“Coping with Disasters: Two Centuries of International Official Lending”

by Sebastian Horn, Carmen Reinhart, Christoph Trebesch

Chenzi Xu (Stanford GSB)

NBER SI IFM, July 2020

Overview

- Data contribution
- Comment 1: unpacking the negative relationship
- Comment 2: serial sovereign defaulters & foreign capital
- Comment 3: interpreting gravity estimation
- Minutiae

Data contribution: BIG missing piece of international capital flows

1800-1914: First age of Globalization	1914-1971: WWI, Interwar, WWII, Bretton Woods	"GOOD DATA" 1971-present: Second age of Globalization

"Good data" period: **25%** of years since First globalization—we have a lot to learn from history!

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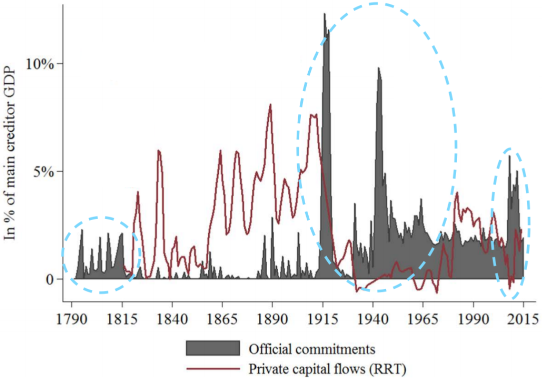
OFFICIAL CAPITAL FLOWS: $15T
Alfaro Kalemli-Ozcan Volosovych (2014), Horn Reinhart Trebesch (2020a)

Companion paper on China: Horn Reinhart Trebesch (2020b)

- **Request**: make the aggregate data (country-annual) publicly available
- **Rest of discussion**: what do (could) we learn from these data?

Comment 1: unpacking the negative relationship between private & official flows



Interpretation: minimizing collateral damage in global economy during disasters

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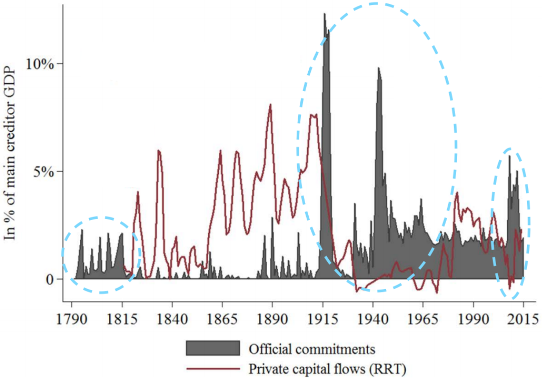

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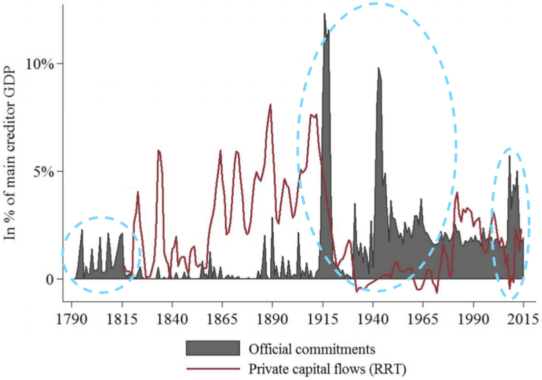

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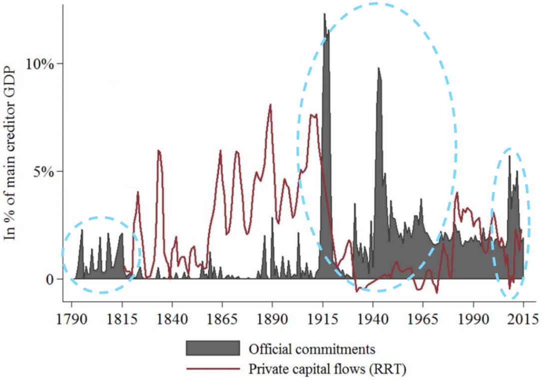

