# MAKING ROOM FOR THE NEEDY: THE CREDIT-REALLOCATION EFFECTS OF THE ECB'S CORPORATE QE

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# Motivation

- *"Let me again underline that the CSPP benefits not only to large companies with direct access to the bond market, but also smaller companies, as favourable bond market conditions have* ***positive spillover effects to small and medium-sized enterprises (SMEs)*** *through various channels.* ***For instance, the fact that large corporations rely more on funding from bond markets leaves more space in the balance sheet of banks to provide loans to SMEs.****"*

**Letter from Mr. Mario Draghi (ECB President) to several Members of the European Parliament (June, 2017)**

# This paper

- We analyze the effects of the ECB's corporate-bonds QE (CSPP), announced in March 2016, on:

1. ***Direct effects / Disintermediation?***
   - ✓ The yields of bonds issued by Spanish companies
   - ✓ The bond issuances by Spanish companies
   - ✓ The bond-loan substitution by bond-issuers
2. ***Indirect effects / Re-intermediation?***
   - ✓ The credit reallocation towards non-bond issuers
     - ➢ **Do the "needy" (non-large bond issuers corporates) benefit from the CSPP?**

## Related literature

- A growing number of papers analyzing the impact of QE-programs on assets prices, interest rates, flow of lending, bank profitability, macro impact, etc.:
    - **Euro area**: Altavilla et al. (2015) , Eser and Schwaab (2016) , Abidi et al. (2017), Boneva and Linton (2017), Banco de España (2016), Grosse-Rueschkamp et al (2017).
    - **United States**: Di Maggio et al., 2016; Chakraborty et al., 2017; Kandrac and Schluschez, 2017; Rodnyansky and Darmouni, 2017.
- **But scant evidence on indirect effects on non-bond issuers, especially <u>SMEs</u>, (credit reallocation through banks' balance-sheet) and <u>complementarities between non-conventional MP tools</u>.**

# The Corporate Sector Purchase Programme: Basic facts

**CSPP eligible assets:**

- ✓ denominated in euro;
- ✓ Investment grade: minimum rating of BBB- or equivalent
- ✓ maturity: > six months and < 30 years
- ✓ issued by an euro area corporation that is no a credit institution
- ✓ eligible as collateral for Eurosystem credit operations
- ✓ purchasable on both the primary and secondary markets

- ✓ **Accumulated purchases by October 2016 reached almost 12% of the outstanding amount of eligible assets**

# Road map

Direct effect

The CSPP reduced the interest rates of corporate bonds

Large companies increased the issuance of new bonds…

… and used some of the funds to repay bank loans.

