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

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

✓ The yields of bonds issued by Spanish companies

✓ The bond issuances by Spanish companies

✓ <u>The bond-loan substitution by bond-issuer</u>

✓ <u>The credit reallocation towards non-bond issuers</u>

✓ <u>The complementarities between CSPP and TLTRO-II</u>

CSPP eligible assets:

- ✓ denominated in euro;
- ✓ minimum rating of BBB- or equivalent
- ✓ maturity: > six months and < 30 years
- ✓ issued by an euro area corporation
- ✓ the issuer of the debt instrument is not a credit institution
- ✓ eligible as collateral for Eurosystem credit operations
- ✓ **Accumulated purchases by October 2016 reached almost 12% of the outstanding amount of eligible assets**

Direct effect

The CSPP reduced the interest rates of corporate bonds

↓

Large companies increased the issuance of new bonds…

↓

… and used the funds to repay bank loans.

↓

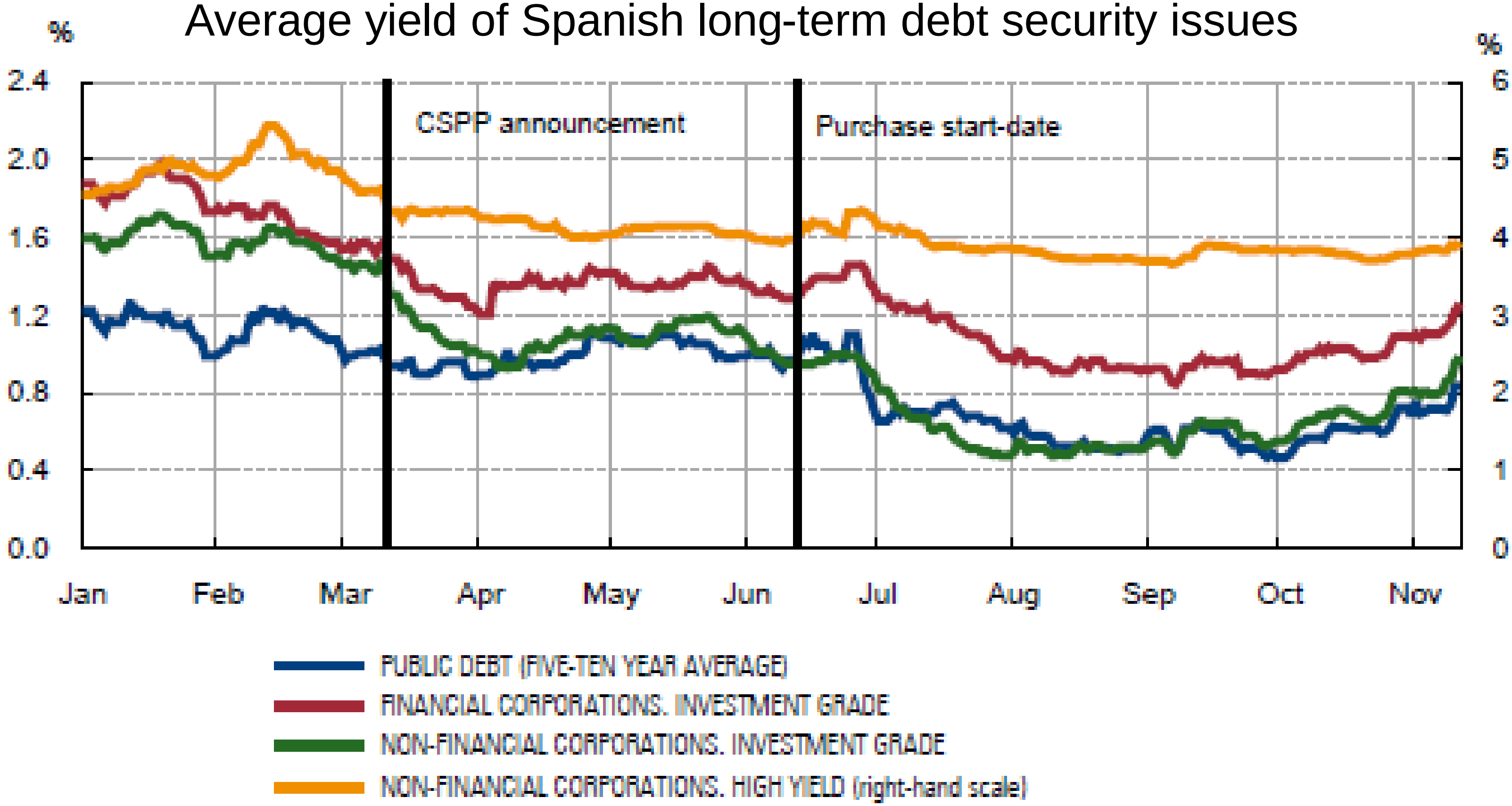
Indirect effect

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

Complementarities between CSPP and TLTRO-II

- Just for illustrative purposes…
    - Same evidence based on a more formal test.

