

Comments by Rafael Repullo on

**Lender of Last Resort versus
Buyer of Last Resort**

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Purpose of paper

- Compare the effects of two ECB interventions
- As Lender of Last Resort (LOLR)
 - 3-year Long-Term Refinancing Operations (LTROs)
 - Announced in December 2011
 - Implemented in December 2011 and February 2012
- As Buyer of Last Resort (BOLR)
 - Draghi's "whatever it takes" speech in July 2012
 - Announcement of OMT program in August 2012
 - Details of OMT program in September 2012

Strategy of analysis

- Event studies for announcement effects
 - 2-day cumulative abnormal returns (CARs)
 - Bank CDS spreads and bank equity prices
- Effect of interventions on bank exposures to sovereign debt
 - LOLR: December 2011 to June 2012
 - BOLR: June 2012 to December 2012
- Effects of interventions on bank-sovereign nexus
 - Granger causality tests
 - Daily data on bank CDS and sovereign CDS spreads

Main conclusions

- **LOLR is bad**

“A lender of last resort intervention can **aggravate a crisis** situation and generate a fear of fire sales when it contributes to increasing concentration of illiquid assets in insolvent banks.”

- **BOLR is good**

“A buyer of last resort intervention provides liquidity to the market at large... **improving the solvency** condition of banks and restoring their access to wholesale funding markets.”

Change on average bank equity prices

	GIIPS	Non-GIIPS
LTRO 1 – LTRO 2	15%	30%
LTRO 2 – Draghi	-60%	-36%
Post Draghi	36%	41%

→ Positive effect of LTRO 1

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- Positive effect of LTRO 1
- Positive effect of Draghi's speech
- **Negative effect of LTRO 2**
- Especially for GIIPS banks

Change on average bank CDS spreads

	GIIPS	Non-GIIPS
LTRO 1 – LTRO 2	-20%	-24%
LTRO 2 – Draghi	25%	23%
Post Draghi	-27%	-45%

→ Positive effect of LTRO 1

Change on average bank CDS spreads

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Post Draghi	-27%	-45%

- Positive effect of LTRO 1
- Positive effect of Draghi's speech
- **Negative effect of LTRO 2**
- But very similar for GIIPS and non-GIIPS banks

Overview of discussion

- Review and comment on some empirical results
 - Event studies
 - Bank exposures to sovereign debt
 - Bank-sovereign nexus
- Alternative hypotheses on banks' sovereign debt holdings
- Main comment: Fire sale risk or euro collapse risk?
- Concluding remarks

Part 1.a

Event studies

Average bank equity CARs

	GIIPS	Non-GIIPS
LTRO announcement	7.46***	9.54***
LTRO 1	-0.17	1.06
LTRO 2	2.57	3.48
Draghi's speech	2.61	1.49
OMT	2.09	3.06

→ Positive effect of LTRO announcement

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→ Positive effect of LTRO announcement

→ Not significant effect of other events

Average bank CDS CARs

	GIIPS	Non-GIIPS
LTRO announcement	-39.87***	-26.00***
LTRO 1	-18.82	-10.91*
LTRO 2	-3.36	-4.11
Draghi's speech	-18.28	-4.41
OMT	-35.66***	-7.37

→ Positive effect of LTRO announcement

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→ Positive effect on GIIPS of OMT program details

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- Positive effect of LTRO announcement
- Positive effect on GIIPS of OMT program details
- Positive but insignificant effect of Draghi's speech

Comments on event study results

- LTRO announcement
 - Strong positive effect for GIIPS: expected
 - Strong positive effect for non-GIIPS: why?
- Many positive but insignificant LTRO results
 - Possibly due to bank heterogeneity?
- Positive but insignificant effect of Draghi's speech
 - Uncertainty about implementation?

Part 1.b

Bank exposures to sovereign debt

Change in sovereign bond holdings

	GIIPS	Non-GIIPS
Dec. 2010 – Dec. 2011	-17 bn.	-59 bn.
LTRO – Draghi	55 bn.	-9 bn.
Post Draghi	12 bn.	4 bn.

