FIRST-TIME CORPORATE BOND ISSUERS IN ITALY

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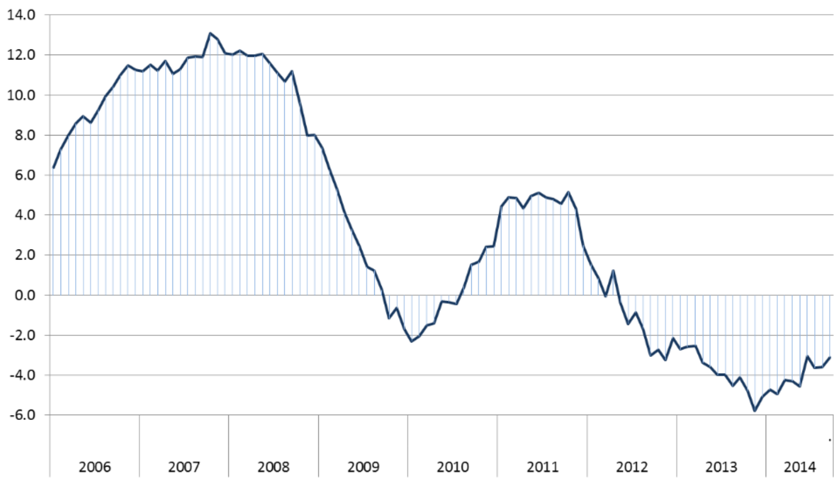
Context

- During the crisis the reduction of credit to non-financial firms reflected both demand- and supply-side determinants (liquidity, capital requirements, risk aversion)

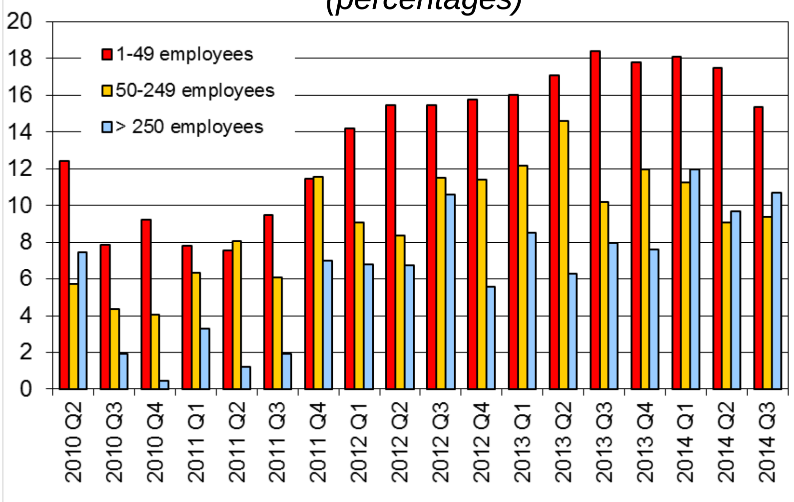
- Financing difficulties are marked for smaller firms, more dependent on banks, but also among large ones the credit rationing is high

- The debate around alternative financing channels became growingly important

Bank loans to non-financial firms
(12 months rates of change)

