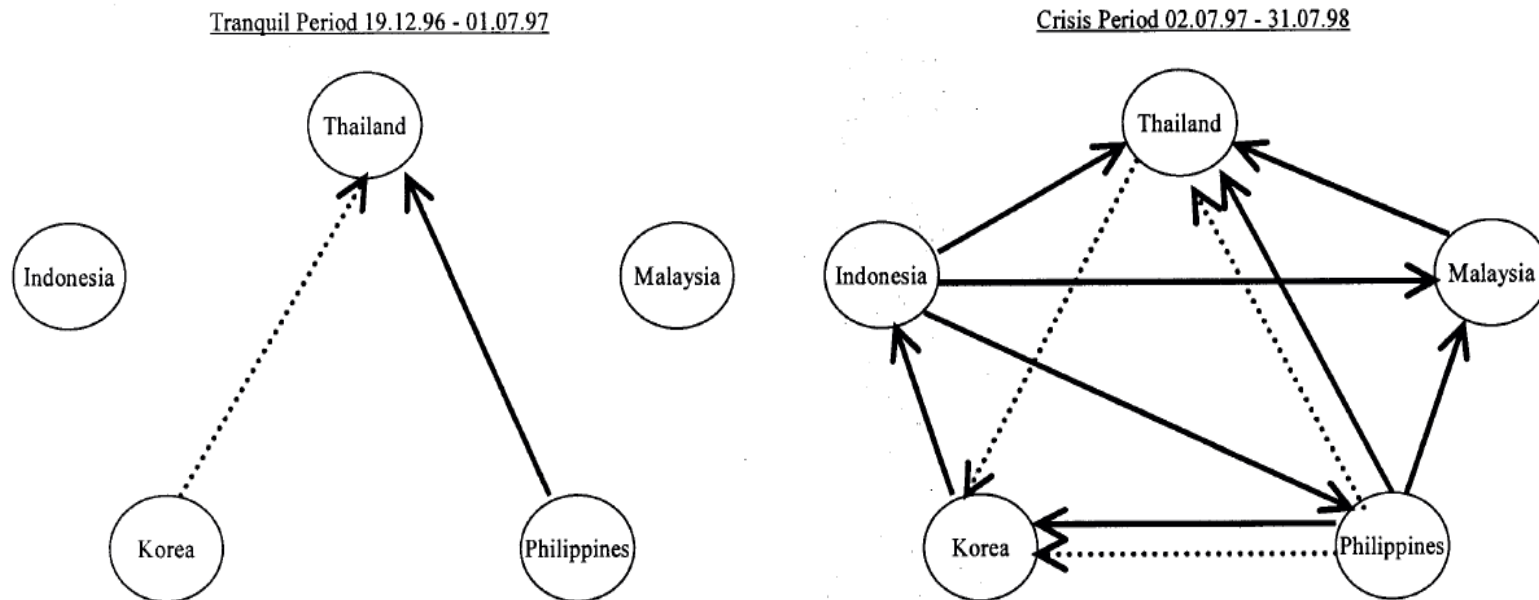
- Disentangle interdependence (long-run, fundamentals) from contagion (short-run, behavioral) in (financial) markets, with application to recent turmoil in European equity & bond markets.
- Popular approaches:
- Correlation analysis (Forbes and Rigobon (2002), Corsetti, Pericoli, Sbracia (2005), Rigobon (2002)). Contagion is “excess” correlation. Simple and intuitive, but no economic mechanisms underlying contagion; moreover, does not establish direction – need to identify origin country of contagion ex-ante.
- Parametric approach (Bekaert, Harvey, Ng (2005)). Contagion is excessive sensitivity to fundamentals. Easy to interpret, problem with omitted variables/factors.