→ Reduction before LTRO (especially for non-GIIPS)

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- Reduction before LTRO (especially for non-GIIPS)
- **Significant increase for GIIPS after LTROs**
- Focus of authors' concerns

Comments on sovereign bond holdings (i)

- Large but not overwhelming size of “carry trade”
 - 1.8% of the countries’ outstanding debt
 - 10% of net LTRO liquidity injection
- Reference to “fire-sale risk channel”
 - Concentration of “illiquid assets” in GIIPS banks
 - But sovereign debt was more liquid than other assets!

Comments on sovereign bond holdings (ii)

- GIIPS banks took advantage of LTROs
 - What's wrong with recapitalizing banks in this manner?
 - Not essentially different from changes in policy rates

“The archetypal nontargeted policy, lowering the Fed Funds rate, benefits financial institutions engaging in maturity mismatch.”

Farhi and Tirole (2012)

Part 1.c

Bank-sovereign nexus

Granger causality: sovereign risk → bank risk

	Italy	Spain	Germany
Jun. 2011 – Dec. 2011	0.18**	0.15***	0.19***
LTRO – OMT	-0.15	0.15**	0.03
Post OMT	0.27**	0.20**	-0.03

→ Positive effect in the pre-LTRO period

Granger causality: sovereign risk → bank risk

	Italy	Spain	Germany
Jun. 2011 – Dec. 2011	0.18**	0.15***	0.19***
LTRO – OMT	-0.15	0.15**	0.03
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→ Positive effect in the pre-LTRO period

→ Mixed results for the other periods

Granger causality: bank risk → sovereign risk

	Italy	Spain	Germany
Jun. 2011 – Dec. 2011	-0.04	-0.01	0.11
LTRO – OMT	0.27*	0.06	0.19*
Post OMT	-0.04	0.02	0.29

→ Positive and marginally significant in the LTRO period

Granger causality: bank risk → sovereign risk

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Jun. 2011 – Dec. 2011	-0.04	-0.01	0.11
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→ Positive and marginally significant in the LTRO period

→ Mixed results in other periods

Comments on bank-sovereign nexus

- No clear pattern of effects
 - Especially for link from bank risk to sovereign risk
- Disappointing result in the light of literature
 - Doom loop, diabolic loop, deadly embrace, etc.
- If we do not find strong effects during this period
 - When will we ever find them?

Part 2

Alternative hypotheses

Alternative hypotheses

- Two hypotheses about bank holdings of sovereign debt
 - Carry trade
 - Lack of profitable opportunities
- Castro and Mencia (2014): Test with monthly VARs
 - Change in banks' ratio of domestic debt to total assets
 - Change in sovereign spread with respect to Germany
 - Change in industrial production
 - Change in unemployment rate

Main VAR results (i)

- Once we control for macroeconomic shocks
 - No effect of sovereign spread on domestic debt holdings
- Key variable for explaining sovereign debt holdings
 - Change in unemployment rate
 - Significant for France, Italy, Spain, and Ireland

Main VAR results (ii)

“We do not find empirical evidence that higher sovereign yields have induced banks to increase domestic sovereign debt holdings in our sample.”

“In contrast, we find that macroeconomic conditions turn out to be a key determinant of sovereign debt holdings as banks tend to increase their exposure to sovereign debt when macroeconomic conditions deteriorate.”

Castro and Mencía (2014)

Part 3

Fire sale risk or euro collapse risk?