Indirect effect

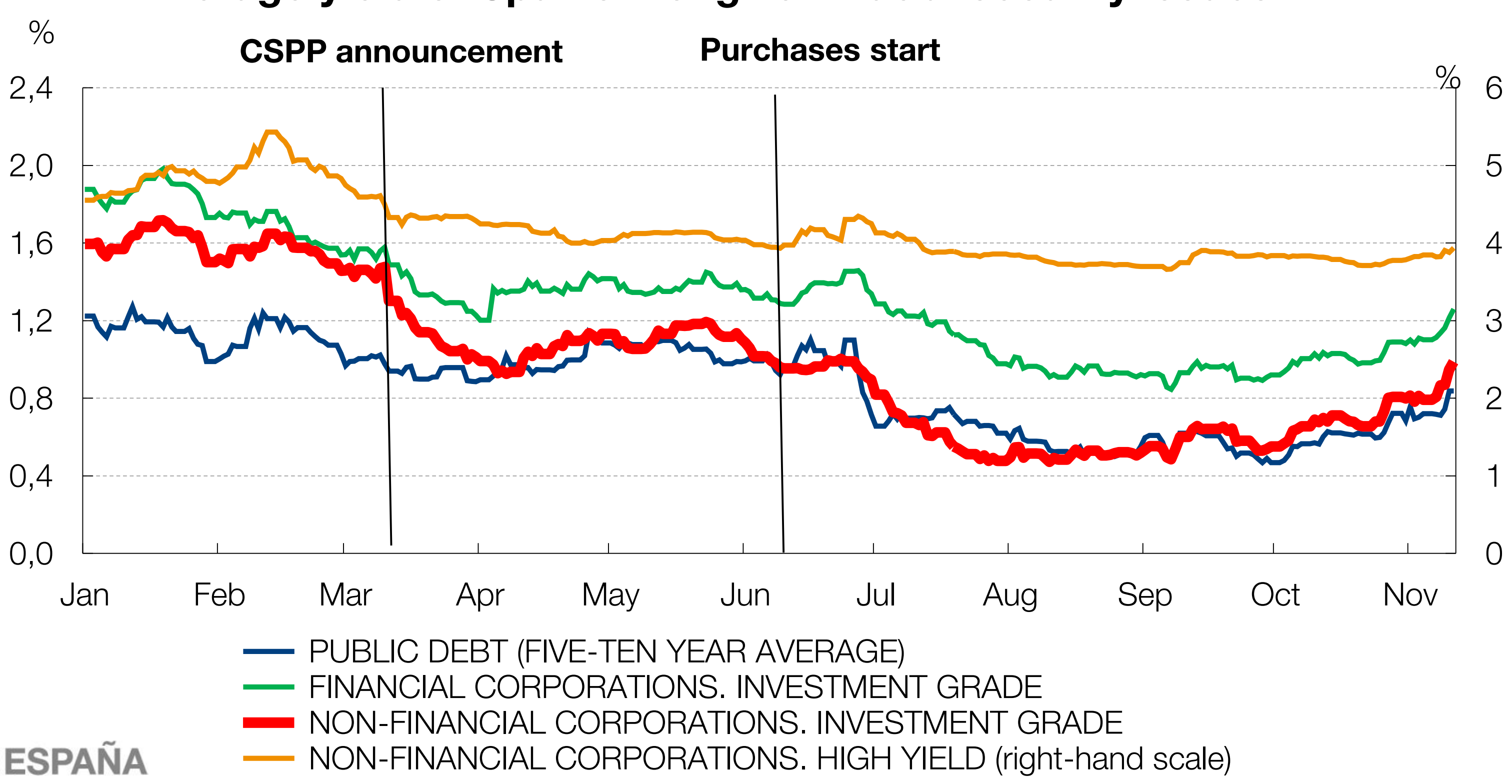
Banks reacted by redistributing those funds to new loans to other firms.

Previous credit reallocation channel was amplified by TLTRO

# Direct effects (I): Bond yields fell sharply after CSPP announcement

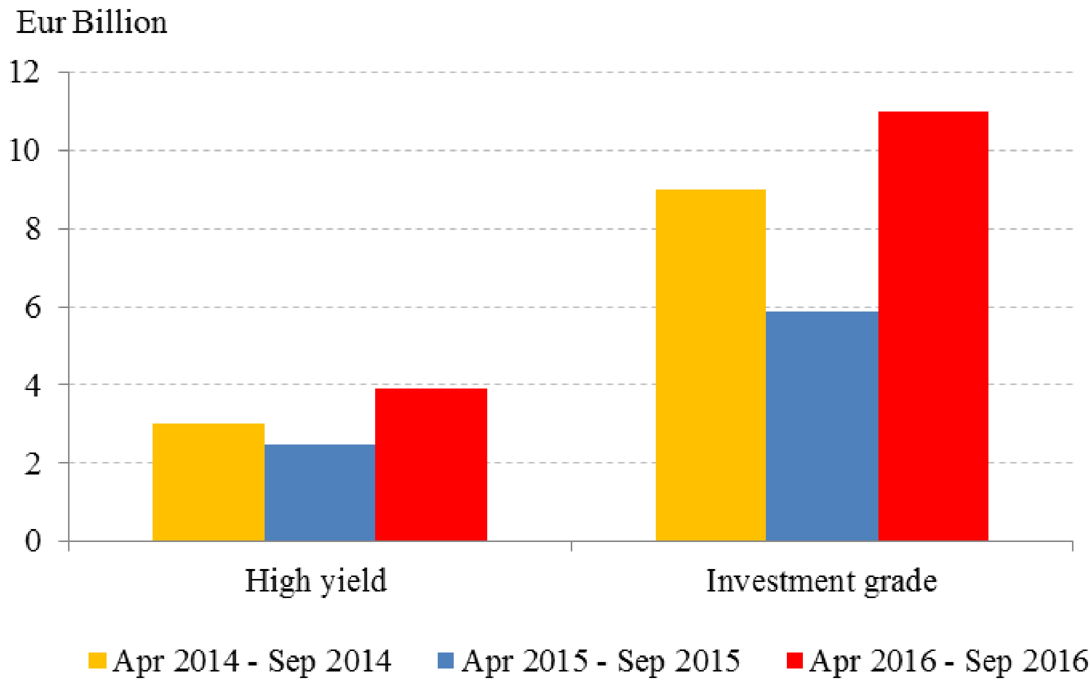
- A significant fall (absolute and relative) of the yields of CSPP-eligible bonds following the ECB announcement: The average yield dropped 46 bp more than OIS rate (8.3 bp at the beginning of the purchases).