The approach in this paper

- This paper: reduced-form approach (Gilmore and McManus (2002), Sander and Kleimer (2003), Kalbaska and Gatkowski (2012)). Caveats: no economic mechanisms behind contagion and hinges on linearity (see next paper).
 - » (directional) cointegration analysis: (long-run) interdependence
 - » Granger causality: (short-run) contagion
- Unlike other papers, dispenses with identifying crisis period and origin country ex-ante.
 - » Crisis: distribution/changes in long-run interdependence
 - » Leader-follower: bivariate causality analysis

Other results

- Gilmore and McManus (sample: US, 3 Central European countries from 1995 to 2001, equity): no interdependence between markets; short-run dependence from Hungary to Poland.
- Sander, Kleimer (sample: Asian countries from 1996 to 2000, bond):



Other results

- Kalbaska, Gatkowski, 2012 (sample: European countries from Aug 2005 to Aug 2007 (pre-crisis) and Nov 2007 to Sep 2010 (crisis), CDS)

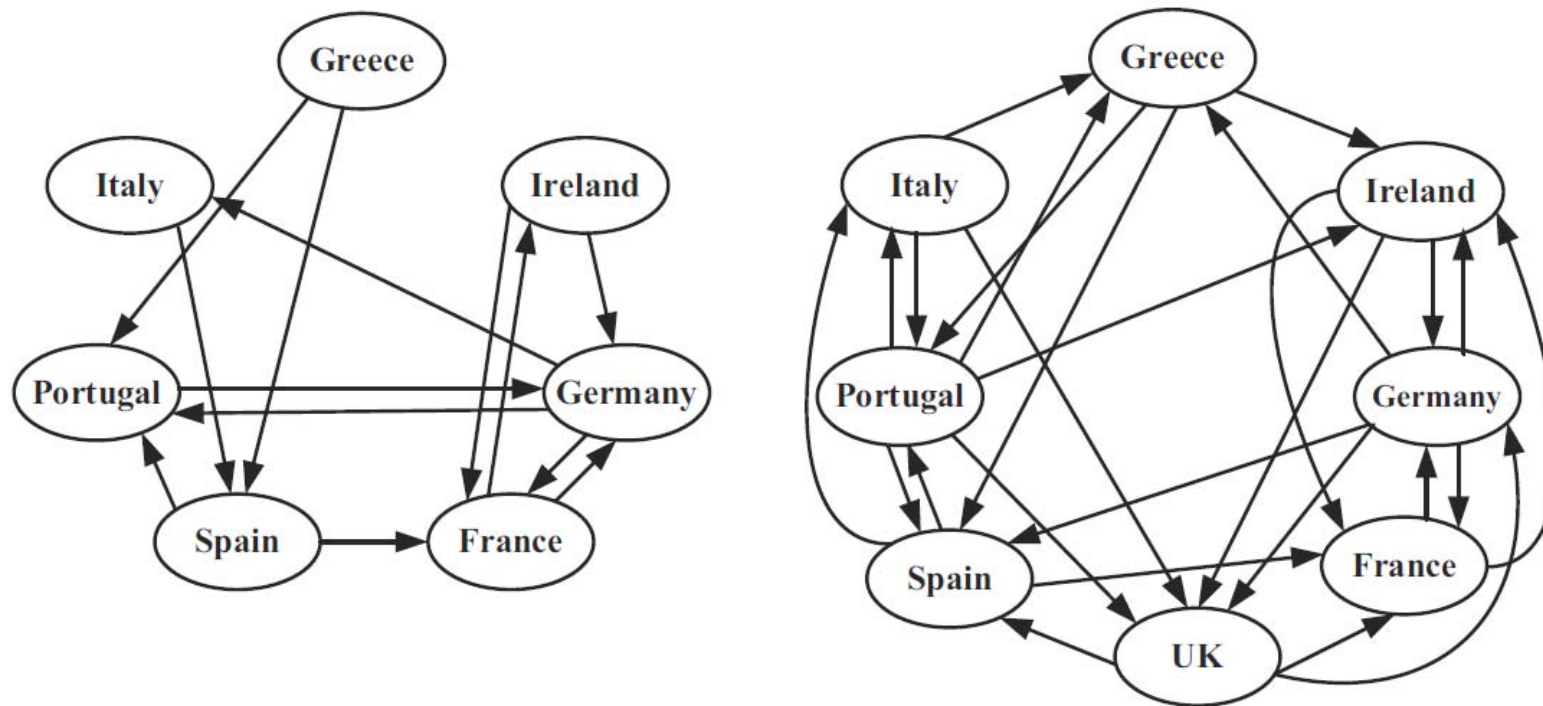
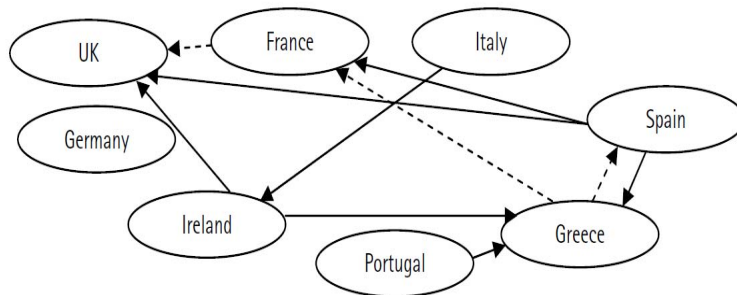


