The real effects of improving access to capital market financing: evidence from European SMEs
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Disclaimer: The opinions in this presentation are those of the author and do not necessarily reflect the views of the Banque de France.
Summary

Big picture

- This paper explores the relevance of capital market supply frictions for corporate capital structure decisions

Main questions

- Does access to capital markets financing help easing SMEs financing constraints? YES
- Does it have real effects? YES

Main Ingredients

- Industry-level data: 17 sectors; 9 European countries; 2000-2013
- Country-level positive supply shocks: introduction of equity and bond market segments, dedicated to SMEs
- Industry level regressions in a diff-in-diff setting comparing industries in countries that introduced equity/debt market before and after the shock, versus industries in countries that did not
Fact 1: European economies are bank dependent

- Bank finance supply is highly procyclical (Becker & Ivashina, 2014)
- ⇒ European firms are particularly sensitive to banking crisis
Fact 2: SMEs are highly exposed to banking shocks

- IR spreads btw. small (<1M€) and large loans in Eurozone

- Highly reliant on bank finance, cannot substitute across different sources of external funding (small size, lack of transparent and standardized info)

- Recent regulatory changes (Basel III, IFRS) make lending to SMEs more expensive for banks

⇒ Call for a need for diversification of sources of external finance for SMES
Main results

Capital structure

1. The introduction of a SME equity segment increases average equity financing by 6%
2. The introduction of a SME bond segment increases average bond financing by 9.5%
3. Complementarity between introduction of SME bond and equity segments (spread fixed costs)

Real Effects

1. Equity financing helps increasing investment in tangible assets
2. Access to debt & equity markets leads to a decrease in cash holdings
Discussion

Paper examines a hugely important topic

1. Fits into the policy debate on financing growth and innovation
2. Financial stability debate: better risk sharing and diversification of investors portfolios

Some comments

1. Literature
2. Identification challenges
3. Results comments
4. Some econometrics
5. Minor points
Where does the paper fit in the literature?

**Effects of financing constraints for SMEs: extensive literature**

- Credit access during downturns
  - Ongena, Popov & Udell 2013; Popov & Udell 2012; Puri, Rocholl & Steffen 2011

- SME finance specificities & Substitution btw. types of lending

- Real effects of SMEs financing constraints
  - Banerjee & Duflo 2014; Banerjee 2014; Beck & Demirguc-Kunt 2006

**(Some of) other related literature strands**

- IPO literature

- Differences in behavior of public and private firms
  - Investment sensitivity e.g. Asker, Farre-Mensa & Ljungqvist, 2014; Sheen 2009
  - Debt financing and borrowing costs e.g. Brav 2009; Saunders & Steen 2011
Identification

1. **Supply shocks: introduction of dedicated SME segments**

<table>
<thead>
<tr>
<th>Control Countries</th>
<th>Treated Countries</th>
<th>Equity</th>
<th>Bond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Germany</td>
<td>2005</td>
<td>2010</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>France</td>
<td>2005</td>
<td>2014 (in sample?)</td>
</tr>
<tr>
<td>Poland</td>
<td>Italy</td>
<td>2008</td>
<td>2013</td>
</tr>
<tr>
<td>Portugal</td>
<td>Spain</td>
<td>2009</td>
<td>2013</td>
</tr>
<tr>
<td>Slovakia</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

- Well suited as specific to a certain type of K; staggered

2. **Specification: Diff-in-diff**

\[ y_{cst} = \beta [EquitySegment \times \text{post}]_{ct} + \gamma [BondSegment \times \text{post}]_{ct} + \text{time FE} + \text{country FE} + \text{ind FE} + \epsilon_{ct} \]

3. **Identification assumption**

- Introduction of an equity/bond segment is a quasi exogenous shock
- Specifically, demand for equity and bond finance by SMEs in treated and control countries is the same
Identification challenges
Parallel trends

1. **Timing of the initiative is not exogenous**
   - What are the motivations behind the introduction of these markets? Does it come from rising demand for financing in the treated country?
   - Then the effect captures different demand patterns

