COMMENTS ON "BANKS, CREDIT SUPPLY, AND THE LIFE CYCLE OF FIRMS: EVIDENCE FROM LATE NINETEENTH CENTURY JAPAN" BY JOHN P. TANG AND SERGI BASCO

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OUTLINE

- **Summary**

- **Comments on weak entry effects**

- **Comments on pre-trends**

- **Comments on exit rates**

- **Financial openness and capital allocation**

- **<u>Title:</u>** **Banks, Credit Supply, and the Life Cycle of Firms: Evidence from Late Nineteenth Century Japan**

- **<u>Objective:</u>** Examine effects of credit supply shock on firm life cycles.

- **<u>Shock:</u>** **1876 reform**→ Government unilaterally converts annual hereditary stipends to former samurai into (interest bearing) public bonds. **Non-uniform and exogenous distribution of resident samurai across regions**

  - **Assumption:** samurai bonds increased the demand for deposits, which enabled banks to act as intermediaries to fund entrepreneurs.

  - **Mechanism:** Due to adverse selection, firms obtaining funds in the credit market are, on average, riskier.

- **Data:**

  - Firm-level outcomes (entry, exit, lifespan): 1870-1890

  - Bank capital data: 1880-1890

  - Bond issuance: 1876

- **Empirical Strategy: IV approach.**

  - <u>Variable of interest:</u> B_{it} bank capital per capita in prefecture i, year t

  - <u>Instrument:</u> Samurai bond per-capita, S_{it}

  - Dependent variable: (1) lifespan of a firm that is created in a given y ear and prefecture

    (2) number of firm exits in a given prefecture, sector and period
    (3) number of new firms established in a prefecture for each sector and period

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- **Main findings**: (1) lifespan of new firms is inversely related to per capita bank capital

  (2) firm exit increase in prefectures with a larger increase in per capita bank capital

  (3) no significant relationship between firm entry and bank capital availability

  (4) all these predictions hold for manufacturing sector → manufacturing firms facing higher financial constraints

- **Contribution:**

  - Authors exploit historical data to show that a credit supply shock affect life cycle of firms in the context of a developing economy

  - **Empirical implementation and analysis is convincing**, and **sizeable effects** at the extensive margin are found
    - *Takeaway: a consequence of this reform (credit supply shock) is that banks took more risk and lent to more fragile firms/ bad borrowers that had on average riskier projects and shorter lifespans.*
    - *Most of my comments are suggestions to rule out alternative explanations to these empirical findings.*

I. Comment on weak entry effects

- Authors find weak results on firm creation when instrumenting capital per-capita with bonds.

- They argue most of the observed correlation between bank capital and firm entry in the cross-section might be due to demand shocks mostly.

Potential explanation for low entry:

Equilibrium with excess supply? (Stiglitz, Weiss, greenwald, 1984)

- Banks with no constraints can remain in an equilibrium with excess availability of funding and no incentives to reduce IR since they'll capture riskier/less profitable firms

- Heterogeneity in how capital constrained are pre-existing banks or national banks that emerged after reform→low risk-taking behavior in banks that received larger bond values.

Is the number of banks per prefecture relevant for bank-risk taking?

- *Main specification uses Bank capital B_{it} per capita as your variable of interest*

    - B_{it} is the same in a prefecture with just one bank that captures all bonds from samurais than in a prefecture with N banks competing for the same total value of bonds.

    - I would guess that the **risk taking behavior of banks differ depending on how many banks compete** within a particular prefecture.

II. Comment on pre-trends

Are firms operating in highly exposed prefectures valid counterfactuals for those in unexposed prefectures?

- Authors control for industry or industry specific trends (sector specific regressions)

- Show that there is no correlation between connectivity (placement of railway stations), income levels per-capita and the value of bonds per-capita across prefectures.

- But still it should be ruled out that **observed variation in firm entry/exit** across prefectures was **not already present before the shock**.

    - *Placebo for pre-reform (period 1870-1875)*
    - *Robustness: Excluding major cities such as Tokyo or Osaka*

III. Comment on exit rates as an indicator of bank risk-taking behavior

- To verify the adverse selection mechanism, IDEALLY, one would need to check if lending terms were softer (*e.g. lower rates of collateralization, lengthening of loan maturities, lower interest rates)*, and if this leads to a higher probability of default on debt.

- Authors use firm exit as an indicator of higher risk-taking behavior of banks. Where **exit is defined as change in ownership, organizational form, liquidation, merger, or name.**

- **Exit ≠ failure (different types of exit →not necessarily all are related to inefficient firms or firms investing in projects with low probability of success in the sense of Stiglitz and Weiss)**

    - For example, the fact that small firms exit more frequently and grow faster conditional on survival has been widely documented in the literature (see Akcigit and Kerr 2010)→not necessarily related to efficiency or lower quality projects.

Robustness: redefine your exit rate to just those firms that are liquidated excluding mergers or absorptions

III. Literature on Financial openness and capital allocation

- **Banks are allowed to obtain funding from abroad at a lower cost.** *(Larrain and Stumpner, 2017, Varela 2015, Buera, Kaboski, and Shin 2011, etc)*

  - This reduces capital misallocation, bank-dependent firms can borrow more and expand toward their efficient scale.
  - This effect is more pronounced in sectors with higher fixed cost or more dependent on external finance.
  - At the extensive margin, low productivity firms exit and high productivity firms enter.
  - **How do you reconcile this literature with your findings?**

THANK YOU

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