Average yield of Spanish long-term debt security issues



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DIRECT EFFECT. BOND ISSUANCE

- **Were firms issuing CSPP-eligible bonds more eager to raise new issuances following the launch of the programme?**

$$Bond\ Net\ Issuance_{j,t} = \alpha_j + \beta_1 \cdot CSPP_t + \beta_2 \cdot CSPP_t x Eligible_j + \varepsilon_{j,t}$$

- Monthly data of 94 Spanish non-financial groups (all that have issued a bond at any time since 2006)

	Dec15 - Feb16 vs Apr16 - Jun16	Aug15 - Feb16 vs Apr16 - Oct16	Apr15 - Oct15 vs Apr16 - Oct16	Jan11 - Feb16 vs Apr16 - Jun16
CSPP x Eligible	0.227**	0.078**	0.083**	0.050*
	[0.103]	[0.036]	[0.039]	[0.028]
CSPP	0.058***	0.014	-0.002	0.014
	[0.021]	[0.011]	[0.011]	[0.012]
Firm FE	YES	YES	YES	YES
Observations	564	1,316	1,316	6,580
R-squared	0.418	0.349	0.346	0.305

ROADMAP

Direct effect

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Complementarities between CSPP and TLTRO-II

Are the funds obtained from the new issued bonds after the CSPP announcement to substitute loans by bonds?

$$Credit_{j,b} = \alpha_b + \beta_1 Bond\_Issue_j + \delta G_j + \theta GB_{jb} + \varepsilon_{j,b}$$

- $Credit_{j,b}$: credit growth rate of group *j* with bank *b* (Feb16 - Jun16) (CRR)
- $Bond\_Issue_j$: 1 if the group has issued bonds during the quarter following the CSPP announcement and 0 otherwise
- G_j : group characteristics (Erica and Amadeus)
- G_{jb} : group-bank relationship lending (CRR)

Table: Bond-loan substitution

	Feb16-Jun16	Nov15-Feb16
Bond_Issue (Yes = 1 / No = 0)	-0.306**	0.092
	[0.155]	[0.064]
Bank FE	YES	YES
Firm Controls	YES	YES
Observations	655	655
R-squared	0.157	0.224

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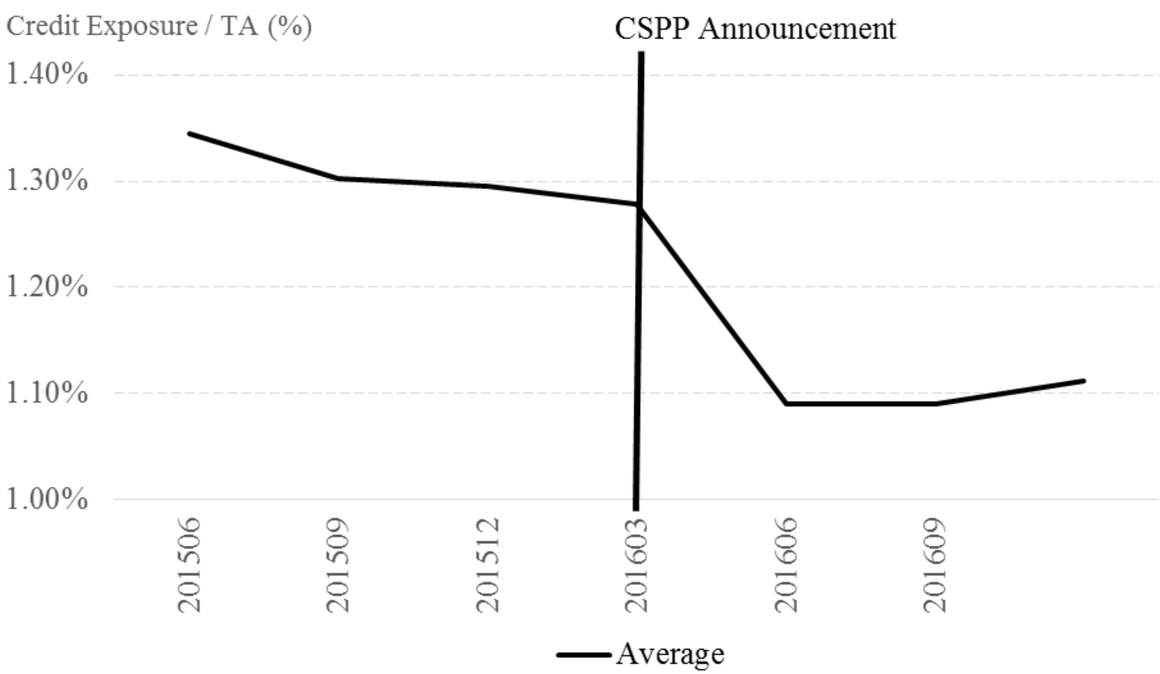
Complementarities between CSPP and TLTRO-II