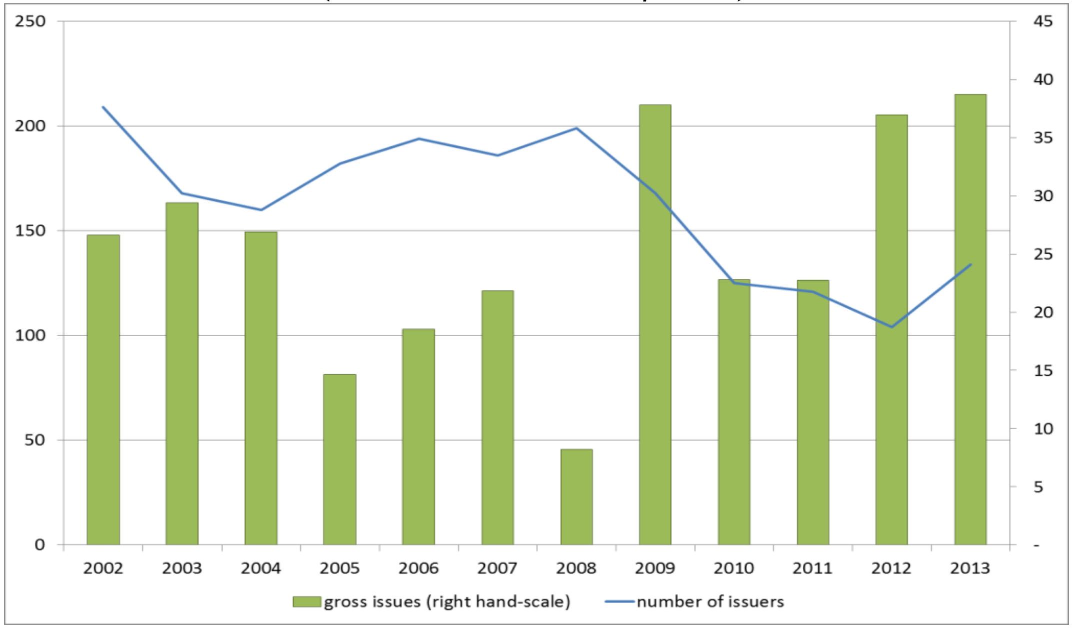


Share of rationed firms
(percentages)



Bond market: Increasing volumes, decreasing issuers

Italian corporate bond issues
(number and billions of euros)



- During the crisis the value of bonds issued by Italian companies has been significantly higher than in the previous period…
- …but the number of issuers decreased until 2012
- End of 2012: public intervention to promote bond issues by unlisted companies ("minibonds").

Questions and method

Research questions:

- Which kind of firms could actually gain access to the bond market?
- To what extent market debt can substitute bank debt within firms liabilities?

Method:

We analyze the characteristics of Italian firms that tapped the bond market for the first time between 2002 and 2013 and...

… based on econometric results, we try to identify a pool of possible first-time issuers to estimate the potential size of the bond market

Data

1. **Issues database**

   Dealogic & Bank of Italy (volumes: +20%; deals: +300%)

   - public and private placements

   - listed and unlisted companies

   - domestic and foreign/global markets

2. **Balance-sheet database** (Cerved archives)

   - Size, Age, Sector

   - Growth, investiments, profits

   - Financial structure indicators

   - …

First-time bond issuers

Italian corporate first-time bond issues
(number and billions of euros)

- Only issue database: about 1,200 first-time issuers between 2002 and 2013.
- Marked reduction during the crisis, especially among SMEs

Comparing issuers and non-issuers: the estimation sample

Control sample of non-issuers (from Cerved archives) includes:

- Firms without bonds among liabilities (we drop issuing firms starting from the year after the placement)
- Firms in the same sectors and with the same legal forms of first-time issuers
- Firms with bank loans

We also drop firms with total asset lower than 650,000 euros (1st pctl.) and issues lower than 175.000 euros (1st pctl.)

The merge of the two database and cleaning operations imply a significant reduction of the sample size.

The econometric analysis is run on **540 first-time issuers and about 405.000 non-issuers**.

The model

- Logistic estimates of the probability of starting issue bonds between 2002 and 2013

$$p(Y_{j,t}=1) = F(\alpha + \beta_1\, LOGSALES_{j,t-1} + \beta_2\, YOUNG_{j,t} + \beta_3 HIGH\_GROWTH_{j,t-1} + \beta_4\, GROWTH_{j,t-1} + \beta_5\, INVEST_{j,t-1} + \beta_6\, EBITDA_{j,t-1} + \beta_7\, LEVERAGE_{j,t-1} + \beta_8\, SHORTDEBT_{j,t-1} + \beta_9\, FIXED\_ASSETS_{j,t-1} + \beta_{10}\, SHORTDEBT_{j,t-1} {*} FIXED\_ASSETS_{j,t-1} + \beta_{11}\, LISTED_{j,t})$$

- as the proportion of issuers is very small (0.04 per cent), estimates might be affected by a rare events bias, that typically leads to an underestimation of the probability of the event. We correct for this bias using the algorithm suggested by King and Zeng (2001).