Main conclusions

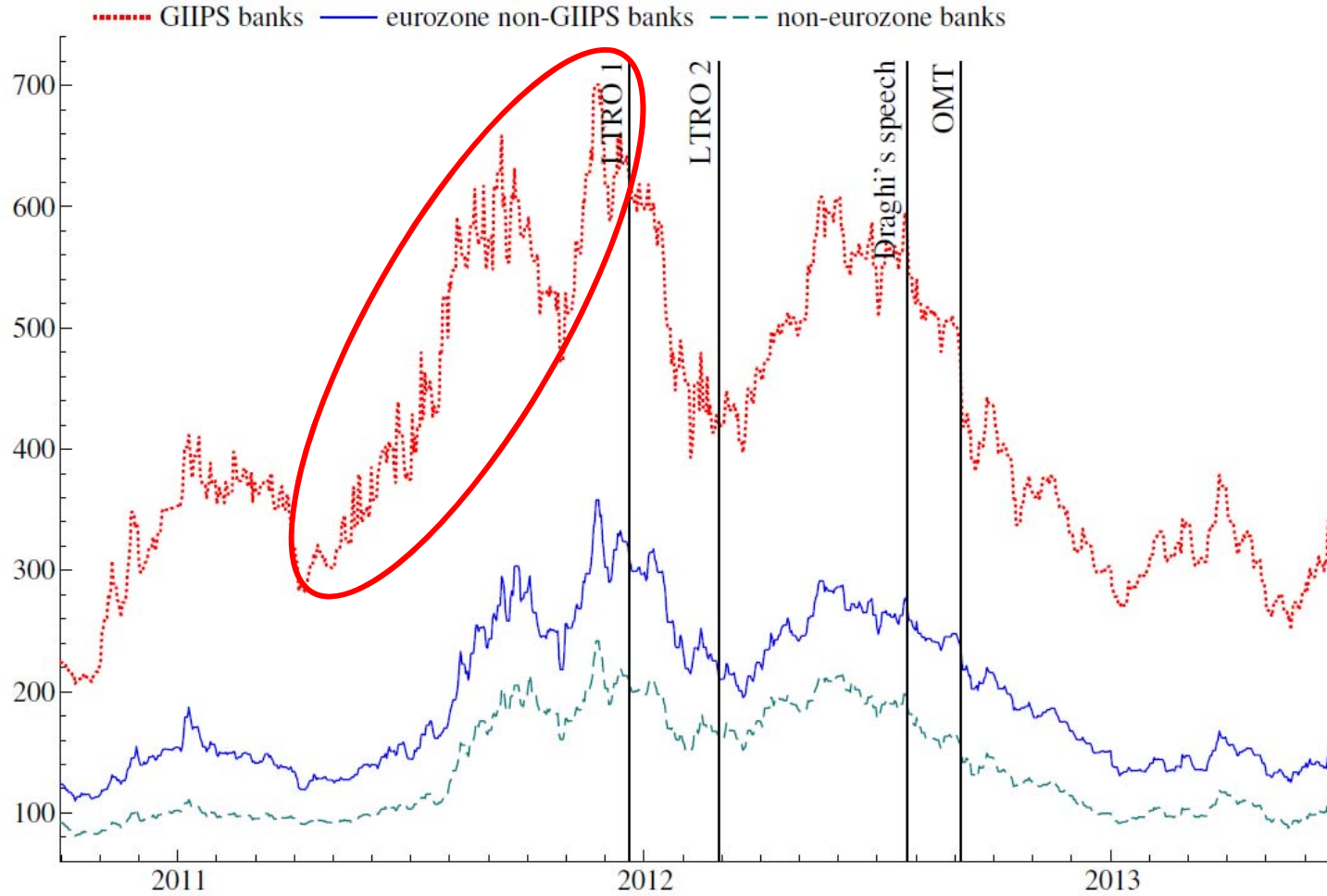
“The increasing concentration of sovereign bonds in the portfolios of domestic banks relying on **LTRO** liquidity injections contributed to **increase fire-sale risk** in the sovereign bond market.”

“The ECB’s announcement of being a potential **BOLR** to the sovereign bond markets under the OMT program **mitigated the fire-sale risk** channel and led to a permanent stabilization of bank risk.”

