### Discussion of Acharya, Pierret, and Steffen's "Lender of Last Resort versus Buyer of Last Resort"

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\*The views presented here do not represent those of the Federal Reserve.

# Basic argument

- LTROs provided liquidity support "lender of last resort"
  - Created an incentive for banks to buy hold GIIPS bonds.
  - Increased risk, fragmentation, and "bank-sovereign nexus"
- OMT provided (potential) demand for bonds "buyer of last resort"
  - Improved solvency of sovereigns
  - Improved asset quality/solvency of banks
  - Allowed unsecured funding to return

# Econometric things

- MMF flows use lagged CDS to avoid endogeneity.
  - But begs question of why the flows waited
  - Flows and spreads are simultaneous—instrument
- Probit + OLS for fund outflow
  - Could do better with a Tobit
- Selection issues in flow regressions

# Other minor things

- More event dates?
  - LTRO news prior to Dec 8, 2011
- Where are the Greek banks?

#### Table 3: Sovereign bond holdings of banks

This table reports the change (in EUR bn) in overall sovereign bond holdings of banks in Panel A, the change in sovereign bond holding of short maturity (between 1 and 3 years) in Panel B, and the change in sovereign bond holding of long maturity (above 3 years) in Panel C. GIIPS excludes Greece. Sample: public banks that participated in all EBA stress tests (excludes Dexia, Greek and Cypriot banks).

What about price and terms dimensions of funding?

# LTROs

Authors' idea: access to liquidity allowed risky banks to gamble for resurrection.

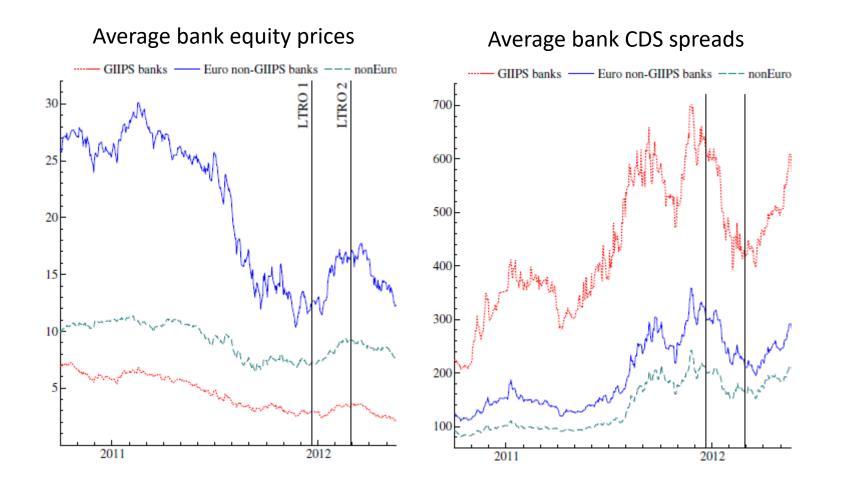
Two possible stories:

- 1. Banks wanted to do this anyway, and LTRO loosened borrowing constraint
  - But *what* constraint? LTROs very similar to MROs
- 2. Relaxation of collateral requirements produced perverse incentives
  - Risk shifting á la Dreschler et al. (2015)?

# Is this really what was going on?

- Usual story:
  - Limited liability gives bank owners a put option.
  - When capital is low, value of option is increased by higher risk.
    - ➔ Stocks should rise and CDS spreads should rise
- Where is this?
  - Bank share prices do not increase significantly during LTRO.
  - CDS spreads decline

