“Trade Shocks and Credit Reallocation”

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Summary #1: This Paper in a Slide

How do frictions to the reallocation of credit affect the impact of the China shock on the real economy?

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After China's entry into the WTO:

- Firms in exposed sectors are affected by increased import competition and fail to repay their debt to banks;
- Banks lending to exposed firms experience a decline in funding/core capital and reduce overall lending;
- General reduction in credit for both exposed and non-exposed firms, leads to a reduction in output, investment, employment.

$\Downarrow$

Frictions to the reallocation of credit within and across banks amplify the negative effects of the China shock.

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Summary #2: A Simple Framework

Firm's problem:

$\underline{t = 1}$

$$\max_p \ \pi \equiv p \cdot q(p; P) - w \cdot l(q(p; P)) - f(1 - d)$$

$\underline{t = 2}$

$$\max_p \ \pi \equiv p \cdot q(p; P) - w \cdot l(q(p; P)) - (1 + r_L) fd$$

The firm borrows fd at $t = 1$, repays it at $t = 2$.

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Bank's problem (adapted from Fillat, Garetto, and Smith, 2019):

$$\begin{aligned} \max_{L_t,D_t,M_t} \Pi_t \quad &\equiv \quad r_L L_t + r_M M_t - r_D D_t - \mathcal{C}(D_t, L_t, M_t) \\ s.t. \quad & \quad \bar{E}_t + D_t \geq L_t + M_t \qquad \text{(resource constraint)} \\ & \quad \frac{\bar{E}_t}{W(L_t, M_t^+)} \geq k \qquad \text{(capital requirement)} \end{aligned}$$

where $L_t = N_f fd$ and $\bar{E}_{t+1} = \bar{E}_t + \Pi_t$.

Summary #2: A Simple Framework

The China shock: between $t = 1$ and $t = 2$, P declines.

$\underline{t = 1}$

$$\max_{p} \pi \equiv p \cdot q(p; P) - w \cdot l(q(p; P)) - f(1 - d)$$

$\underline{t = 2}$

$$\max_{p} \pi \equiv p \cdot q(p; P) - w \cdot l(q(p; P)) - (1 + r_L) f d$$

Reduction in π may lead to no debt repayment.

Decreased loan repayments reduce bank profits Π_t:

$$\begin{aligned} \max_{L_t, D_t, M_t} \Pi_t \quad &\equiv \quad r_L L_t + r_M M_t - r_D D_t - \mathcal{C}(D_t, L_t, M_t) \\ s.t. \quad & \quad \bar{E}_t + D_t \geq L_t + M_t \qquad \text{(resource constraint)} \\ & \quad \frac{\bar{E}_t}{W(L_t, M_t^+)} \geq k \qquad \text{(capital requirement)} \end{aligned}$$

and equity $\bar{E}_{t+1} = \bar{E}_t + \Pi_t$ declines.

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What are the Origins of the Frictions to Credit Reallocation?

Back to the bank's constraints:

$$\begin{aligned} \bar{E}_t + D_t &\geq L_t + M_t \\ \frac{\bar{E}_t}{W(L_t, M_t^+)} &\geq k \end{aligned}$$

1. **Frictions to the reallocation of funds within banks.**
   - A decrease in equity may bring capital requirements to bind $\Rightarrow$ banks need to decrease assets $\Rightarrow$ decrease in credit supply.

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   - FHR find that interbank funding doesn't change: why?
   - Interbank borrowing is a costly source of funding.
     - In the US, it increases the deposit insurance premium (see the FDIC Current Assessment Rate Calculator).
     - Stockholders may oppose increased bank leverage.

What are the Origins of the Frictions to Credit Reallocation?

2. **Frictions to the reallocation of credit across banks.**

   - Why can't other banks replace exposed banks in lending to firms?
     - Capacity constraints? Information frictions?
     - Relationship banking?
     - Or is there limited supply of banks with capital buffers large enough to absorb the "missing credit"?
   - FHR find that branches of **foreign banks** don't exhibit decreased core capital.

Why Foreign Banks are Unaffected by the China shock?

Back to the bank's constraints:

$$\frac{\bar{E}_t}{W(L_t, M_t^+)} \geq k$$

Foreign bank's equity: $\bar{E}_t = \sum_c \bar{E}_{ct}$ where $c = 1, \ldots C$ denote the countries where the bank operates.

- FHR argue that a decline in equity in Italy can be absorbed through an intra-bank reallocation of capital from other countries...
- ... but why shouldn't the decline in equity be roughly proportional across countries? The China shock is a "global" shock.
- Or is it the case that banks/branches in Italy are more capital-constrained than banks in other countries?

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Bank Size, Ownership, and Organization

- Do foreign banks behave differently because of their **size** or because of their **foreign ownership**?
  - The role of size versus ownership is important for regulatory policies (design heterogeneous capital requirements).
  - Size interpretation is puzzling: in the US, large banks (domestic and foreign) have smaller than average buffers on their capital requirements. $\Longrightarrow$ [Go to Figure]
  - Compare the responses of foreign banks and of large domestic banks lending to the same firms.