Fig. 6. Granger-causality for the pre-crisis (left) and crisis (right) period.

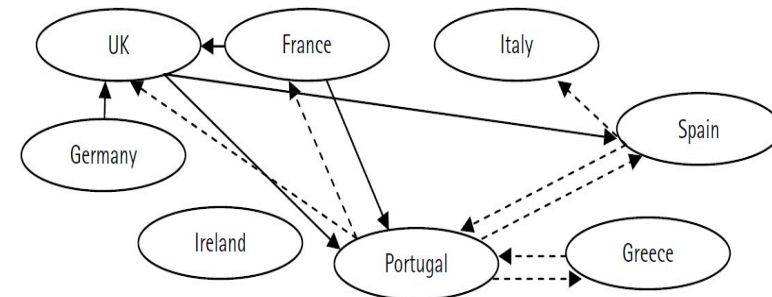
This paper: Main results/1

- Increase in short-run dependence(s) during crisis vs tranquil periods:

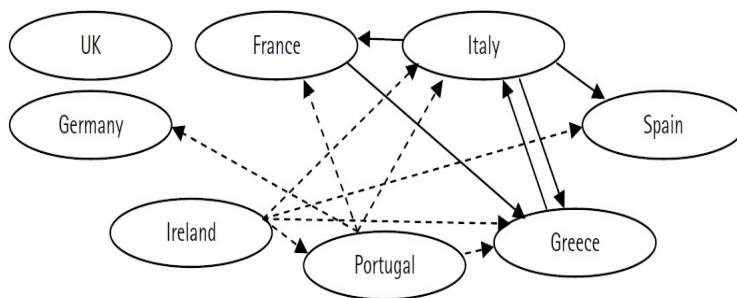
"TRANQUIL PERIOD": APRIL 2008 – NOVEMBER 2008



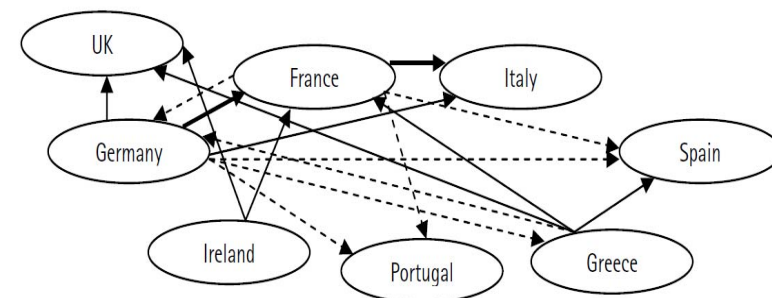
"TRANQUIL PERIOD": OCTOBER 2006 – FEBRUARY 2008