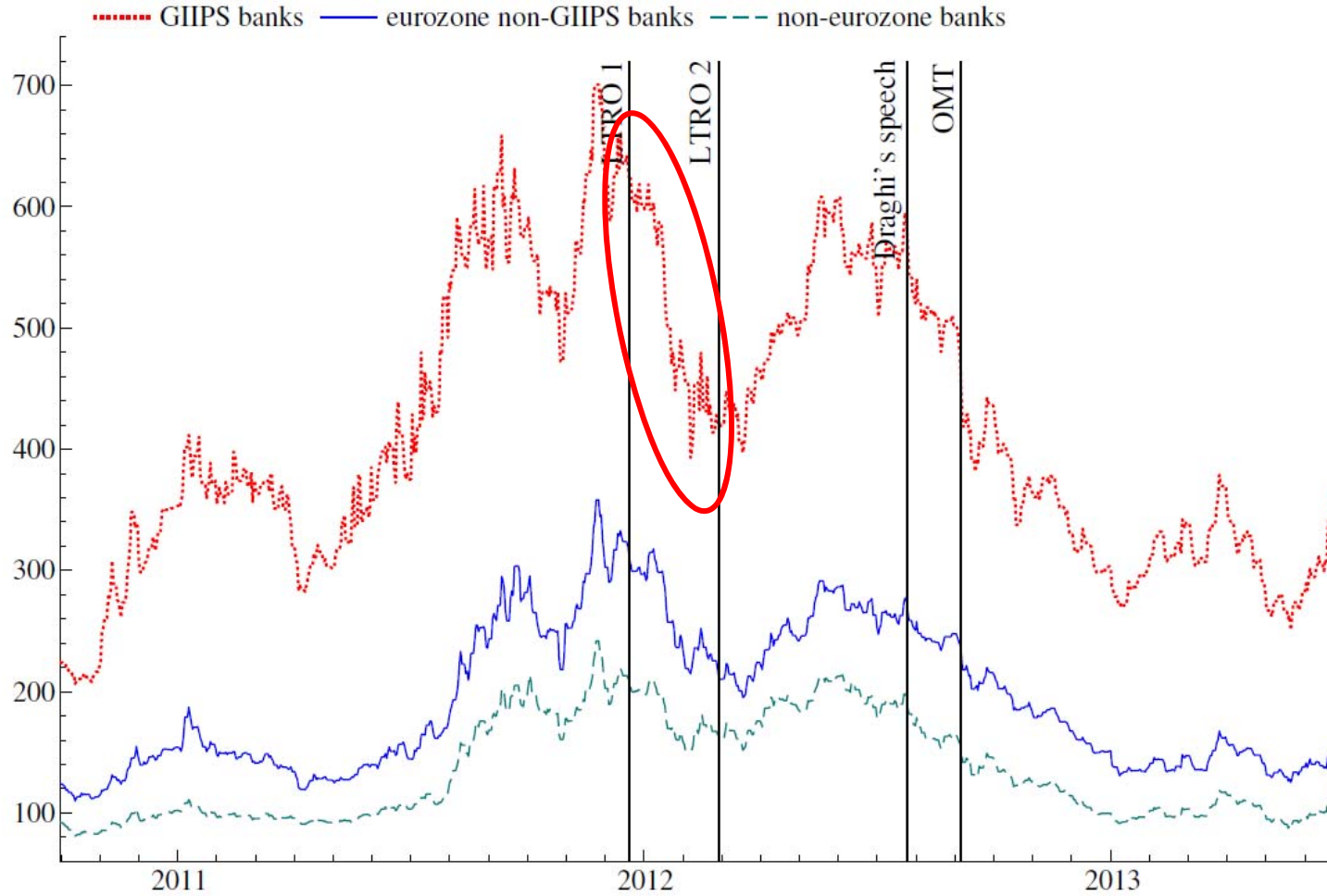
Four periods

- Crisis period (June 2011 - December 2011)
- LTRO 1 (December 2011 - February 2012)
- LTRO 2 (February 2012 - July 2012)
- OMT (July 2012 - December 2012)