2. **Decision to be listed/tap the bond market is endogenous**
   - Treated firms - driving the country-level outcome - are likely very special
   - IPOs involve companies that grew faster and were more profitable ex-ante (*Pagano, Panetta & Zingales 1998*)
   - Firms choose to go public at a specific stage in their life cycle → Post-IPO performance could be driven by reversion to the mean and life cycle effects, rather than by the effect of becoming publicly traded (*Pastor, Taylor & Veronesi 2009*)
Identification challenges

Suggestions

1. **Pre-trend**
   - Graph the dynamics of average equity funding ratios, over a time window centered on the supply shock date, in treated vs. non-treated countries (= fig. 8 + table 2)
   - Decompose the effect over time in regressions by interacting treatment with sub-period dummies in pre and post

2. **Contemporaneous changes in demand**
   - Add time-varying country-specific controls (macro, financial markets, banking)
   - Any proxy for credit demand conditions from ECB surveys?
   - Can interact each of this characteristics with treatment to capture the difference in sensitivities

3. **Firm decision to tap the equity/bond market**
   - Can you get firm level data?
   - Is there some random exclusion from the listing you could use? e.g. firms that initiated IPO process but pulled out (Bernstein 2015); firms just too small to be listed
Identification

Other challenges & Suggestions

1. Industry-level regressions
   ▶ Composition changes: not observing the same firms over time

2. Other changes induced by the shock
   ▶ Are you identifying a change in fin. constraint or sthg. else like the effect of changes in ownership, governance?

3. Policies causing differential changes in K structure
   ▶ Other policies changing at the same time ...(discussed in the paper)
   ▶ ... or changing after the shock: issue if use a single post-period dummy

Suggestions

▶ DDD analysis to back up financing constraints story
e.g. identify industries more in need of external finance à la Rajan Zingales and do a triple diff to see whether the effect is stronger for these industries

▶ Show the time dynamic of the effect
Some results comments

1. Joint assessment of bond and equity funding initiatives
   ▶ Bond funding ratio as LHS: "Col.3 suggests the introduction of a SME equity segment has no further impact on the bond funding ratio", but:
   ▶ Bond segments are introduced 5 to 8 years after equity segments
   ▶ No post-period for bond segment introduction but for Germany
   ▶ Equity funding ratio as LHS: are the same firms present on both segments?

2. Real effects
   ▶ Equity financing helps investment
   ▶ How does it compare with other literature results?
     Pagano et al. 1998: "Companies appear to go public not to finance future investments, but to rebalance their accounts after high investment and growth"
   ▶ Reasons why SMEs should behave differently? Franck & Goyal 2003

3. Other effects to look at
   ▶ Any substitution effect with bank funding? Trade credit?
     → Less use of trade credit would strengthen financing constraints story
   ▶ Profitability, probability of default
Some econometrics

- Are standard errors robust? clustered?

- Concern: some of the variation in your error terms is likely to be correlated between industries within state and correlated over time
  - State business cycle
  - Capital structure as well as investment variables are typically highly positively serially correlated

→ understate the standard deviation of the DD estimator

Suggestions

- Add state control variables to absorb systematic within-cluster correlation

- Improvement on inference is challenging because few states: 9 ≪ 50
  - Could cluster standard errors by state*year
  - Some form of block bootstrap work well with small number of groups: wild cluster bootstrap (Cameron, Gelbach & Miller 2008)
Minor points

- What is the definition used for SMEs? Is it consistent across countries?
- Why is bond funding ratio positive in descriptive statistics before the market does exist? Are some firms able to issue on the market for large firms?
- Equation: $\epsilon_{it}$ instead of $\epsilon_{ct}$
- Estimation: indicate std errors under the coefficients to get an idea of the precision of the estimates
- Table 8: “The coefficients of the post variable are not reported”; these post variables do not exist as they are entirely spanned by the time FE you have in all specifications
- Table 9: missing fixed effects
Concluding remarks

This is a nice paper

Asking a very interesting but challenging question to answer