Independent variables

Reputation, transparency:

- *LOGSALES: log of turnover*
- *YOUNG: dummy for firms less than 6 years old*
- *LISTED: dummy for listed firms*

Financing need linked to growth:

- *GROWTH: dummy for firms with low positive growth of sales*
- *HIGH_GROWTH: dummy for firms with high positive growth of sales*
- *INVEST: investment expenses over sales*
- *EBITDA: profitability, EBITDA over total assets*

Maturity mismatches:

- *SHORTDEBT: share of short term financial debt*
- *FIXED_ASSETS: share of tangible assets*

Risk:

- *LEVERAGE: financial debt / (financial debt + equity)*
- *(young, high_growth, ebitda…)*

Empirical strategy

- **Baseline model** (+ robustness)

- **Sample splits:**
  - Financial vulnerability (sound vs. vulnerable and risk firms)
  - Size (Micro and small vs. medium-sized and large firms)
  - Timing (2002-2008 vs 2009-2013)

Results - baseline

Marginal effects on the probability of issue bonds for the first time

- Reputation, transparency (+)
- Financing need linked to growth (+)
- Maturity mismatches (+)
- Risk (-)

	(table 6, col.1)
LOGSALES	0.6150***
YOUNG	0.2365
LISTED	6.1198***
HIGH_GROWTH	0.094
GROWTH	0.4287**
INVEST	0.0013***
EBITDA	-0.0245***
SHORTDEBT	-0.0013
FIXED_ASSETS	0.0097***
*SHORTDEBT*FIXED_ASSETS*	0.0001**
LEVERAGE	-0.0091***
Observed probability	0.00039
Predicted probability (at means)	0.00016
Observations (number)	1,387,349
Emissions (number)	540
Roc index	0.84

Robustness on EBITDA

- Linearity of the relationship between EBITDA and the issue probability
- Interaction EBITDA*INVEST: higher issue probability for firms with high financing needs but low internal resources

	(table 6, col.2)	(table 6, col.3)
LOGSALES	0.6213***	0.5670***
YOUNG	0.2411	0.2419
LISTED	5.9432***	5.7055***
HIGH_GROWTH	0.1147	0.0828
GROWTH	0.4642**	0.4381**
INVEST	0.0012***	
SHORTDEBT	-0.0013	-0.0006
FIXED_ASSETS	0.0103***	0.0076***
*SHORTDEBT*FIXED_ASSETS*	0.0001**	0.0001
LEVERAGE	-0.0088***	-0.0093***
2^ q EBITDA	-0.3450***	
3^ q EBITDA	-0.5144***	
4^ q EBITDA	-0.6099***	
HIGH_INVEST		0.6236***
LOW_EBITDA		0.4767***
*HIGH_INVEST*LOW_EBITDA*		0.5400***

Result – sample split by firms' size

- Reputation, transparency (+)
- Financing need linked to growth
  (+ esp. for larger firms)
- Maturity mismatches
  (+ esp. for smaller firms)
- Risk
  (- esp. for smaller firms)

	micro or small size	**medium or large size**
	Table 7, col. 3	Table 7, col. 4
LOGSALES	0.3396***	0.5923***
YOUNG	0.3545	0.1921
LISTED	68.6229***	4.5371***
HIGH_GROWTH	0.2087	-0.0203
GROWTH	0.3638	0.5136**
INVEST	0.0009***	0.0029***
EBITDA	-0.0379***	-0.0017
SHORTDEBT	-0.0013	-0.0035
FIXED_ASSETS	0.0111***	-0.0024
*SHORTDEBT*FIXED_ASSETS*	0.0001***	-0.0001
LEVERAGE	-0.0142***	-0.0023