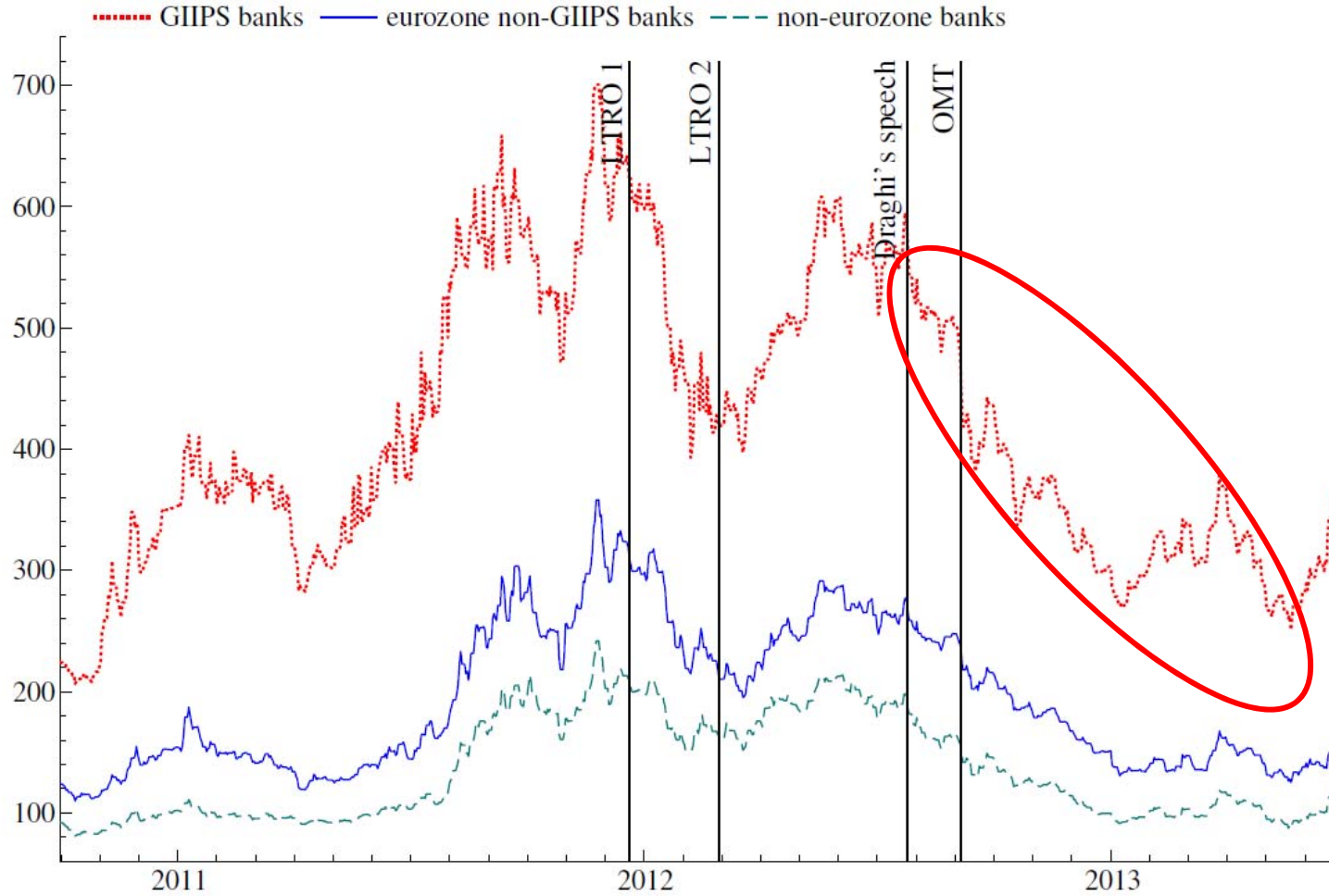
Average bank CDS spreads



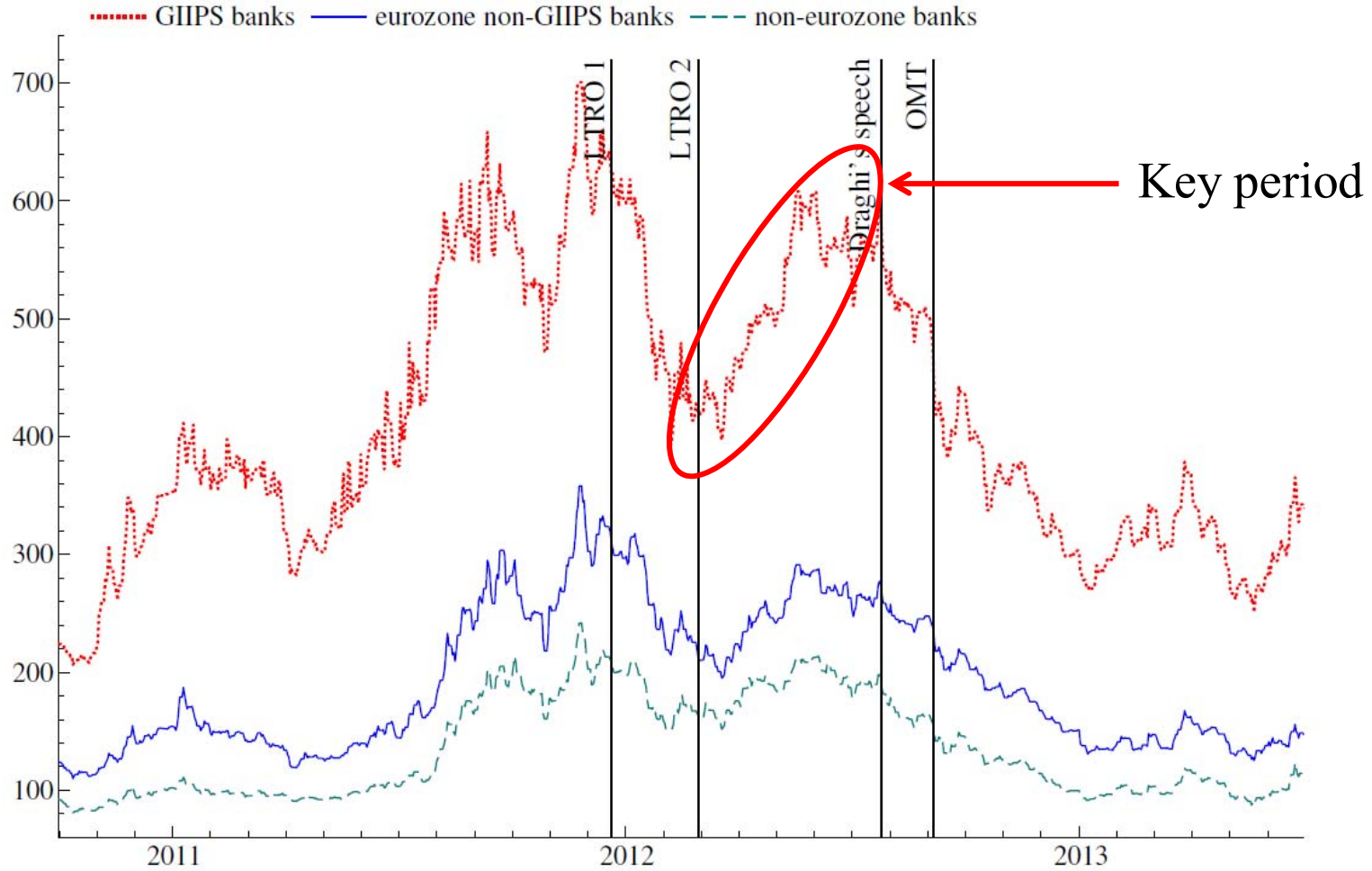
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