**Average yield of Spanish long-term debt security issues**



# Direct effects (II): Bond issuances surged after CSPP announcement

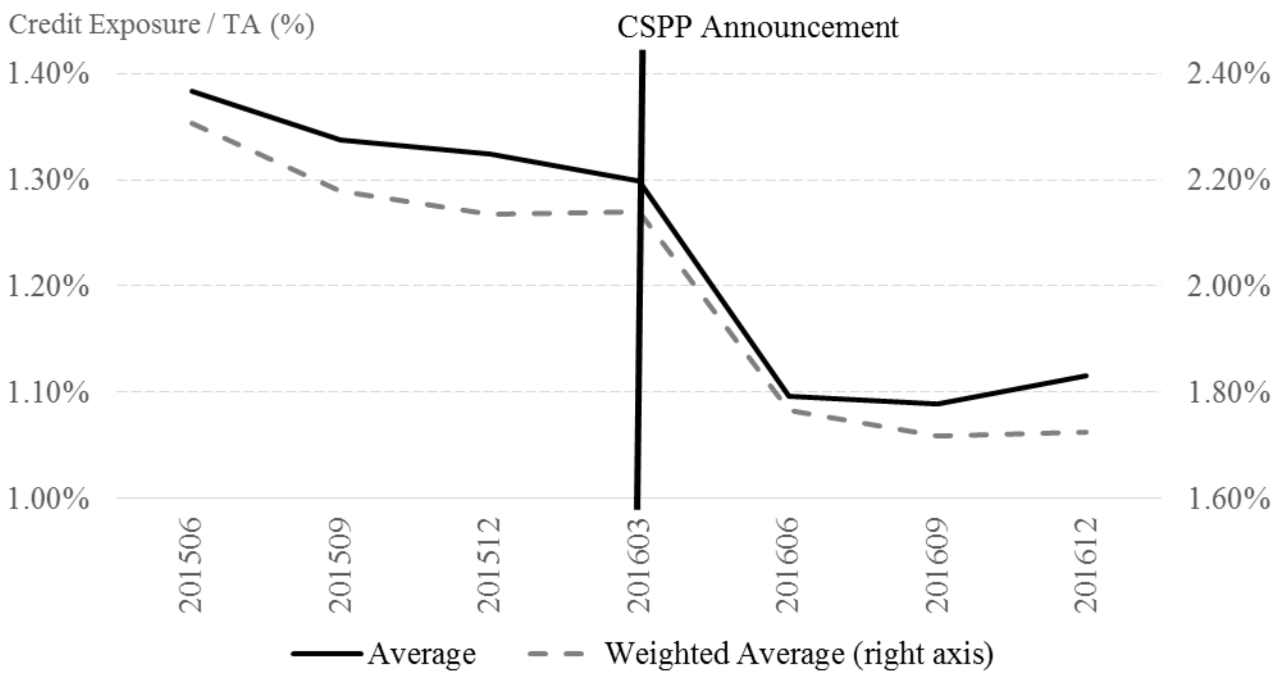
## Total gross bond issuance by Spanish non-financial institutions




- Probability of increasing the stock of bonds during the quarter after the CSPP announcement by firms with eligible bonds is 31%.
- Also, positive spillovers to firms with non-eligible bonds (prob. = 6%).

