# Discussion of "The effect of central bank liquidity injections on bank credit supply" (by Carpinelli & Crosignani)

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Bank of Portugal, Financial Intermediation Conference July 7<sup>th</sup>, 2017

#### Motivation

What is the impact of massive liquidity provision by central bank in crisis times?

3yr LTRO was the ECB's main tool

Other main tools: fixed-rate full allotment, OMT ("Draghi speech")

#### Popular view on LTRO

Avoided liquidity crisis

But expensive, led to sovereign-bank nexus

But what is the counterfactual?

#### This paper

3yr LTRO restored lending to firms in Italy

Prior to 3yr LTRO there was a negative liquidity shock → credit crunch

After 3yr LTRO, credit growth was restored

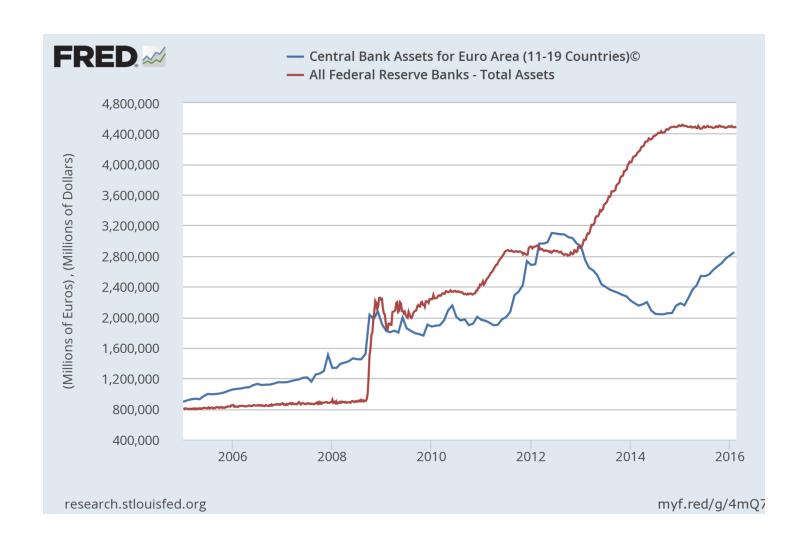
But banks borrow at 3yr LTRO irrespective of liquidity shock

Banks with negative liquidity shock use ("own use") government guaranteed bank bonds (GGBB) → they expand credit

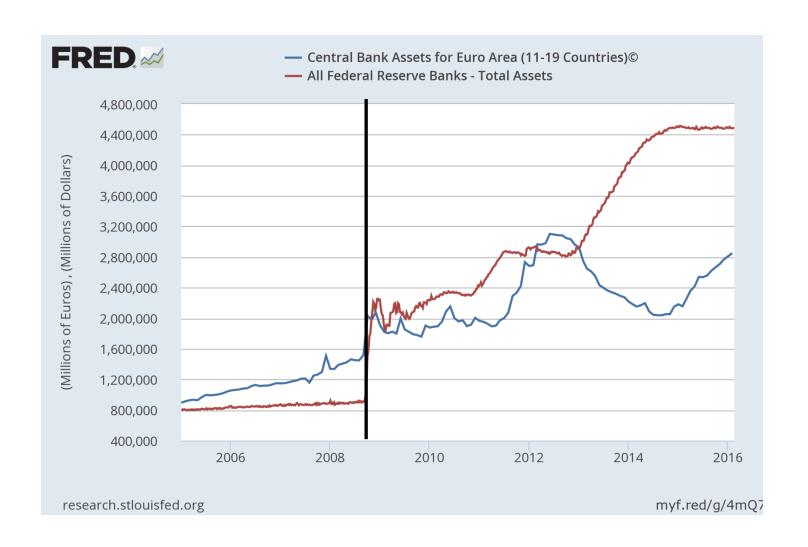
Especially if bank has high leverage and borrower is risky