LEHMAN DEFAULT CRISES: DECEMBER 2008 – JULY 2009



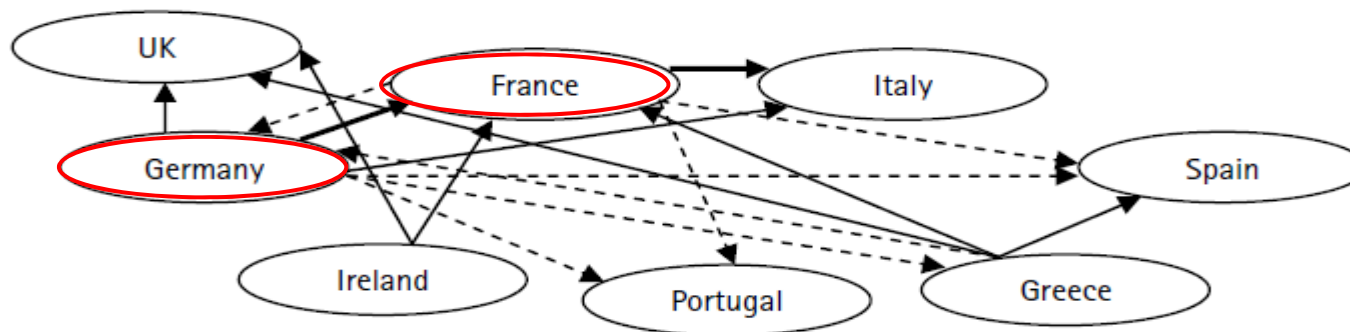
LEHMAN DEFAULT CRISES: MARCH 2008 – JULY 2009



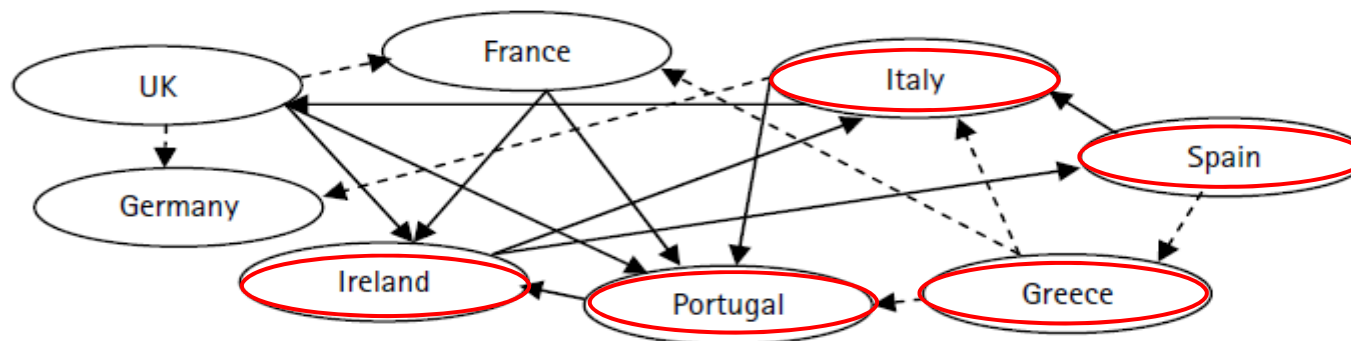
This paper: Main results/2

- Equity markets: Lehman crisis: core to periphery; sovereign crisis: periphery to periphery

