Real effects of the Sovereign Debt Crisis in Europe: Evidence from Syndicated Loans

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The paper in a nutshell

Three main empirical findings

1. **<u>GIIPs bank dependent</u> firms are <u>financially constrained</u> during the sovereign crisis**

2. **GIIPs bank *<u>higher dependent</u>* firms are *<u>more negatively affected</u>* than GIIPs bank lower dependent firms by the crisis:**
   1. lower investment
   2. lower sales growth
   3. lower employment rate

3. **Cross-country transmission of sovereign crisis**

   If the lead arranger of the SL is from a GIIPS country, firms in non GIIPS country :
   - are financially constrained
   - bear negative real effects

Identification challenge

Firm

Assets | Liabilities

Syndicated Loans

Real Effects: sales growth rate, investment, employment

Bank

Assets | Liabilities

Syndicated Loans

Sovereign bonds

Sovereign Debt Crisis

Challenge: **sovereign debt crises** arise in countries with weak fiscal position due to longer history of public debt but also **low economy growth rates, political instability, lack of structural reforms,...** that also affect **firm growth rates**

Identification challenge (cond' t)

Bottom line: to identify supply side effects, we need

1) measure of GIIPS sovereign risk exposure of the bank

2) measure of firm dependence on bank (exposed to GIIPS)

3) and ideally we would want the sovereign crisis not to affect the firm performance independently from the bank

4) and ideally we would want the sovereign crisis to occur not simultaneously with other events that affect bank decisions (deleveraging imposed by regulators)

The proxy of bank exposure to sovereign

Bank exposure to sovereign == bank's country of incorporation

Implications:

1. all banks in each of the GIIPS countries have the same HIGH exposure, constant over time
2. all banks in France, Germany and UK have the same LOW exposure, constant over time

But there is potentially a quite high time-series variability and cross-sectional heterogeneity in bank exposure to sovereigns

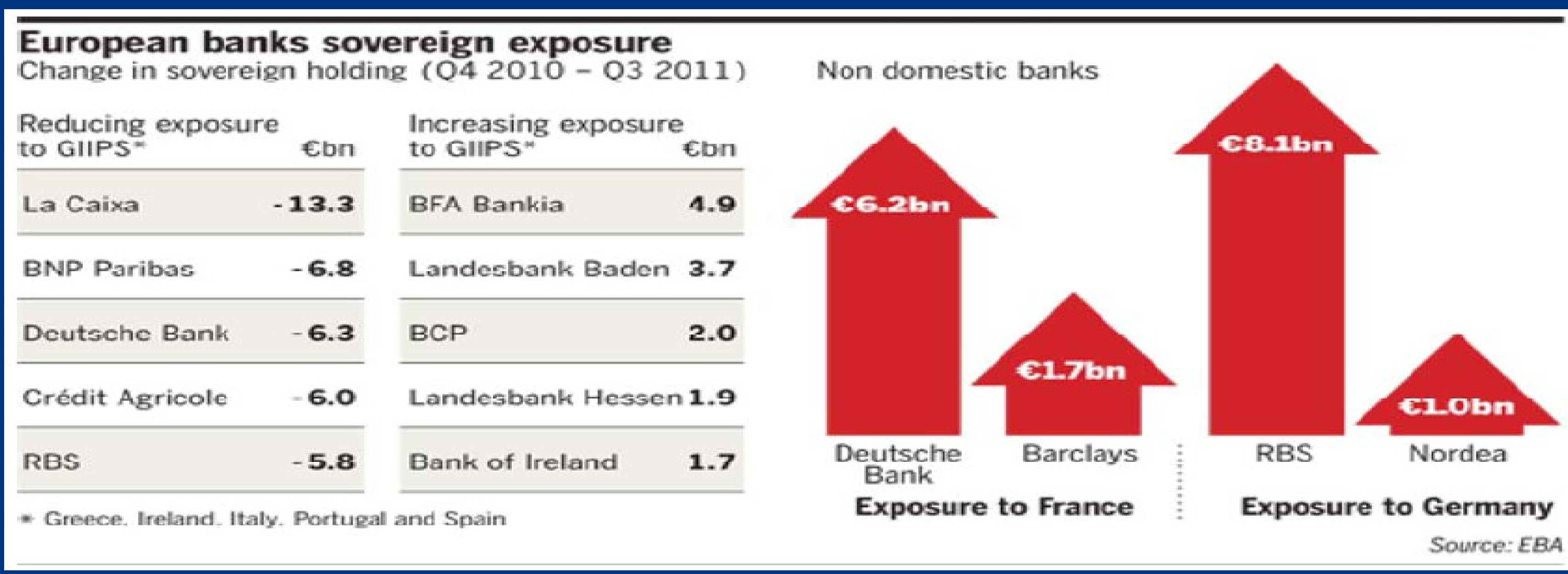
The proxy of bank exposure to GIIPS (high/low) throws away relevant information

The paper relies on a dummy variable (crisis) to identify the effect....

The proxy of bank exposure to sovereign (cond’t)

One of your robustness test uses EBA stress test released in 2011 - very nice because you interact **sovereign position** x **CDS_sovereign**, however

You gain cross-sectional variation, but again, no time-series variability, so no change in the exposure before/after the crisis



European banks sovereign exposure
Change in sovereign holding (Q4 2010 – Q3 2011)

Reducing exposure to GIIPS*	€bn	Increasing exposure to GIIPS*	€bn
La Caixa	-13.3	BFA Bankia	4.9
BNP Paribas	-6.8	Landesbank Baden	3.7
Deutsche Bank	-6.3	BCP	2.0
Crédit Agricole	-6.0	Landesbank Hessen	1.9
RBS	-5.8	Bank of Ireland	1.7

* Greece, Ireland, Italy, Portugal and Spain

The proxy of bank exposure to sovereign (cond't)

Possible alternatives:

1. Why not using **EBA stress-test released on 2010** (based on balance-sheet at December 2009) to capture pre-crisis bank exposure to sovereigns?

2. **Why not a regression based approach** to measure sovereign exposure: bank stock returns on sovereign bond returns, or bank CDS on sovereign CDS

The proxy of GIIPS bank dependent firms

Syndicated loan market: is this the most natural setting to identify the real effects of sovereign crisis?

a. Very large companies
b. Loans used to finance large, complex and credit-worthy projects, unlikely to occur frequently for the same firm (panel?)
c. How big is the syndicated loan market (n. of companies or credit) in Greece, Portugal, Spain, Ireland or Italy?
d. Observations ranges from 5,000 to 2,000 for all 8 countries, 625 obs. by country on average, 89 firms by country on average

Can we do something better to address endogeneity?

- **Is the panel approach the sharpest diff-in-diff?**
- **Sharper alternative?**
  - group of firms highly crisis resilient that uses GIIPS banks (treated group)
  - group of firms highly crisis resilient that uses non-GIIPS banks (control group)
  - treated and control should be ex-ante similar (size, product markets, sales volatility, industry, ...)

In conclusion:

- Very interesting research question!

- Very much enjoyed reading the paper!