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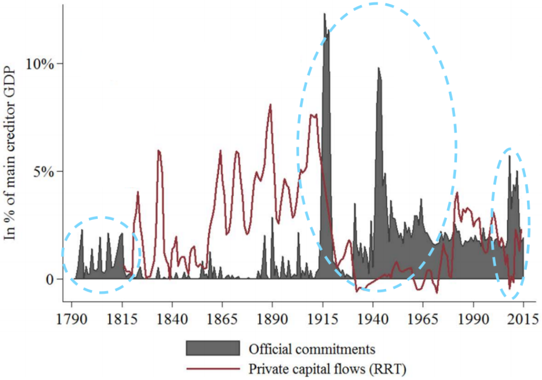

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  Suggestion: Look at returns to (terms of) official lending

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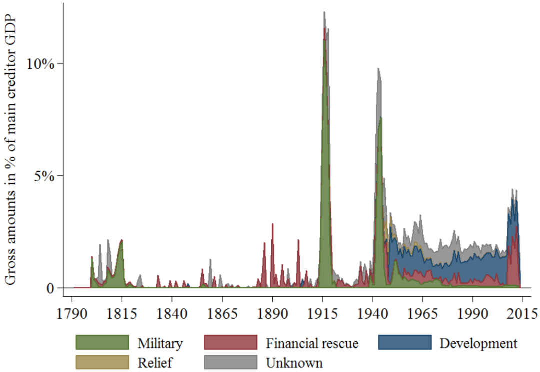

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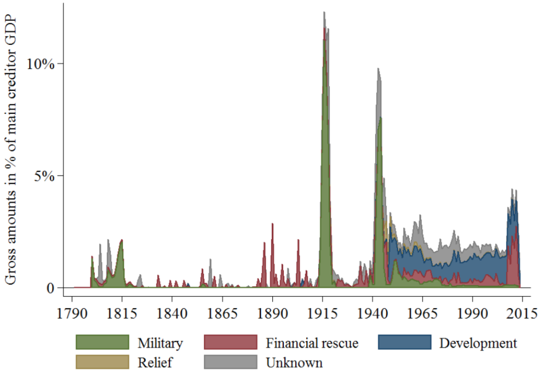

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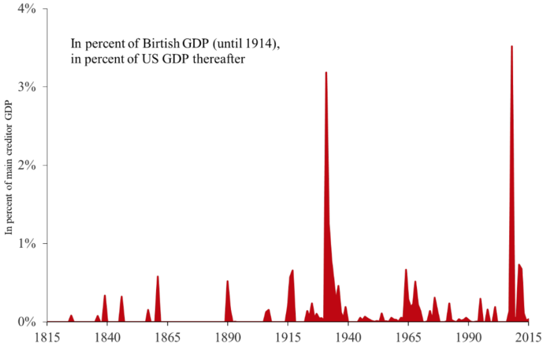
Figure 8. Central bank lending across borders, 1815-2015



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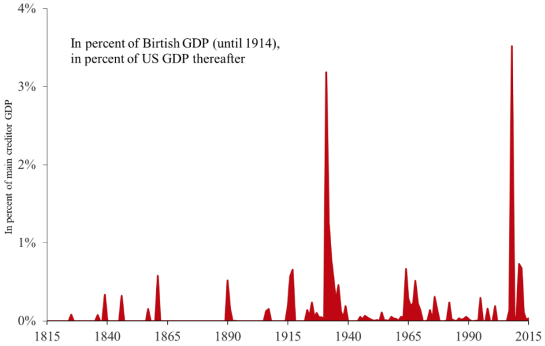