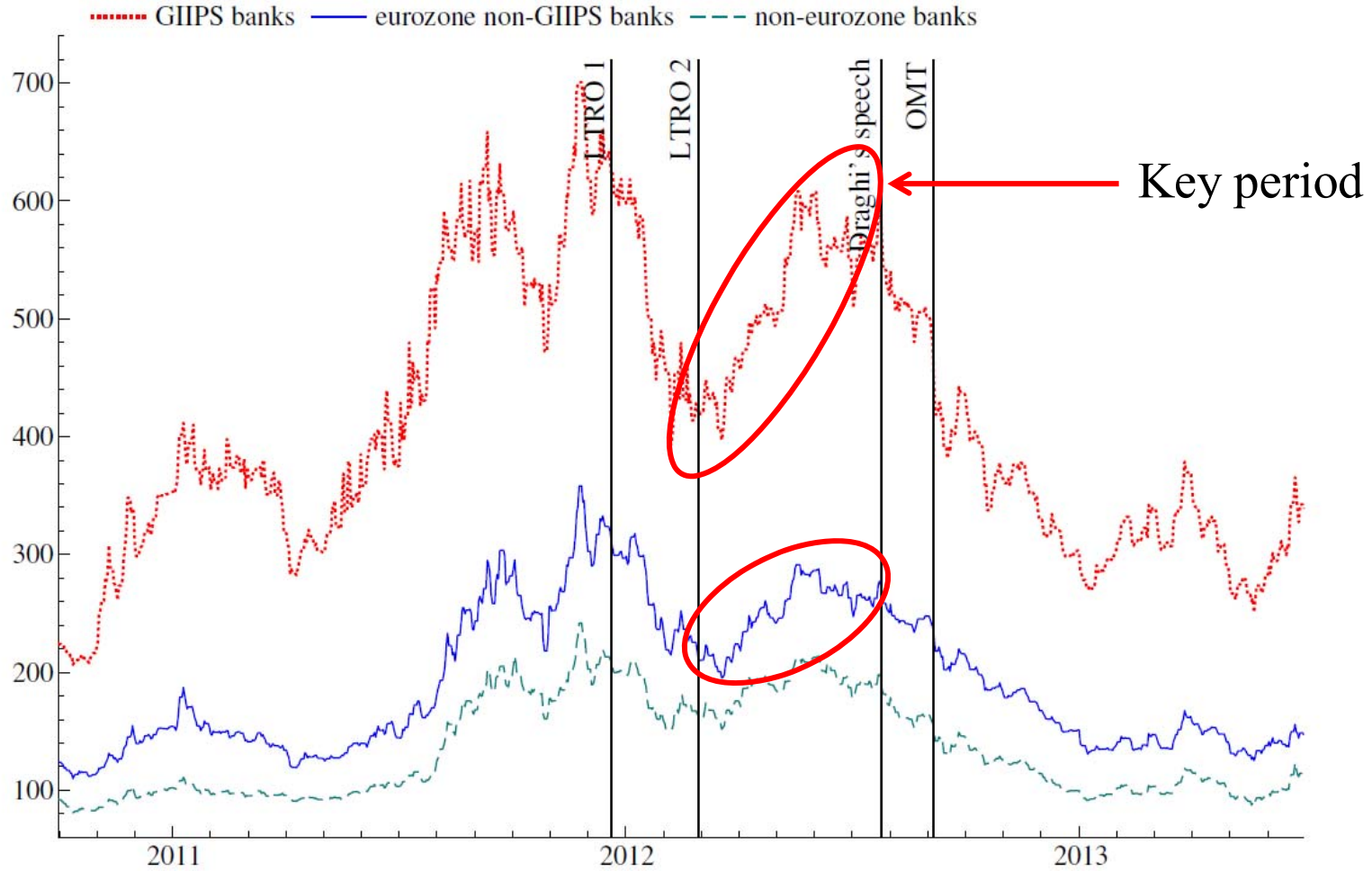
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Average bank CDS spreads