Results – pre-crisis vs. crisis

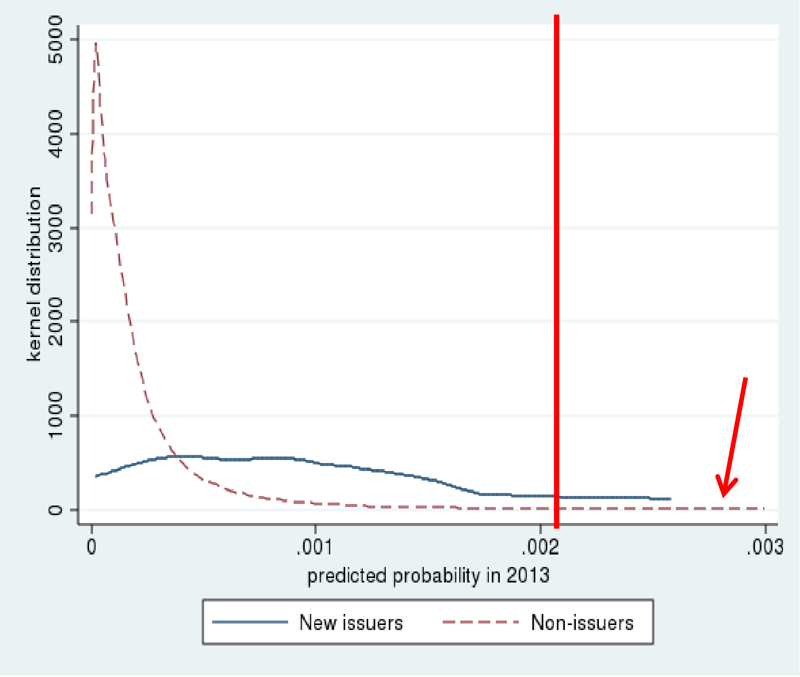
- Drop in the observed (and predicted) probability during the crisis
- No change in the signs of estimated coefficients, but quite big changes in their significance and size
- *LOGSALES, LISTED, LEVERAGE…* increase in investors risk aversion?

	pre-crisis	crisis
	Table 7, col. 5	Table 7, col. 6
LOGSALES	0.6003***	0.6699***
YOUNG	0.0453	0.6788**
LISTED	3.7622***	13.6685***
HIGH_GROWTH	0.1267	0.013
GROWTH	0.5440**	0.2104
INVEST	0.0025***	0.0014***
EBITDA	-0.0291***	-0.0148
SHORTDEBT	-0.0008	-0.0026
FIXED_ASSETS	0.0124***	0.0041
*SHORTDEBT*FIXED_ASSETS*	0.0001	0.0001
LEVERAGE	-0.0119***	-0.0058*
Observed probability	0.00055	0.00025

Potential issuers

- We calculate the predicted probability of issuing bonds for each issuer and non-issuer in our sample
- We consider potential issuers those (non-issuers) firms with a predicted probability higher than a certain threshold (the 75° percentile of the distribution of probability among issuers)
- The number of potential issuers varies among 850 and 1000 companies.
- Caveats: firms belonging to the same industrial group

Distribution of predicted probability for issuers and non-issuers (baseline model)



Conclusions

Main results

- Italian firms that entered the bond market in the last decade have some expected caracteristics: they are larger, listed, more transaparent to external investors and more able to bear fixed costs of the issue.
- We also find evidence of a «growth story» that seems more important among larger firms.
- Especially smaller firms start to tap the market with the aim of reducing maturity mismatches between assets and liabilities. Leverage also accounts: if firms are highly indebted they could be perceived as too risky.
- The drop of issues during the crisis seems mostly due to an increase of investors’ risk aversion

Main policy implications

- Bond market is a concrete alternative option to bank financing for medium-sized or large firms, with a solid financial reputation.

- Anyway, a further increase of Italian bond market (in terms of number of issuers) seems possible for two reasons.
    - First, there are companies that never issued bonds that are very similar to the issuers of previous decade.
    - Second, «minibond» rules can effectively encourage placements as they extend to unlisted firms some advantages of listed ones (interest expenses deductibility, fiscal advantages for investors, no limit to the volumes).

Thanks

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