Other banks use other collateral  $\rightarrow$  buy Italian government bonds

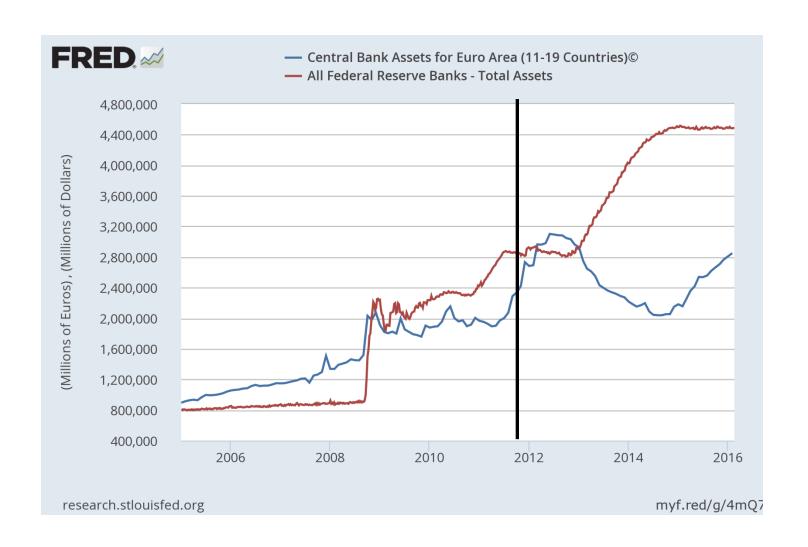
## Central bank response to crisis



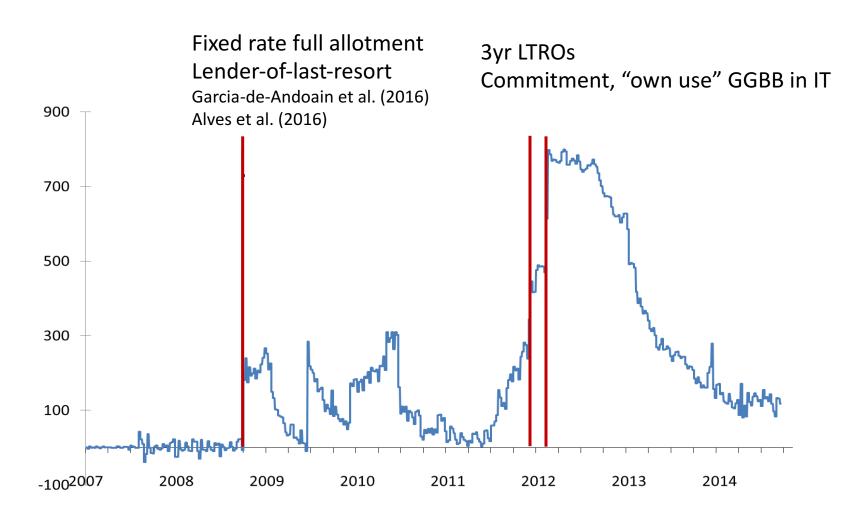
#### ECB – Fixed Rate Full Allotment



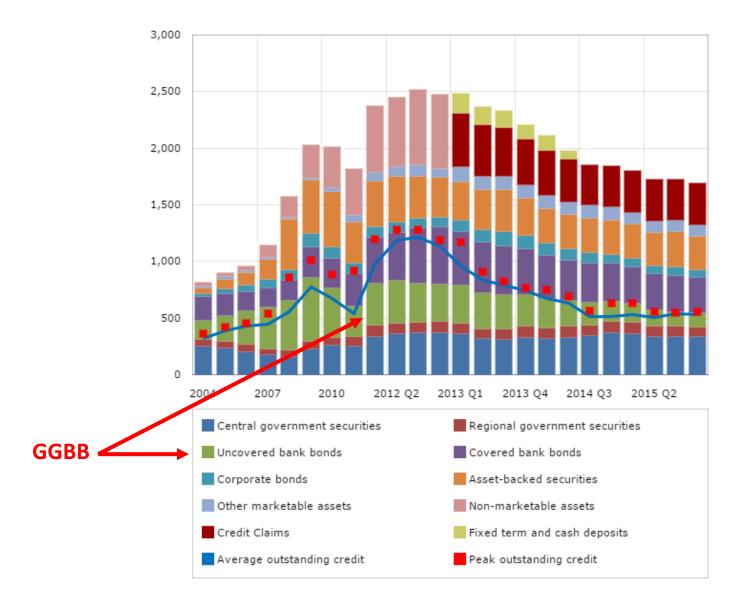
## ECB – 3yr LTROs



## In terms of excess liquidity



#### Collateral—the big picture



#### Identification challenges

Central-bank intervention endogenous

Bank participation is endogenous

Realized lending endogenous

→ Use of a control group (unaffected) to deliver counterfactual

## Diff-in-diff type identification

Baseline (Table 5)

$$y_{bft} = \alpha_{b(f)} + \alpha_{(f)t} + \delta D_{bt} + \varepsilon_{bft}$$

b is bank, f is firm, t is time (pre: 06/11-12/11, post: 12/11-06/12)

 $D_{bt}$ = 1 if t = post, b = "Has borrowed a lot in LTRO (backed by GGBB)"

y<sub>bft</sub> = Log change in granted loan volume

Counterfactual comes from banks that borrow little (backed by GGBB)

#### Issue

But what counterfactual do these banks deliver?

The evolution of credit in the absence of the 3yr LTRO?

The evolution of credit in the absence of the government guarantee?