LEHMAN DEFAULT CRISES: MARCH 2008 – JULY 2009



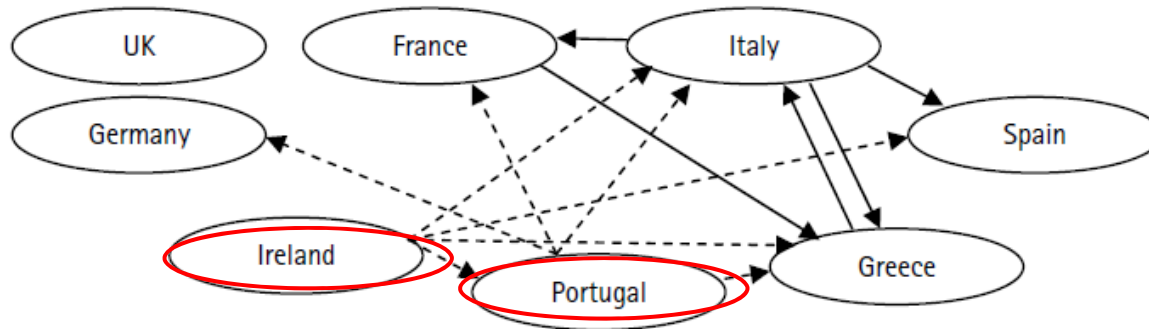
SOVEREIGN DEBT CRISES: JANUARY 2012 – SEPTEMBER 2012



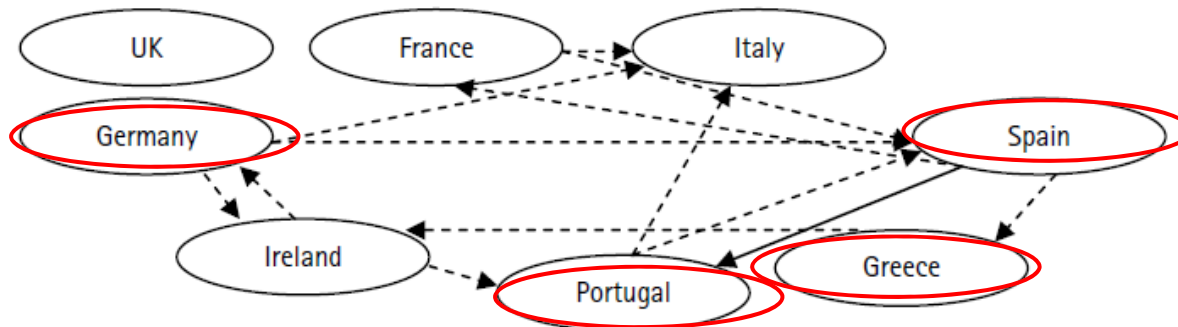
This paper: Main results/3

- Sovereign: Lehman crisis: Ireland-Portugal; sovereign crisis: periphery to periphery (plus Germany)

LEHMAN DEFAULT CRISES: DECEMBER 2008 – JULY 2009



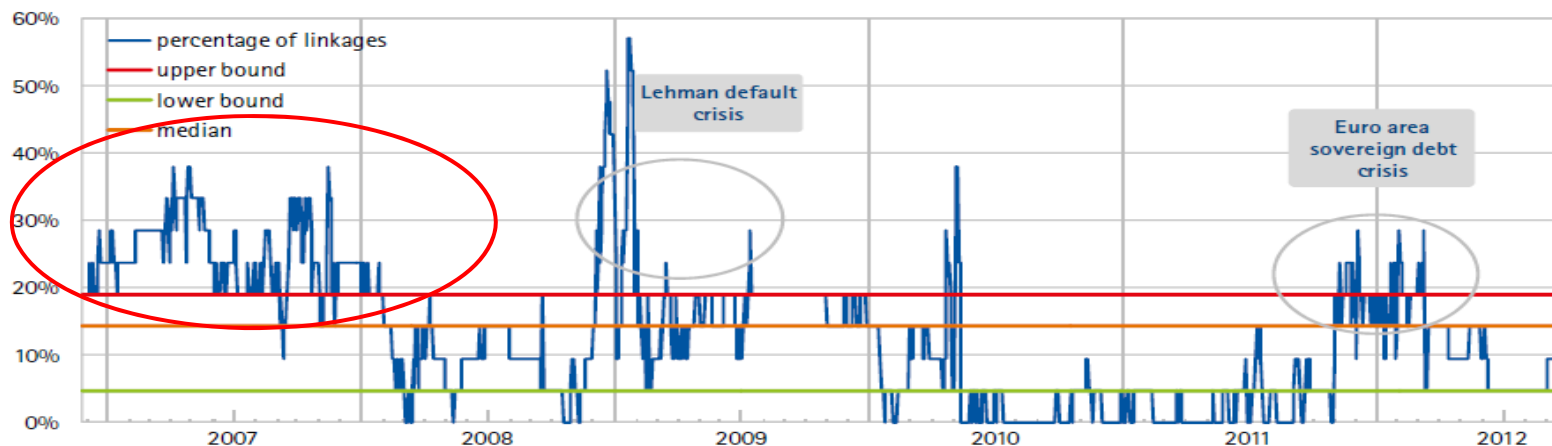
SOVEREIGN DEBT CRISES: NOVEMBER 2011 – MAY 2012



Comments/1-A crises missed?