# Direct effects (III): Significant bonds-loans substitution by eligible firms (disintermediation effect)

## Relative credit exposure of resident credit institutions to debt issuer groups around and after the announcement of the CSPP




- For each 1 % increase in the net amount of bond outstanding, the credit balance of NF groups diminished by 0.44 %.

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# Did banks redirect their credit flows to smaller firms?

$$Credit_{j,b} = \alpha + \boldsymbol{\beta_1 Outflow\,s/T\,A_b} + \boldsymbol{\beta_2 D.Size_j} + \boldsymbol{\beta_3 D.Size_j x Outflow\,s/T\,A_b} + \delta F_j + \gamma B_b + \theta FB_{jb} + \varepsilon_{j,b}$$

- *Credit*$_{j,b}$ *:* credit growth rate of firm *j* with bank *b* (Feb16 - Jun16).
  - 523,738 bank-firm observations from CCR.
  - 303,915 firms from CBI.
- *Outflows/TA*$_b$ *:* ratio of total credit outflows from bond issuers relative to bank *b* total assets.
  - 29 credit institutions (82% of credit outstanding in Feb16).
- *D.Size*$_j$ :
  - SME.
  - Micro/small and Medium-sized.

# Banks suffering higher credit-outflows extended more credit to large bond-issuer firms

| | (1) | (2) |
|---|---|---|
| Outflows/TA (%) | 15.608*** | 15.619*** |
| SME x Outflows/TA (%) | -11.523*** | |
| Micro-Small x Outflows/TA (%) | | -11.860*** |
| Medium-Sized x Outflows/TA (%) | | -6.750** |
| Firm Control Variables | YES | YES |
| Bank Control Variables | YES | YES |
| Industry-Province-Size FE | YES | YES |
| Observations | 523,307 | 523,307 |
| R-squared | 0.039 | 0.039 |

**A bank with an outflow in credit to bond issuers of 1% of its TA increases its credit supply to a large firm by 15.6% more than other banks not suffering outflows.**

# Banks suffering higher credit-outflows also extended more credit to small/micro and medium-sized firms

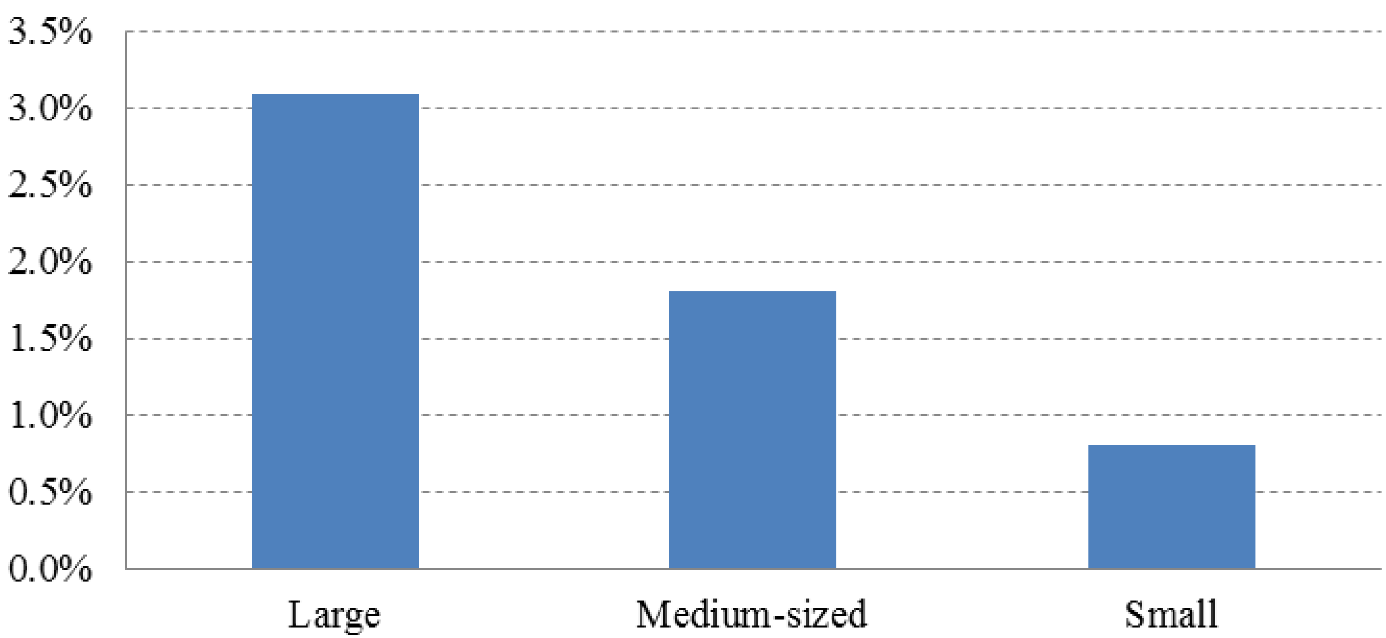
**A bank with an outflow in credit to bond issuers of 1% of its TA increases its credit supply to a micro/small (medium-sized) firms by 3.8% (8.9%) more than other banks not suffering outflows.**