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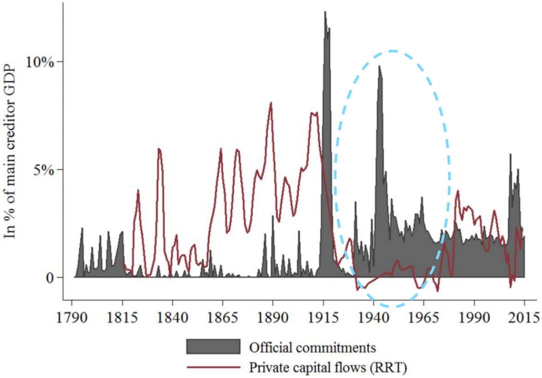

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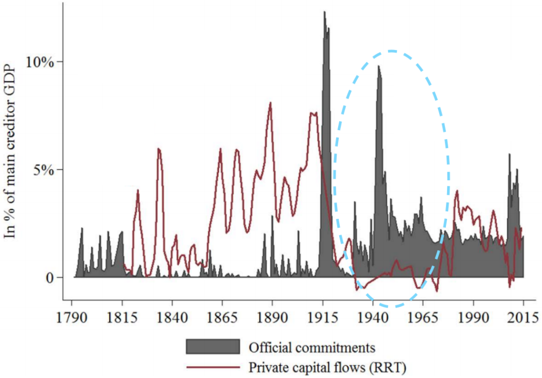

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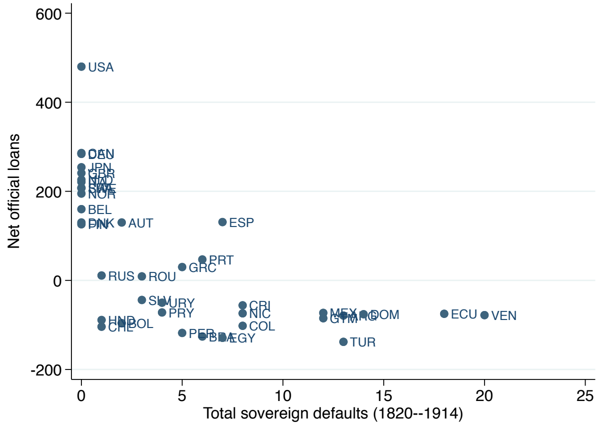
  Suggestion: what is the currency of official lending?

Comment 2: relationship between sovereign debt & official capital

Figure 1: The Usual Suspects:
Serial sovereign defaulters & net official loans



Data:

- "Net official flows" by country: (HRT 2020, Figure 13)
- "Total defaults": number of unique sovereign default episodes by country pre-WWI (Indarte 2018)

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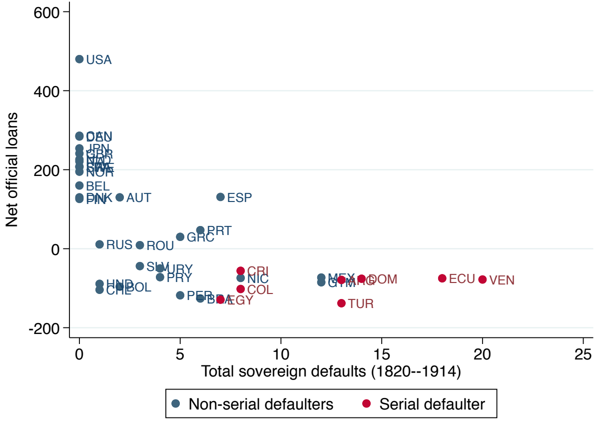

Data:

- "Net official flows" by country: (HRT 2020, Figure 13)
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Serial defaulters: categorized based on many characteristics to find the *most egregious* among pre-WWI defaulters (Reinhart Rogoff Savastano 2003; Xu ⓡ Indarte 2020)

- largest recipients of official loans
- does official lending change how we should think about sovereign debt?

Comment 3: causal relationship between economic integration & official lending

$$\ln(\text{Loans}_{ijt}) = \beta \ln(\text{Trade}_{ij,t-1}) + \gamma \ln(\text{Distance}_{ij}) + \delta \ln(\text{Colony}_{ij}) + \theta' \text{Controls}_{ijt} + \nu_i + \sigma_t + \mu_j + \varepsilon_{ijt}$$

- i = debtor country; j = potential creditor country; t = disaster episode

Sample selection: Sample *only* includes disaster episodes so conditional on observing a disaster, how much more does country $j1$ lend vs country $j2$?