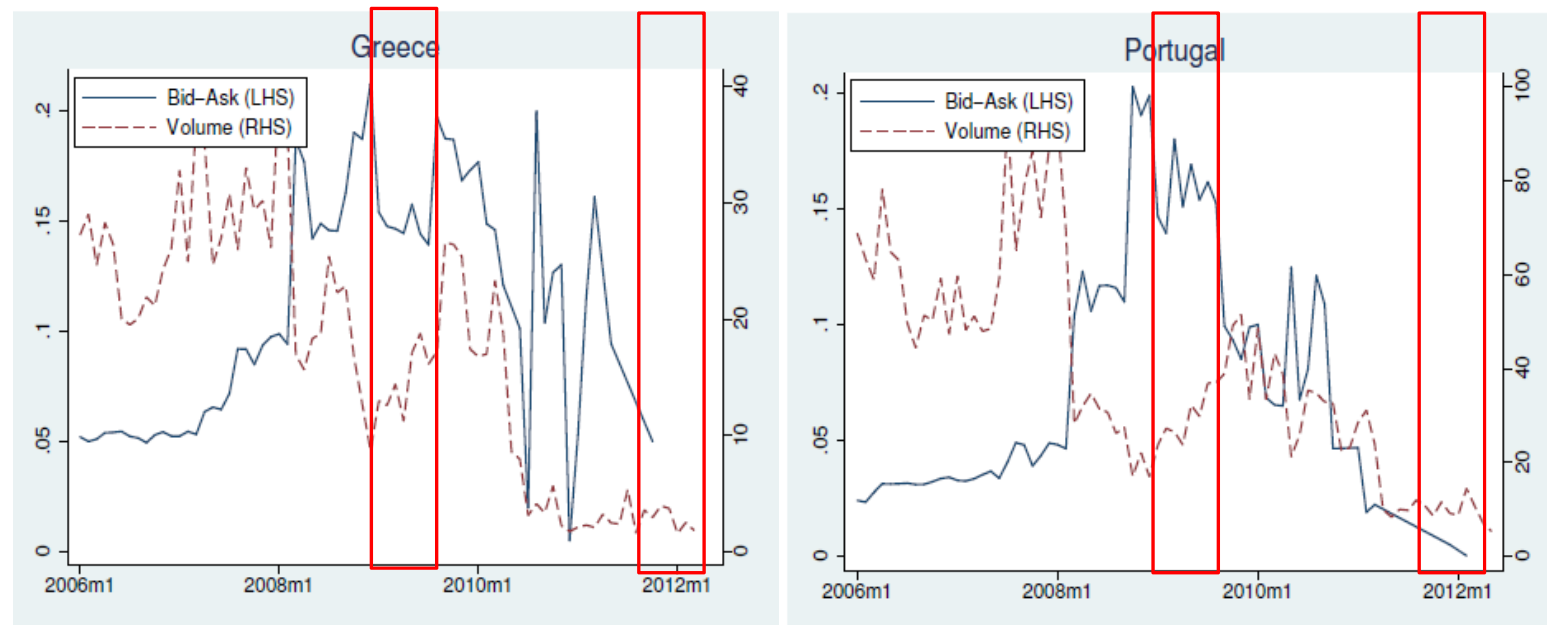
- Detecting tranquil vs. crises (p. 19). Based on cross-country connections, the number of cointegrating relations (out of 28). *More connections or is it changes in cross-country connections?*
 - » Crisis: cross-country connections above 75% perc
 - » Tranquil: cross-country connections below 15% (or 25%?) perc (or median, equity)
- Useful ex-post, a bit subjective?
- Also, long-run dependence strengthens, should it be signal of short-run dependence increasing?