Average bank CDS spreads



Key argument

- In LTRO 2 (February 2012 - July 2012)
 - Increased bank risk in GIIPS (and also in non-GIIPS)
 - LTRO liquidity injections increased fire sale risk
- Is this the most plausible argument?



the
ELEPHANT
IN THE ROOM

Euro collapse risk (i)

- LTROs ameliorated but did not reverse sovereign debt crisis

“In the first half of 2012, there were **market concerns of a euro break-up**. Euro area sovereign bond yields relative to the overnight index swap rate reached record highs, with Italian and Spanish 5-year sovereign yield spreads rising in a few weeks from 200 basis points in March to 500-600 basis points in July.”

De Santis (2015)

Euro collapse risk (ii)

- More was needed to avert euro collapse

“Within our mandate, the ECB is ready to do
whatever it takes to preserve the euro.

And believe me, it will be enough.”

Mario Draghi, 26 July 2012

Concluding remarks

Summing up

- Exhaustive analysis of critical period of eurozone history
 - Look at two major ECB interventions
 - Many interesting results
- Very strong conclusions
 - LOLR is bad
 - BOLR is good

Concluding remarks

- Not clear that these conclusions are warranted
- Correlation does not imply causation
 - Should not overlook macro/fiscal environment
 - Deep recession + sovereign default risk
- OMT was “open mouth operation”
 - No sovereign debt was actually purchased
- ECB navigated in uncharted (unconventional) waters
 - With strong internal opposition

Final remark



- Spanish 1993 film

“Why Do They Call It ~~Love~~ When They Mean ~~Sex~~?”



Fire sale risk



Euro collapse risk

References

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