The Role of Foreign Banks in Trade

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Motivation

- Global financial crisis showed that shocks are easily transmitted internationally through internationally active banks
- Lively debate in both academic and policy circles on risks and benefits of financial globalization
- Focus mainly on understanding the risks
- Understanding the benefits very limited attention
This paper

- Focus on potentially important benefit of internationally active banks: their ability to finance international trade
- Specifically, examine whether the local presence of foreign banks (i.e. “brick and mortar” operations) has a positive impact on exports
Main take-away

- Foreign banks can facilitate trade
- Especially when large, globally active banks invest in financially underdeveloped countries
- Suggest foreign banks have important benefits for real economy
Why do banks matter for trade?

- Long time lags associated with international trade imply that exporters need more working capital financing.
- Exporters rarely have capacity to evaluate default risk and usually turn to banks to provide payment insurance and guarantees.
- Ample empirical evidence (tranquil and crisis times) that finance facilitates trade.
Why should foreign banks matter for trade?

- Providing finance for trade is specialized business, mostly done by large, global banks
  - Specialized products (i.e. letters of credit) and hedging currency risk
- Expect local affiliates of these banks to have advantage providing these products
  - Especially compared to domestic banks in financially less developed countries
Why should foreign banks matter for trade?

- Foreign banks have been found to introduce new and better lending technologies and to increase competition
- Increase in quality and reduction in the costs of financial intermediation → improved access to finance
  - Caveat: for certain firms and in certain countries
- Given that finance is more important for exporters, this can especially benefit trade
Why should foreign banks matter for trade?

- Might be able to reduce risks specific to financing exporting firms
- Might better deal with international enforcement problems
- Foreign banks may provide a substitute commitment technology when legal enforcement is weak
- Might be better able to assess risk at both the exporter and importer side of transaction
Why should foreign banks matter for trade?

- If these factors contribute to greater availability of external finance for exporting firms, then the presence of foreign banks should have a positive impact on export over and above general financial sector development.
This paper

- Combine detailed data on bilateral, sectoral trade with bilateral data on foreign bank presence across 95 exporting and 122 importing countries between 1995 and 2007

- Two important facts that we will exploit
Fact 1

- Foreign bank presence varies importantly among exporting countries and within a country over time (due to substantial number of entries by foreign banks) (Claessens and Van Horen, 2014)
- Allows us to exploit both cross-section and time-series variation
Foreign bank presence (1995)

percentage of foreign banks among total banks, 1995

- Less than 10
- 10 to 20
- 20 to 30
- 30 to 40
- 40 to 50
- More than 50
Foreign bank presence (2009)

Percentage of foreign banks among total banks, 2009:
- Less than 10
- 10 to 20
- 20 to 30
- 30 to 40
- 40 to 50
- More than 50
Fact 2

- Little relationship between financial sector development and the presence of foreign banks
- Allows us to isolate the impact of foreign bank presence over and beyond financial development
Foreign bank presence and financial development

Countries can be financially highly developed or underdeveloped with few or many foreign banks present.
Preview of findings

- Present two sets of evidence that demonstrate that foreign banks can facilitate trade
  1. **Panel analysis**: Positive relationship between share of foreign banks and exports in sectors more dependent on external finance (controlling for financial development)
  2. **Event study**: Entry of a foreign bank from the importing country boosts bilateral exports more in sectors more dependent on external finance
     - Impact especially strong when globally active banks are investing in financially underdeveloped countries
     - Indicates that (transfer of) specialized knowledge and technology for trade financing is important
Related literature

- **Impact of foreign banks**
  Claessens, Demirguc-Kunt and Huizinga, 2001; Clarke, Cull, Martinez Peria and Sanches, 2003; Demirguc-Kunt, Laeven and Levine, 2004; Detragiache, Gupta and Tressel, 2008; Bruno and Hauswald, 2013; Claessens and van Horen, 2014
  ✓ Our paper: presence of foreign banks has beneficial impact on real economy by facilitating trade, but country characteristics matter