- Dropping non-disaster lending complicates interpretation: assume US lends to Costa Rica $100 annually. In the data, it looks like US lends to Costa Rica during disasters, but this lending is unlikely because of collateral damage channel
- Correlation between # disasters & trade: assume disaster lending is proportional to country size. If smaller countries have lower trade & more disasters $\longrightarrow$ more weight in the data $\longrightarrow$ upward bias

Suggestion: use full panel of data (+year FE & disaster FE) and estimate the how much more $j1$ lends relative to $j2$ in a disaster year relative to a non-disaster year.

$$\ln(\text{Loans}_{ijt}) = \beta \ln(\text{Trade}_{ij,t-1}) \times I(\text{Disaster}_{it}) + \gamma \ln(\text{Trade}_{ij,t-1}) + I(\text{Disaster}_{it}) + \ldots$$

Comment 3 cont'd: causal relationship between economic integration & official lending

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- Full sample: $\beta = 0.34$ & $\gamma = -0.35$

Separately identifying effects of trade & distance:

- Effect of trade is *conditional* on a certain distance (colonial tie, political similarity, etc).
- β and γ don't provide different information if we believe structural gravity:

$$\ln(\text{Trade}_{ij,t-1}) = \lambda \ln(\text{Distance}_{ij}) + \zeta \ln(\text{Colony}_{ij}) + \nu_i + \sigma_t + \mu_j + \varepsilon_{ijt}$$

Then:

$$\ln(\text{Loans}_{ijt}) = (\beta\gamma + \lambda) \ln(\text{Distance}_{ij}) + \ldots$$

Suggestion: use θ_{ij} instead of proxies for other country-pair ties. Then β will be estimated off *deviations* from the average amount of lending/trade

Comment 3 cont'd: causal relationship between economic integration & official lending

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Feedback between trade & disaster:

- $\text{Trade}_{ij,t-1}$ probably not exogenous for exports-dependent countries (who have a few major big trading partners)
- Example: Costa Rica trades heavily with the US:
  - US experiences bad shock in $t-1 \longrightarrow Trade_{US,CR,t-1}$ is lower $\longrightarrow$ because of bad shock, $Loan_{US,CR,t}$ is lower $\longrightarrow$ upward bias
- **Suggestion:** subsample of only natural disasters

Unobserved confounder:

- Loans = function(time-varying bilateral sentiment) & Trade = function(time-varying bilateral sentiment) $\rightarrow$ sentiment will explain both
- **Suggestion:** instrument for trade flows using bilateral trade agreements. Can potentially use both direct increases in trade and indirect trade diversion. Textual analysis can help here too.

Minutiae

- Post-WWI flows dried up: are reparations counted as part of these flows? How do commitments that don't materialize get counted in the data?
- Political allegiance measures: UN voting similarity is negatively correlated with commitments? Other variables to consider include all other treaty alliances, trade agreements, monetary unions
- Table 5: estimated effect of trade exposure in the full sample (1830–2015) is 0.34, but the subsamples have effects of 0.99, 0.50, and 0.32: why is the coefficient on the full sample so small?
- Figures 15 & 16: binscatter plots instead

Conclusion

- Important paper for understanding a major piece of international capital flows: previously overlooked
- Dataset provides insights on:
  - Persistent nature of global financial cycle: wealthy countries are insurers during bad times
  - Relative size of private vs official flows: "dark matter"
  - Integration between goods & capital flows
- Additional questions it can help to address:
  - Transition periods in the international monetary system: official lending is the major source of capital flows–what was the currency? how/when did the transition happen?
  - Emerging markets: are post-Bretton Woods official flows a complement or substitute for private flows?

Thank you!

chenzixu@stanford.edu