Sovereign Default Risk and Firm Heterogeneity

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My Discussion: Comments on

- What does this paper do?
- Facts
- Model
- Quantitative Exercise

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- 100000 other things to say

Question: What are the Real Effects of Debt Crises?

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  - Old View: output loss Eaton Gersovitz
  - Less Old View: output loss through banking disruption Gennaioli, Martin and Rossi
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- Crises
  - distinguish default from debt crisis: news shock
  - markets: debt or banking or both
  - caused by: fundamentals or beliefs
  - within: a country or a union

Conceptually, This paper ...

1. debt crisis $\rightarrow$
2. price of debt falls $\rightarrow$
3. banks balance sheets deteriorate $\rightarrow$
4. lending rates increase; constraints tighten $\rightarrow$
5. firm's relying on bank credit reduce investment and employment
6. output falls, reallocation falls, aggregate TFP falls.

What is the Value Added of Putting these Pieces Together

1. gives more content to the real effects of debt crises
2. debt crisis is a particular shock to banks
3. highlights channel linking banks to firms

Missing Elements

- Government
  1. Revenues Fall and default probability increases
  2. Government chooses to support banks, bond prices fall more
  3. EU/ECB Bailout
- corporate default. (Moretti)

Questions the Paper Could be Posing

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- What does a default model with links to banks and firms "look like"?
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- Paper touches on all three. FOCUS on last question, building on the first two

Their Evidence

- comes way too late (p28)
- key points
  - crises in 2010 when spreads rose, ends with OMT in summer 2012
  - output and TFP fell well before
  - TFP rose briefly during crises
  - firm spreads rose too

Figure:

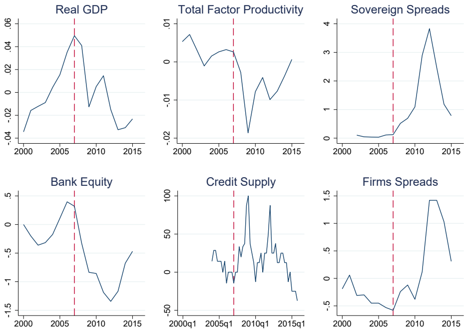

Figure 2: Aggregate time series

Italy: Aggregate Time Series (ABB)

Other Evidence: Some Shown Below

- Bank of Italy: Albertazzi et al (2012)
- Bank of Italy: Lenzu et al (2019) reallocation and productivity, reallocation gains highest in 2008/9
- IMF: Zoli (2013)
- Greece: Fakos et al

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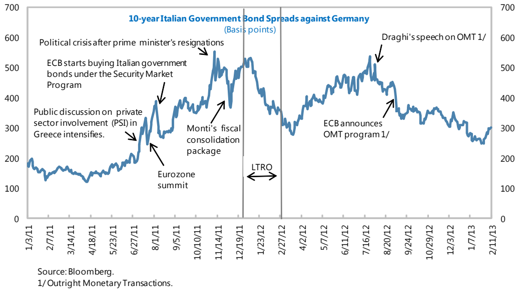

Note: Ups and downs every time Sarkozy met Merkel

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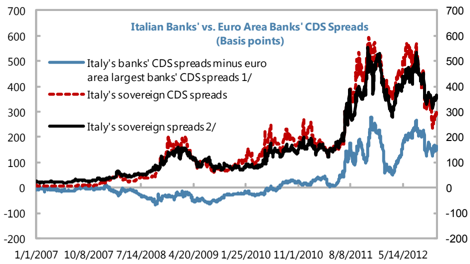

Sources: Bloomberg and IMF staff calculations.

Note: CDS Spreads move together

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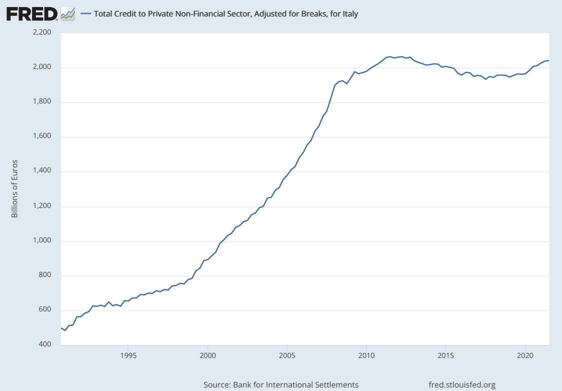

Note: Overall Flow of Funds to Non-Financial Sector: substitution ?