- **Trade and finance**
  ✓ Our paper: local presence of foreign banks plays role in trade over and above financial sector development

- **Finance and growth**
  King and Levine, 1993a, b; Jayaratne and Strahan 1996; Demirguc-Kunt and Maksimovic, 1998, Levine and Zervos, 1998; Rajan and Zingales, 1998; Michalski and Ors, 2012
  ✓ Our paper: global financial integration, through local presence of foreign banks, can generate economic growth by facilitating international trade
Data
Data

- We need to combine several data sources
  - Sectoral, bilateral trade data
  - Bilateral data on foreign bank presence
  - Sectoral data on external finance dependency
Bilateral trade flows at sectoral level (UN Comtrade):

- 134 countries
- 28 manufacturing sectors (3-digit ISIC industry level)
- 1995-2007 (excluding global financial crisis)
- On average country exports to over 70 countries if it exports in a sector
Foreign bank data

- Foreign bank presence (Claessens and Van Horen, 2014):
  - Ownership information of 5,324 banks active for at least one year over the period 1995-2009 in 137 countries
  - Bank foreign owned if > 50% shares held by foreigners
  - If foreign, home country of majority foreign shareholder provided
  - Data matched to Bankscope for balance sheet information

- Excluding offshore centers and countries with <60% banks asset info available: 95 exporting and 122 importing countries
Foreign bank data

- Bank ownership database has two important features:
  1) Ownership information is time-varying
     - Know the importance of foreign banks in financial intermediation for each year in sample period
     - Exploit in panel analysis
  2) For each foreign bank the country in which the parent is headquartered is known
     - Know exact year when bank from importing country for first time entered exporting country
     - Exploit in event study and to examine channels through which foreign banks facilitate trade
Foreign bank data

- Some numbers (2007):
  - 1,043 foreign banks headquartered in 77 different home countries active in our sample of exporting countries
  - Importance foreign banks ranges from 0 to 100 percent
  - On average, 11 foreign banks from six different home countries
  - In 78 percent of exporting-importing pairs at least one foreign bank present; in 6 percent bank from importing country
  - Number of foreign bank entries between 1995 and 2007 ranges from 0 to 39 with average of 7
Industry data

- Exploit industry differences wrt need for external finance
  - Can control for all time-(in)variant exporting country characteristics that can simultaneously influence foreign bank presence and level of exports

- Producers in certain industries incur higher up-front investment that cannot be generated internally, thus requiring more external finance (Rajan and Zingales, 1998)

- Viewed as sector-specific, technologically-determined characteristics innate to manufacturing process and unlikely determined by share of foreign banks

- At the same time, if foreign banks facilitate trade, firms in these sectors should benefit more
Industry data

- **External finance dependency**: fraction of total capital expenditure not financed by internal cash flows from operations

- Based on data for all publicly-listed US companies available in Compustat averaged over 1986-1995 (Manova, 2013)
  - Relative ranking matters, which unlikely changes over time
  - US most advanced financial system: behavior and choices of firms likely reflect optimal choices in external financing
The role of foreign banks in trade: panel analysis
Empirical methodology

- **Aim**: examining whether a higher presence of foreign banks is associated with a higher level of exports in sectors more dependent on external finance
- If foreign banks facilitate trade through greater availability of external finance, then their presence should disproportionally benefit exports in sectors more dependent on external finance
- Identification rests on allowing the impact of foreign bank presence to differ with respect to dependency on external finance
Empirical methodology

- **Dependent variable:** log of value of exports from country $i$ to country $j$ in 3-digit ISIC sector $s$ in year $t$

- **Foreign bank presence (FB):**
  - Share assets of all foreign banks active in exporting country $i$ in total bank assets in exporting country $i$ at time $t$ (preferred measure, but only available 2005-2007)
  - Dummy which is one if at least one foreign bank is present in exporting country $i$ at time $t$
  - Share in numbers

- **Importing country foreign bank presence (IFB):**
  - Same as above, but only banks from importing country included
Empirical methodology