| | (1) | (2) |
|---|---|---|
| Out | .608*** | 15.619*** |
| SM | 1.523*** | |
| Mi | | -11.860*** |
| Medium-Sized x Outflows/TA (%) | | -6.750** |
| Outflows/TA + SME x Outflows/TA (%) | 4.085** | |
| Outflows/TA + Micro-Small x Outflows/TA (%) | | 3.758** |
| Outflows/TA + Medium-Sized x Outflows/TA (%) | | 8.869*** |
| Firm Control Variables | YES | YES |
| Bank Control Variables | YES | YES |
| Industry-Province-Size FE | YES | YES |
| Observations | 523,307 | 523,307 |
| R-squared | 0.039 | 0.039 |

## Credit reallocation by firm size (I): Who benefited more?

- Quantifying the magnitude of new credit granted based on an outflow equivalent to 0.20% of the average bank total assets: €155 million (i.e., average fall in balance of each bank with large companies issuing debt)

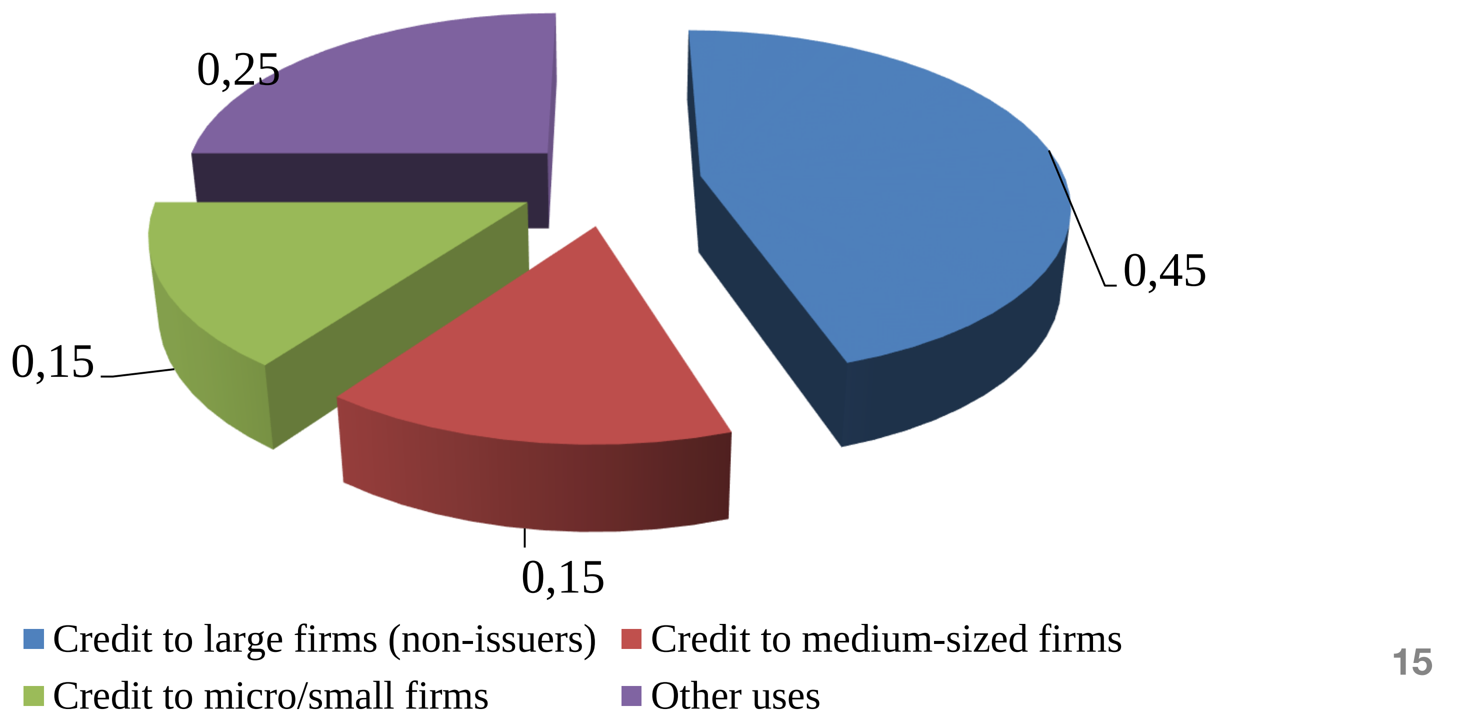
**Relative increase in the credit balance of the average firm in each category (no bond issuers) one quarter after the CSPP announcement**