- Parallel to increase in issuance activity, there was a decrease in the credit exposure of domestic banks to large bond-issuers.

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



- ❑ **Did the CSPP contributed to raise credit flowing to non-issuers?**

- Bond issuance carries high fixed costs that hinder the access of small and medium sized firms to this source of funding.

- In addition, SMEs exhibit tighter financing conditions than larger firms…

- ❑ **Did the CSPP contributed to raise credit flowing to SMEs?**

CREDIT-REALLOCATION BY FIRM SIZE

$$
\begin{aligned}
Credit_{j,b} &= \alpha_j + \boldsymbol{\beta_1 Outflows/TA_b} + \boldsymbol{\beta_2 D.Size_j} \\
&+ \boldsymbol{\beta_3 D.Size_j x Outflows/TA_b} + \delta F_j + \gamma B_b + \theta FB_{jb} + \varepsilon_{j,b}
\end{aligned}
$$

- *$Credit_{j,b}$:* credit growth rate of firm *j* with bank *b* (Feb16 - Jun16).
  - 256,986 bank-firm observations from CCR.
- *$Outflows/TA_b$:* 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 or Micro/small* and *Medium-sized*
  - 145,244 firms from CBI

CREDIT-REALLOCATION BY FIRM SIZE

	(1)	(2)
Outflows/TA (%)	14.058***	14.063***
SME x Outflows/TA (%)	-10.421***	
Micro-Small x Outflows/TA (%)		-10.746***
Medium-Sized x Outflows/TA (%)		-5.827**
SME	-0.109***	
Micro-Small		-0.114***
Medium-Sized		-0.051
Outflows/TA (%) + SME x Outflows/TA (%)	3.637**	
Outflows/TA (%) + Micro-Small x Outflows/TA (%)		3.318**
Outflows/TA (%) + Medium-Sized x Outflows/TA (%)		8.236***
Firm Control Variables	YES	YES
Bank Control Variables	YES	YES
Observations	256,986	256,986
R-squared	0.018	0.019

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Outflows/TA (%)	14.058***	14.063***
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Outf		
(%)		8.236***
Firm Control Variables	YES	YES
Bank Control Variables	YES	YES
Observations	256,986	256,986
R-squared	0.018	0.019

A bank with an outflow in credit to bond issuers of 1% of its TA increases its credit supply to a large firm by 14% more than other banks not suffering outflows.

CREDIT REALLOCATION BY FIRM SIZE

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 3.32% (8.24%) more than other banks not suffering outflows.