- Our model:

\[
\ln E_{ijst} = \beta_1 FB_{it} \cdot extfin_s + \gamma_1 IFB_{ijt} \cdot extfin_s + \gamma_2 IFB_{ijt} + \delta_1 FD_{it} \cdot extfin_s \\
+ \kappa' X_t + \epsilon_{it} + \mu_{jt} + \varphi_s + \eta_{ijst},
\]

- If foreign banks (from importing country) play a positive role in facilitating trade then:
  - More exports in industries with high dependency on external finance
  - \( \beta_1 > 0; \gamma_1 > 0 \)
Empirical methodology

- Control variables:
  - Financial development (private credit/GDP) interacted with sector measure of external finance dependency
  - Exporter-year fe to control for all time-(in)variant exporting country characteristics that can simultaneously influence foreign bank presence (or financial development) and the level of exports
  - Importer-year fe to control for (time-varying) changes in demand at the importer side
  - Industry fe to control for time-invariant industry characteristics that might affect trade patterns
  - Distance between exporter and importer country

- OLS, standard errors clustered by exporter-importer pair
### Baseline results

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Fixed effects: Exporter-year, importer-year and industry

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Countries with higher share of foreign banks export relatively more in sectors more dependent on external finance
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- Obs: 1,726,604, 1,726,604, 476,551, 1,726,604, 1,726,604, 473,162
- R2: 0.559, 0.559, 0.575, 0.561, 0.561, 0.575

Effect over and beyond impact of financial development on exports in sectors more dependent on external finance
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Fixed effects: Exporter-year, importer-year and industry

Obs: 1,726,604 1,726,604 476,551 1,726,604 1,726,604 473,162
R2: 0.559 0.559 0.575 0.561 0.561 0.575

Impact more pronounced when foreign banks are headquartered in the importing country
Baseline results

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<tr>
<td>Obs</td>
<td>1,726,604</td>
<td>1,726,604</td>
<td>476,551</td>
<td>1,726,604</td>
<td>1,726,604</td>
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<td>0.559</td>
<td>0.575</td>
<td>0.561</td>
<td>0.561</td>
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Economic effect:
- One st dev increase in FB means exports in sector at 75th pctile of external financing dependency are 7.3 pp higher than in sector at 25th pctile
- For IFB: 9.1 pp
- Comparison: for FD 29.4 pp
Robustness tests

- Adding importer-year-industry fixed effects
- Adding bilateral fixed effects
- Control for other country characteristics (including financial linkages) interacted with external finance dependency:
  - Institutions, financial linkages, factor endowments
- Control for domestic output
- Cluster by exporter-industry
- Study extensive margin:
  - Probit using dummy whether there is export from country $i$ to country $j$ in sector $s$ at time $t$
The role of foreign banks in trade: event study
Empirical methodology

- Exploiting cross-sector variation in external financing needs importantly reduces endogeneity issues, but some reversed causality concerns might remain.

- Foreign bank investment decisions not random
  - Possible they choose to invest in those countries where financing needs are high because of high exports, but local banks are not able to provide financing.
  - Foreign banks might follow their multinationals.

- Use sector interactions, so requires systematic correlation of foreign bank entry with exports and the sector-specific characteristic of external financing.
Empirical methodology

- Conduct event study approach to establish causality (Trefler, 2004; Manova, 2008)

- Event: Bank from importing country $j$ for the first time entered exporting country $i$ (i.e. establishment of a new bilateral link)
  - Only between 1995 and 2004 to avoid impact global financial crisis
  - 193 entries by banks from 66 importing countries in 77 exporting countries
Empirical methodology

- Isolate impact of foreign bank presence on trade purely from within country changes over time.
- Identification rests on allowing the impact of foreign bank presence to differ with respect to dependency on external finance.
- Dependent variable: the (log of) average exports from country $i$ to country $j$ in sector $s$ between $(t+1, t+3)$ and $(t-1, t-3)$, where $t$ is the year of the event.
Empirical methodology