Figure 1 - Contagion windows estimation using sovereign spreads



Comments/2-Liquidity or credit risk?

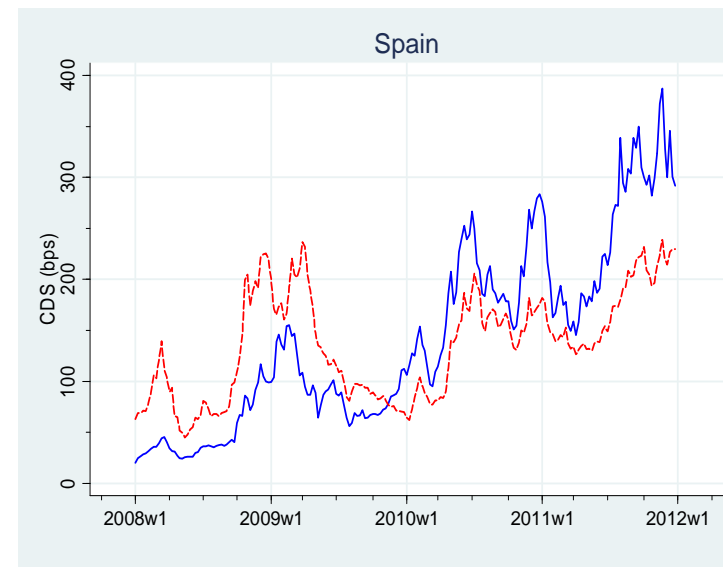
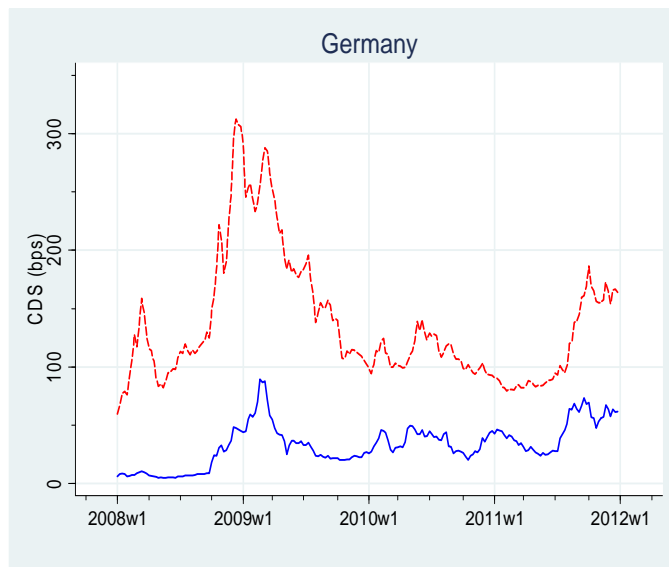
- Bond spreads reflect liquidity and credit component.
- Does contagion take place through the former or the latter? CDS spreads vs. bond spreads?



(source: Bai, Julliard, Yuan, 2012)

Comments/3-Any information lost?

- Bi-variate causality attractive: leader-follower directionality.
- Information lost in looking at *all* countries and at the *interaction* between bond and equity markets?



Comments/3-Any information lost?

	(1)	(2)	(3)	(4)	(5)
Dlog(CDS_{it})	0.045***	0.045***	0.047***	0.046***	0.051***
	(0.006)	(0.006)	(0.011)	(0.010)	(0.011)
Dlog(iTraxx_t)	0.642***				
	(0.020)				
DVDAX_t	0.052**				
	(0.023)				
log(CDS_{i,t-1})					0.004**
					(0.002)
Dlog(CDS_{it})x log(CDS_{i,t-1})					0.040**
					(0.017)
Week FE	N	N	Y	Y	Y
Firm FE	N	Y	N	Y	Y
Interactions	N	Y	N	N	N
Observations	27,625	27,625	27,625	27,625	27,492
Adj R-squared	0.369	0.418	0.446	0.446	0.447