	(1)	(2)
Outflows/TA	58***	14.063***
SME x Outflo	21***	
Micro-Small x		-10.746***
Medium-Size		-5.827**
SME	09***	
Micro-Small		-0.114***
Medium-Size		-0.051
Outflows/TA (%) + SME x Outflows/TA (%)	3.637**	
Outflows/TA (%) + Micro-Small x Outflows/TA (%)		3.318**
Outflows/TA (%) + Medium-Sized x Outflows/TA (%)		8.236***
Firm Control Variables	YES	YES
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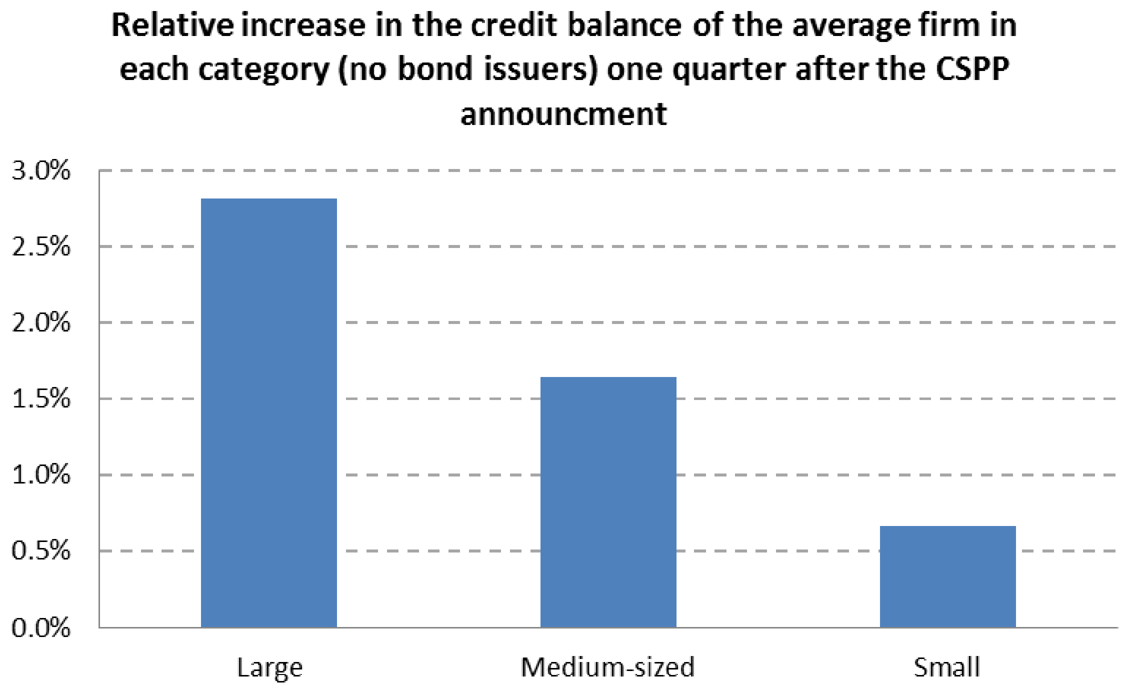
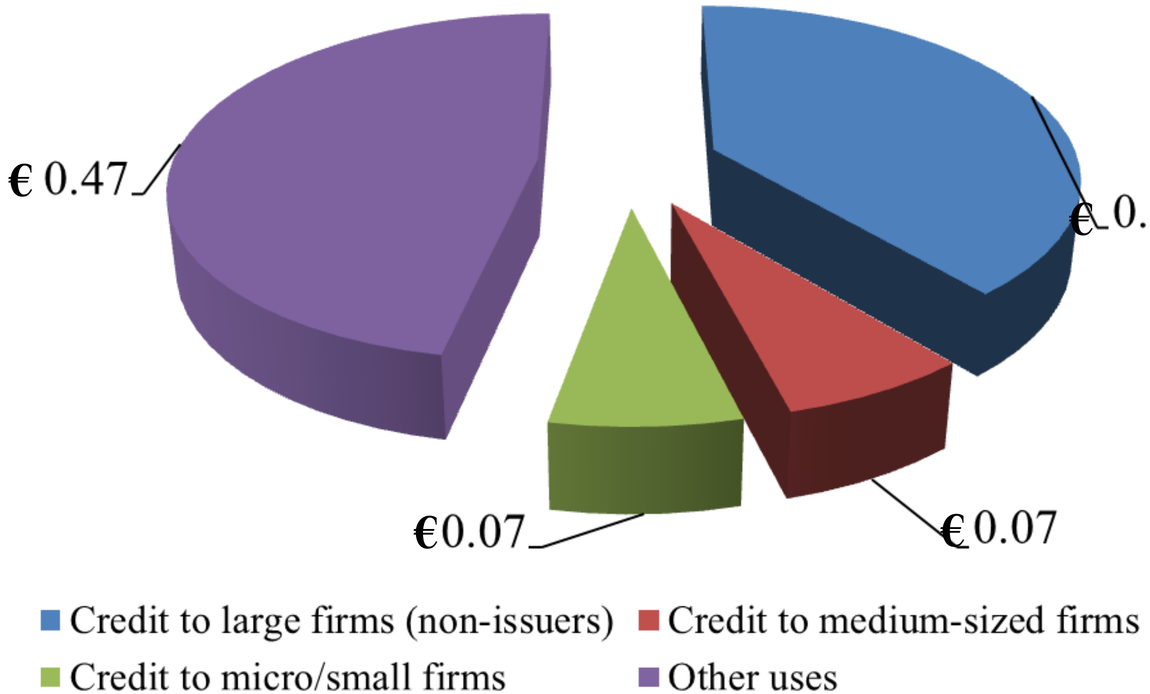
CREDIT REALLOCATION BY FIRM SIZE