Government guarantee coincides with LTRO

#### Suggestion

Triple difference (bank, time, type of collateral)

Government guarantee in effect only in second 3yr LTRO

## Isn't type of collateral pledged endogenous?

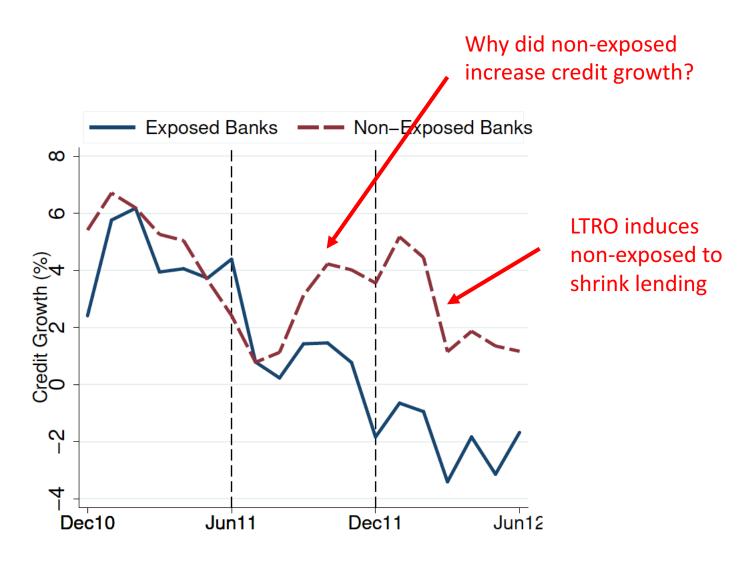
Apparently not

Mostly banks exposed to wholesale run pledge GGBB

Wholesale run predetermined

Too expensive program if no liquidity shock

## Run exposure and credit growth trends



## What exactly are the channels?

Why do exposed banks use central bank money to lend to firms?

Lending exposes a bank to liquidity risk

Or is it because they use GGBBs and are not "allowed" to buy Italian government bonds?

Why do not exposed banks use central bank money to buy domestic government bonds?

Risk taking? (But we do not know the interest rate charged)

Why not bonds from other vulnerable countries?

Or moral suasion?

#### Summary

Already a reference paper in the literature

Impressive data

Clever identification via GGBBs

A couple of loose ends

LTRO or collateral framework?

Run exposure and credit growth – what exactly is going on?

Why do the different banks act they way they do?