### LTRO Effects on Banks



## LTRO Effects on Banks

Panel A: bank equity			Panel B: bank CDS					
Average Equity CAR			Average 5-yr CDS CAR			Average 3-yr CDS CAR		
GIIPS	Euro core	non Euro	GIIPS	Euro core	non Euro	GIIPS	Euro core	non Euro
-0.963	-5.442	-2.442	13.586	$12.904^{**}$	$6.042^{*}$	6.888	$12.333^{**}$	3.112
(-0.238)	(-0.955)	(-0.572)	(0.623)	(2.028)	(1.752)	(0.447)	(1.982)	(1.325)
2.738	3.366	2.311	-18.817	$-10.914^{*}$	-3.599	-12.425	$-11.224^{*}$	-2.623
(0.681)	(0.598)	(0.548)	(-0.877)	(-1.726)	(-1.043)	(-0.816)	(-1.776)	(-1.120)
	-		-					
2.830	2.887	0.586	-3.357	-4.109	-1.741	-1.999	-3.827	-1.492
(0.695)	(0.508)	(0.139)	(-0.158)	(-0.607)	(-0.469)	(-0.134)	(-0.584)	(-0.577)
	Aver GIIPS -0.963 (-0.238) 2.738 (0.681) 2.830	Average Equity        GIIPS      Euro core        -0.963      -5.442        (-0.238)      (-0.955)        2.738      3.366        (0.681)      (0.598)        2.830      2.887	Average Equity      CAR        GIIPS      Euro core      non Euro        -0.963      -5.442      -2.442        (-0.238)      (-0.955)      (-0.572)        2.738      3.366      2.311        (0.681)      (0.598)      (0.548)        2.830      2.887      0.586	Average Equity      CAR      Average        GIIPS      Euro core      non Euro      GIIPS        -0.963      -5.442      -2.442      13.586        (-0.238)      (-0.955)      (-0.572)      (0.623)        2.738      3.366      2.311      -18.817        (0.681)      (0.598)      (0.548)      (-0.877)        2.830      2.887      0.586      -3.357	Average Equity      CAR      Average 5-yr CDS        GIIPS      Euro core      non Euro      GIIPS      Euro core        -0.963      -5.442      -2.442      13.586      12.904**        (-0.238)      (-0.955)      (-0.572)      (0.623)      (2.028)        2.738      3.366      2.311      -18.817      -10.914*        (0.681)      (0.598)      (0.548)      (-0.877)      (-1.726)        2.830      2.887      0.586      -3.357      -4.109	Average Equity      CAR      Average 5-yr CDS      CAR        GIIPS      Euro core      non Euro      GIIPS      Euro core      non Euro        -0.963      -5.442      -2.442      13.586      12.904**      6.042*        (-0.238)      (-0.955)      (-0.572)      (0.623)      (2.028)      (1.752)        2.738      3.366      2.311      -18.817      -10.914*      -3.599        (0.681)      (0.598)      (0.548)      (-0.877)      (-1.726)      (-1.043)        2.830      2.887      0.586      -3.357      -4.109      -1.741	Average Equity      CAR      Average 5-yr CDS      CAR      Average        GIIPS      Euro core      non Euro      GIIPS      Euro core      non Euro      GIIPS      Euro core      non Euro      GIIPS        -0.963      -5.442      -2.442      13.586      12.904**      6.042*      6.888        (-0.238)      (-0.955)      (-0.572)      (0.623)      (2.028)      (1.752)      (0.447)        2.738      3.366      2.311      -18.817      -10.914*      -3.599      -12.425        (0.681)      (0.598)      (0.548)      (-0.877)      (-1.726)      (-1.043)      (-0.816)        2.830      2.887      0.586      -3.357      -4.109      -1.741      -1.999	Average Equity      CAR      Average 5-yr CDS CAR      Average 3-yr CDS        GIIPS      Euro core      non Euro      GIIPS      Euro core      13.586      12.904**      6.042*      6.888      12.333**      (0.447)      (1.982)        2.738      3.366      2.311      -18.817      -10.914*      -3.599      -12.425      -11.224*        (0.681)      (0.598)      (0.548)      (-0.877)      (-1.726)      (-1.043)      (-0.816)      (-1.776)        2.830      2.887      0.586      -3.357      -4.109      -1.741      -1.999      -3.827

# LTROs

- How much did GIIPS banks' "exposures" to sovereigns increase?
  - Holdings of GIIPS bonds ↑ €55 bil. from Dec. 2011 June 2012
  - But *total* assets **↑** €178 bil.
- Did they pledge these bonds disproportionately to the ECB?
  - Total ECB collateral ↑ €429 bil (31%)
  - Central gov't securities ↑ €103 bil (40%)
  - Bank bonds ↑ €240 bil (43%)

# OMT

Three events.

*Event #1*: Draghi's "whatever it takes" speech (7/26/12)

- Authors view this as solely an OMT-related event
- But is this interpretation so unambiguous?
- If not, event studies are cloudy.

"Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough."

#### What did this mean?

- "The interbank market is not functioning... and I think the key strategy point here is that if we want to get out of this crisis, we have to repair this financial fragmentation... regulation has to be recalibrated completely"
- "...national supervisors... ring fenced liquidity positions so liquidity can't flow."
- "...to the extent that I think my counterparty is going to default, I am not going to lend to this counterparty. But it can be because it is short of funding. And I think we took care of that with the two big LTROs"
- "Then you have the counterparty recess related to the perception that my counterparty can fail because of lack of capital. We can do little about that."

# OMT

**Event #2**: Draghi says ECB "may undertake outright open market operations of a size adequate to reach its objective"

(8/2/12)

• What happened to this event?

*Event #3*: OMT parameters announced (9/6/12)

• What was the marginal information content?

# OMT

Can we distinguish specific bond/sovereign support from broad economic support?

- Krishnamurthy, Nagel, & Vissing-Jorgensen
  (2015) argue that OMT improved macro and redenomination risks
- -This matters for policy discussion