## Credit reallocation by firm size (II): Who benefited more?

- Overall estimated increase in credit to firms that do not issue bonds:
  - ✓ €2,027 million to large firms.
  - ✓ €641 million to medium-sized firms.
  - ✓ €663 million to micro/small firms.
  - ✓ In total €3,331 million (total outflows €4,495 million)

**Credit to firms given an outflow of one euro in the loan portfolio of large firms that are bond issuers (in cents)**



## Summing up

- We provide new evidence on the role of a non-conventional monetary policy measure on the dynamics of bank (dis-)intermediation:
    - **Direct effects point towards disintermediation and crowding out of credit**:
        - ✓ The CSPP reduced the financing costs and stimulated new bond issuances
    - **Indirect effects talk about positive credit spillovers (crowding in) on smaller borrowers**:
        - The CSPP triggered a reallocation of credit previously given to bond-issuers towards other firms outside the fixed-income market, that are typically smaller.

# THANKS FOR YOUR ATTENTION

# CREDIT REALLOCATION: THE ROLE OF THE TLTRO

- The ECB also announced on March 10th 2016 a second series of targeted long-term refinancing operations (TLTRO II).
- **New pricing scheme**: The interest rate depends on whether the eligible net lending in the period Feb16 - Jan18 exceeds a benchmark of eligible loans:
    - If it exceeds the benchmark by 2.5%: DFR (now -0.4%).
    - Up to this limit: the rate will be graduated linearly.
    - If it does not exceeds the benchmark: MRO (now 0%).
- **Key: marginal cost of financing new lending depends negatively on previous intakes from TLTRO-I** (which was freely transferable under more attractive TLTRO-II)

## CREDIT REALLOCATION: THE ROLE OF THE TLTRO (cont'd)

- **Did the drop in the flow of credit after the CSPP lead banks financing through TLTRO to increase their lending to other firms?**

$$Credit_{j,b} = \alpha + \beta_1 D.Outflows_b + \boldsymbol{\beta_2 TLTRO_b} + \boldsymbol{\beta_3 D.Outflows_b x TLTRO_b} + \delta F_j + \gamma B_b + \varphi RL_{jb} + \varepsilon_{j,b}$$

- A bank that suffers **high credit outflows** after the announcement of the CSPP from bond issuers…
  - … and has used **50% of its TLTRO-allotment**, increases its credit to a given firm, on average, by **16.7%**.
  - … and **did not use the TLTRO funds**, increases its credit to a given firm, on average, by **9.1%**.
  - This difference (**7.6%**) is **statistically significant**.

# CREDIT REALLOCATION AND INVESTMENT

- How did borrowers use the funds freed up by the CSPP announcement?

  - Non-financial corporations with access to the bond markets have taken advantage of the CSPP to replace bank credit by bonds.

  - **HOWEVER**, firms benefiting indirectly from new lending used these funds to raise their real investment.
    - 20% of new investment in the quarter following announcement of CSPP may be attributed to this program.