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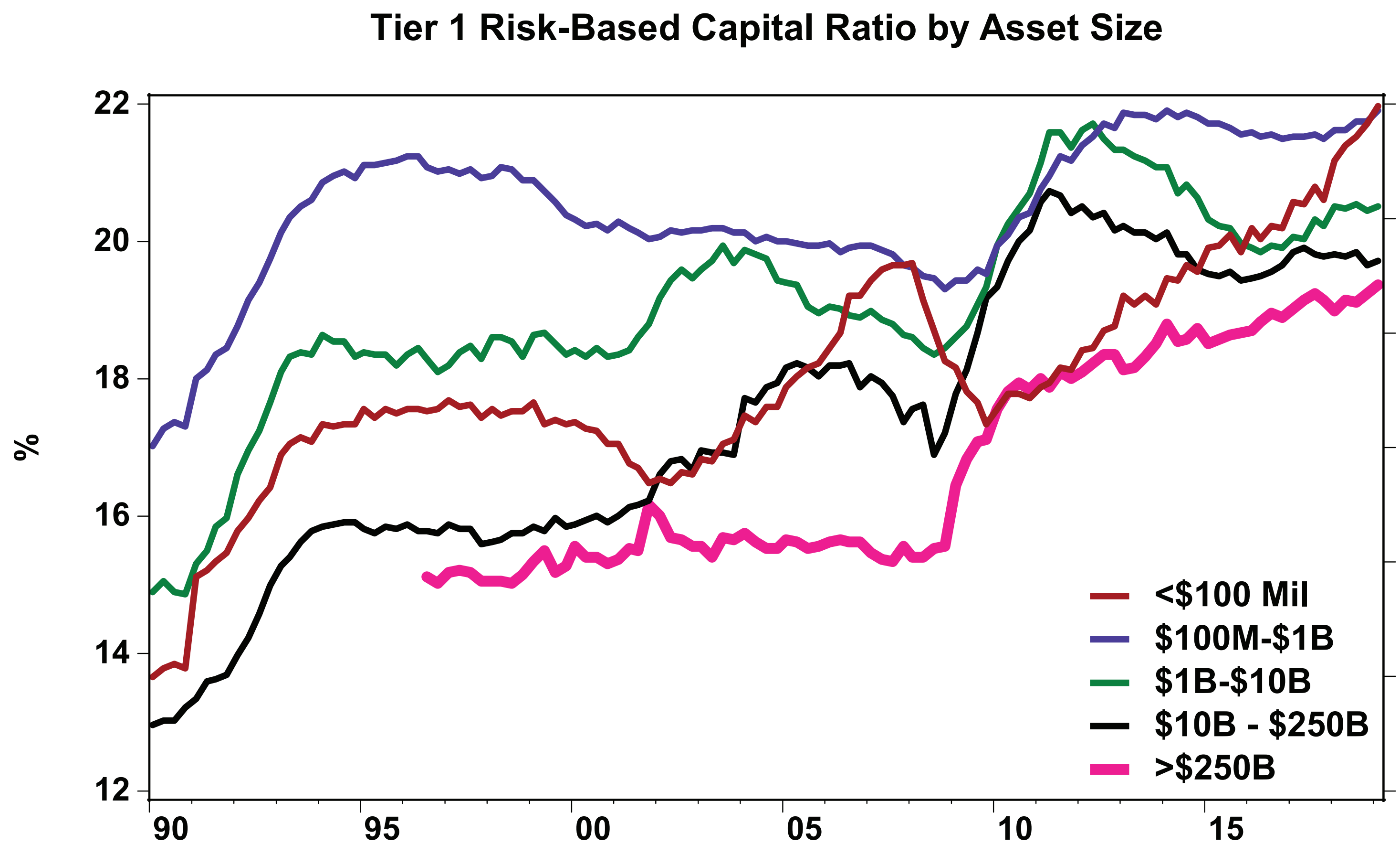
  - Compare the responses of foreign banks and of large domestic banks lending to the same firms.

- Does the **organization** of foreign banks matter?
  - In the US, foreign banks may operate through branches or subsidiaries, and the role of internal capital markets depends on the organization mode. (Fillat, Garetto, and Smith, 2019)
  - How are branches of foreign banks regulated in Italy?

Bank Size, Ownership, and Organization



Source: Federal Deposit Insurance Corporation/Haver Analytics

Other Comments

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- Extensive margin results:
  - Distinguish the termination of a relationship between surviving entities from the termination of a relation due to bank exit or firm exit.
  - An alternative interpretation is that banks that are exposed to the China shock experience a decrease in “credit dynamism”: the China shock has effects analogous to an increase in uncertainty.

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- Why not to identify comparative advantage sectors as in Costinot, Donaldson, and Komunjer (2012)?
- Extensive margin results:
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  - An alternative interpretation is that banks that are exposed to the China shock experience a decrease in “credit dynamism”: the China shock has effects analogous to an increase in uncertainty.
- Finally, the pitch:

  “The effect of trade liberalization on welfare and economic activity remains one of the most important questions in economics”.

  Yes. But this is not necessarily a paper about the gains from trade. My preferred pitch: “frictions to the reallocation of credit amplify the impact of the China shock (and also other shocks?) on the real economy.”

Conclusions

- Thoughtful, accurate, interesting paper.
- I enjoyed reading it and look forward to the next version.

Thanks!