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

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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

“Good data” period: 25% of years since First globalization—we have a lot to learn from history!
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PRIVATE CAPITAL FLOWS:
Pre-1970: Sovereign debt (Meyer Reinhart Trebesch 2019), Bank debt (Kiesling Meissner Xu 2019), central bank reserves (Reinhart Reinhart Trebesch 2017; Jones Obstfeld 1997)
Post-1970: Lane Millessi-Ferretti 2007, IMF, League of Nations, etc.
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<table>
<thead>
<tr>
<th>Period</th>
<th>Events</th>
<th>“GOOD DATA”</th>
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<tbody>
<tr>
<td>1800-1914</td>
<td>First age of Globalization</td>
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<td>1914-1971</td>
<td>WWI, Interwar, WWII, Bretton Woods</td>
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<tr>
<td>1971-present</td>
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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

- Other possibilities:
  - If it's mostly about economic integration, official lending should collapse when trade does (ex: Smoot-Hawley in 1930)—does it?
  - Capital flows to where returns are high & official flows can bypass capital controls: Bretton Woods period & China's official lending (HRT 2020b)

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- Purpose of lending: textual evidence might be best source

![Graph](image)
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  **Suggestion:** Narrative evidence on purpose of lending using text of treaties + NLP (Hassan, Hollander, Van Lent, Tahoun 2019; Xu Indarte 2020)

- Part of or separate from the modern GFC? Strong resemblance to “exorbitant duty” (Gourinchas, Rey, Govillot 2017) & “global insurer” (Maggiori 2017)
  
  **Suggestion:** consider central bank swap lines separately

- Big historical question: what explains the transition from UK to US hegemony? Opportunity to understand this!
  
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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)
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)

**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 \( \rightarrow \) more weight in the data \( \rightarrow \) 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.

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

\[
\ln(\text{Loans}_{ijt}) = (\beta \gamma + \lambda) \ln(\text{Distance}_{ij}) + ...
\]

**Suggestion:** use \(\theta_{ij}\) instead of proxies for other country-pair ties. Then \(\beta\) will be estimated off *deviations* from the average amount of lending/trade.
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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 \(t - 1\) \(\rightarrow\) \(\text{Trade}_{US, CR, t-1}\) is lower \(\rightarrow\) because of bad shock, \(\text{Loan}_{US, CR, t}\) is lower \(\rightarrow\) upward bias
- **Suggestion:** subsample of only natural disasters

**Unobserved confounder:**
- \(\text{Loans} = \text{function}(\text{time-varying bilateral sentiment}) \& \text{Trade} = \text{function}(\text{time-varying bilateral sentiment}) \rightarrow\) 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.
• 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!

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