Greece: Fakos et al

- investment slump in Greece during crisis
- caused by reduction in credit supply
- firms finance with debt or retained earnings... occasionally binding constraint
- back out considerable credit supply shocks
- partial equilibrium exercise

Model: Questions/Concerns

- islands: is italy really a bunch of islands? Dont the large 5 banks operate throughout?
- no risk aversion of HHs: Usually key in default models
- firms
  - no adjustment costs, ...no exit
  - matters for whether borrowing constraints *ever* bind
  - here borrowing constraints on working capital are assumed to bind. evidence of this?
  - what is the marginal source of funds for firms?
  - retained earnings used to relax constraints no?
  - do they really generate (16) as a FOC?
  - Moretti paper has adjustment costs but default hits firm productivity directly

Government Model: Questions/Concerns

- government's state contingent bond choice determines future probability of default and thus spread
- objective function $U_g(G)$
- AR(1) cost of default: should it be public information? Independent of fundamentals? what identifies the serial correlation of the taste shock?
- A falling implies less revenue and so more likely default. back to this point later

Quantitative Analysis Regressions

- key is (27)

$$\hat{py}_{i,t} = \alpha_i + \hat{\beta}\left(spr_t \times lev_i \times exp_i\right) + \delta' \Gamma_{i,t} + \varepsilon_{i,t},$$

- lots of effort to explain the regression and to decipher the estimated β
- prefer indirect inference approach that comes later
- other studies point to a nonlinear specification: link to occasionally binding constraints

Quantitative Analysis: estimation/calibration

- Data Points
  - Amadeus
  - balanced vs unbalanced panels: what were exit rates during this period?
  - are these the firms with relationships with small banks as marginal source of credit? broad measure of debt used.
  - geographical dispersion of exposure is interesting but aren't balance sheets integrated?
- Approach
  - prefer use of (27) or similar equation here through indirect inference
  - have estimated some of the same parameters for Italy: markup around 20%
  - estimation of government discount factor: identification? Incorporates turnover?
  - direct effect: 75% of firms have a working capital requirement of 1.27; surely much of the debt is not for working capital!

Counterfactual: Heart of the Analysis

What do they do?

- What does a default model with links to banks and firms "look like"?
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- realized shocks set to match output and spread. But spread impacted by TFP too?

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- Find
  - substantial output loss
  - indirect effect is negative ???

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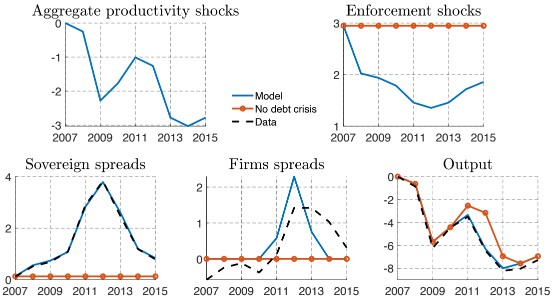

Figure 4: Measuring the output costs of sovereign default risk

Note: From ABB

Counterfactual: Evaluation

Yes!!

- focus on key moments and parameters driving results
- learn a lot from this part of the estimation exercise: identify the parameters and moments that are key to the question.
- find substantial output loss

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But

- TFP reduction
  - did it fall at the firm level or in aggregate?
  - fall in reallocation due to increased bank frictions?
  - why is there the same decline in TFP without the crisis?? should be interdependent or is crisis independent of fundamentals?
  - not sure this resolves the initial question about causality
- Source of Crises is what?
  - cheap talk of Sarkozy-Merkel
  - TFP reduction
  - default cost
  - other countries??

Suggested Order

- Motivation
- Data
- Model
- Estimation of Model : use some moments including (27)
- Counterfactuals
- Section 4 with reduced form estimation and interpretation is another paper