- 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)



- Overall estimated increase in credit to firms that do not issue bonds:
  - ✓ €1,760 million to large firms.
  - ✓ €322 million to medium-sized firms.
  - ✓ €311 million to micro/small firms.
  - ✓ In total €2,394 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



CREDIT REALLOCATION BY FIRM RISK

$$Credit_{j,b} = \alpha_j + \boldsymbol{\beta_1 Outflows/TA_b} + \boldsymbol{\beta_2 D.Risk_j} + \boldsymbol{\beta_3 D.Risk_j x Outflows/TA_b} + \delta F_j + \gamma B_b + \theta FB_{jb} + \varepsilon_{j,b}$$

	(1)	(2)
Outflows/TA (%)	5.727***	5.540***
Distress Zone x Outflows/TA (%)	-4.285***	-4.671***
Distress Zone	-0.004	-0.043**
Outflows/TA (%) + Distress Zone x Outflows/TA (%)	1.441	0.869
Firm Control Variables	YES	YES
Bank Control Variables	YES	YES
Observations	256,069	256,069
R-squared	0.019	0.019

Direct effect

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Large companies increased the issuance of new bonds…

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Indirect effect

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Complementarities between CSPP and TLTRO-II

- The ECB also announced on March 10th 2016 a second series of targeted long-term refinancing operations (known as TLTRO II).
- The interest rate charged to each counterparty will depend on whether the eligible net lending in the period Feb16 - Jan18 exceeds a benchmark stock of eligible loans, which depends on past lending:
  - 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%).

- **Did banks financing through the TLTRO increase their lending to other firms after the CSPP?**

$$
\begin{aligned}
Credit_{j,b} &\\
&= \alpha + \beta_1 D.Outflows_b + \beta_2 D.Size_j + \boldsymbol{\beta_3 TLTRO_b} \\
&+ \beta_4 D.Size_j x D.Outflows_b + \boldsymbol{\beta_5 D.Size_j x TLTRO_b} \\
&+ \boldsymbol{\beta_6 D.Outflows_b x TLTRO_b} \\
&+ \boldsymbol{\beta_7 D.Size_j x D.Outflows_b x TLTRO_b} + \delta F_j + \gamma B_b + \varphi RL_{jb} + \varepsilon_{j,b}
\end{aligned}
$$

- *$TLTRO_b$:* amount of funds obtained under the TLTRO programme used up to January 2016 relative to the overall limit.
- *$D.Outflows_b$ (0/1):* equal to one if the bank is in the top tercile of the distribution of individual lenders' relative credit outflows.

CREDIT REALLOCATION. THE AMPLIFYING EFFECT ON THE TLTRO

- A bank that has used 50% of its TLTRO and <u>suffers high credit outflows from bond issuers</u>:
    - Increases its credit to a large firm, on average, by 33% after the announcement of the CSPP.
    - Increases its credit to a SME, on average, by 12.8% after the announcement of the CSPP.

- Changes in credit are not statistically significant for:
    - Banks that have used 50% of its TLTRO but <u>do not suffer high credit outflows from bond issuers</u>.

- We provide new evidence on the direct and indirect effects of the CSPP on the cost and structure of the external financing of NFCs:
  - Direct effects:
    - ✓ The CSPP reduced the financing costs and stimulated new bond issuances
  - Indirect effects:
    - The CSPP triggered a reallocation of credit previously given to bond-issuers towards other firms outside the fixed-income market, that are typically smaller.
  - The CSPP enhanced the effectiveness of the TLTRO.

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THANK YOU FOR YOUR ATTENTION

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Eurosistema

ADG Economics and Research