➢ Our model:

\[ \Delta E_{ijs} = \beta_1 extfin_s + \epsilon_t + \eta_{ijs}, \]

➢ If entry of foreign bank from importing country plays a positive role in facilitating trade then:

✓ Stronger export growth in industries with high dependency on external finance

✓ \( \beta_1 > 0 \)
Empirical methodology

- Control variables:
  - First-differencing effectively removes all sector-country pair fixed effects: control for variations in initial conditions at the sector-country pair level at the time of entry
  - In addition, control for event-year fe
- OLS, standard errors double clustered by exporter and by importer
Results

- Within 3 years after entry of foreign bank from importing country, exports to this country grow 31.6 percent faster
- But impact stronger when sector more dependent on external finance
Results

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<tbody>
<tr>
<td>Extfin</td>
<td>0.254***</td>
<td>0.138***</td>
<td>0.260***</td>
<td>0.293***</td>
<td>0.294***</td>
<td>0.328***</td>
</tr>
<tr>
<td>(0.070)</td>
<td>(0.063)</td>
<td>(0.069)</td>
<td>(0.074)</td>
<td>(0.077)</td>
<td>(0.126)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.316***</td>
<td>-0.008**</td>
<td>0.406***</td>
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<tr>
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<tr>
<td>Fixed effects</td>
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<td></td>
<td>event-year fixed effects</td>
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<td>Obs</td>
<td>3,997</td>
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<td>3,696</td>
<td>3,378</td>
<td>1,034</td>
</tr>
<tr>
<td>(Pseudo-)R2</td>
<td>0.045</td>
<td>0.038</td>
<td>0.047</td>
<td>0.051</td>
<td>0.071</td>
<td>0.020</td>
</tr>
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Economic effect:
- Move from 25th to 75th pctile of external financing dependency increases growth rate with 8.1 percentage points (22 percent higher compared to mean)
## Robustness

### Table: Regression Results

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- Possible that a pre-entry trend exists
- Control for this by taking difference in growth rates between “placebo-event” and real event
- The higher the need for external finance in sector, the higher the growth differential
Robustness

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Fixed effects: event-year fixed effects

Obs: 3,997, 3,326, 3,558, 3,696, 3,378, 1,034
(Pseudo-)R2: 0.045, 0.038, 0.047, 0.051, 0.071, 0.020

- Focused on intensive margin (79 percent of observations)
- Also find impact on the extensive margin
- After entry probability that firms in sector start exporting to country in which bank headquartered is higher for sectors more dependent on external finance
Channels

- Question: how do foreign banks facilitate trade?
- Use event study and exploit that importing and exporting countries differ substantially in many dimensions
- Differentiate between globally active and non-globally active banks
  - Globally active banks more likely have specialized skills in trade financing
  - Globally active: all foreign banks whose parents are headquartered in top 10 countries when ranked according to number of exporting countries in which banks are active
Channels

- Globally active foreign banks
  - Tend to be especially beneficial in exporting countries with low level of financial development
    - Suggests that (transfer of) specialized knowledge and technology for trade financing is important
  - Impact especially strong in exporting countries that lack creditor information
    - Suggests these banks can help overcome information problems
  - Impact not affected by strength of contracting environment and distance between exporting and importing country
Channels

- Non-globally active foreign banks
  - Only positive impact if foreign banks sufficiently important in financial intermediation in exporting country
    - Suggests that institutions have to be conducive to foreign banks for these banks to be able to have impact
  - Level of financial development or creditor information irrelevant, but (very) weak contract enforcement reduces beneficial impact
  - Beneficial impact diminishes with distance
    - Foreign banks easier operate in countries that are closer (Mian, 2006)
Conclusion

- Use unique dataset of bilateral foreign bank presence combined with data on bilateral sector exports for 95 exporting countries
- Foreign banks can facilitate trade
- Especially when large, globally active banks invest in financially underdeveloped countries
- Suggest foreign banks have important benefits for real economy
- Need to take this into account when assessing the future role of banks that are active internationally
THANK YOU