Empirical Studies on Trade Finance in the context of global financial crisis

ESCAP/WTO Fifth ARTNeT Capacity Building Workshop for Trade Research

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Outlines

- Literature review
- Data
- Future research
Literature

- Ronci (2004), IMF
- Thomas (2009), IMF
- Duval and Liu (2009), ESCAP
Trade Finance & Trade Flows – Evidence from 10 crisis

Marcio Ronci
Dec 2004
IMF
Objectives

- To assess the effect of constrained trade finance on trade flows in countries undergoing financial crisis.
Estimate import and export volume equations

Key findings:
- Constrained trade finance is a factor in explaining both export and import in the short run.
- Impact was very small on the trade during crisis though.
Data in Ronci (2004)

- Trade finance = the first difference of the log of the outstanding (external) short-term credit.
  http://publications.worldbank.org/GDF/
- Limitations: exclude intra-firm trade by Multinational corporations; also exclude trade finance by domestic bank.
Data in Ronci (2004) (cont.)

- Dummy var for domestic banking crisis
- This dummy can be a ‘proxy’ for the ability of domestic banks to finance trade.
- Panel data: 10 countries over 10 years annual data.
- Including: Indonesia, Malaysia, Philippines, Republic of Korea, Thailand and Turkey.
- Unit root tests results are mixed.
- Treating all variables as non-stationary.
Model

- \( \text{Log Export} = C1 + a1 \log XW + a2 \log \text{RELPX} + a3 \text{FIN} + A4 \text{dummy} + e1 \)
- \( \text{Log Import} = C2 + b1 \log Y + b2 \log \text{RELPM} + b3 \text{FIN} + b4 \text{dummy} + e2 \)

- RELPX and RELPM are the export and import relative price indexes.
- FIN external trade finance
- Y domestic demand
- XW world trade volume index
Econometric methods

- Panel Generalized least squares (GLS)
- Instrumental variables (IV)
- Panel Generalized method of moment (GMM)
- Including fixed effects assumption
- Wald tests to determine a more parsimonious model specification.
Empirical results

<table>
<thead>
<tr>
<th></th>
<th>Export volumes</th>
<th>Import volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The change in external short-term credit in USD</td>
<td>0.039**</td>
<td>0.0798***</td>
</tr>
<tr>
<td>Dummy var for domestic banking crisis</td>
<td>-0.055***</td>
<td>-0.11***</td>
</tr>
</tbody>
</table>
Results in words

- A fall of 10 percent in trade finance, explain a decline of 0.39 percent in export and 0.8 percent in import.

- Since trade credits fell by about 50 percent in Brazil and Korea, these coefficient imply a fall of about 2 percent in export volumes and 5 percent in import volumes on account of the drying up of trade finance.
Thomas (2009), IMF

- Including a larger set of countries for a longer time period to assess whether the linkages between external trade finance and trade volumes remains robust in less distressed times and for a wider sample.
- 36 middle-income countries and 2 low-income countries (India and Pakistan)
- Total net financial flows to emerging markets as a proxy for the availability of external finance.
Main results from Thomas (2009)

<table>
<thead>
<tr>
<th></th>
<th>Export volumes</th>
<th>Import volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging Mkt private capital flows (in percent of GDP)</td>
<td>1.27***</td>
<td>0.95***</td>
</tr>
<tr>
<td>Banking crisis dummy</td>
<td>-0.039*</td>
<td>-0.021*</td>
</tr>
</tbody>
</table>
Recent regression analysis
Estimating gravity model with trade finance var in the model

\[ \text{Export}_\text{reporter/partner} = \text{GDP}_\text{reporter} + \text{GDP}_\text{partner} + \text{Distance}_\text{reporter/partner} + \text{contiguous}_\text{dummy} + \text{common language}_\text{dummy} + \text{Official Trade Credit}_\text{reporter} + \text{Official Trade Credit}_\text{partner} + \text{error} \]

All in log value, except dummy variables.

Period: 1996-2003
## Preliminarily results

<table>
<thead>
<tr>
<th></th>
<th>Log Export volumes</th>
<th>Log Export volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Official Trade</td>
<td>0.36***</td>
<td>0.39***</td>
</tr>
<tr>
<td>Credit (reporter)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log Official Trade</td>
<td></td>
<td>0.20***</td>
</tr>
<tr>
<td>Credit (partner)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Preliminarily results

- A 10 per cent decline in the amount of trade finance may lead to a drop of up to 3.6 per cent of total merchandise trade in developing Asia, a staggering US$129 billion.

- Financial conditions play a significant role in stimulating trade volumes among emerging market economies.

- Compare with those of Ronci and Thomas, Ronci< ESCAP< Thomas.
Data
Trade Finance Data (1)

- **Insured export credit exposures**
  An export credit that carries a guarantee, issued by an export credit agency, protecting the creditor against political, commercial, or transfer risks in the debtor country that may prevent the remittance of debt-service payments.

- Source: Joint OECD-BIS-IMF-WB Statistics on External Debt

Trade Finance Data (2)

- **Official trade credits, nonbanks, short term**
  Short-term non-bank trade-related credits comprise official and officially guaranteed or insured suppliers' credits. These are credits extended by exporters to importers abroad that have a remaining maturity of one year.

- **Source:** Joint OECD-BIS-IMF-WB Statistics on External Debt

- **Availability:** Jun 1996 – Dec 2003, biannual
Trade Finance Data (3)

- Global Trade Finance
- In ARTNeT Alert, the change of the volumes of global trade finance (including and excluding aircraft and shipping) between 4Q 2008 and 4Q 2007 are cited.
- Source: Dealogic press release, Jan 2009
  [http://www.dealogic.com/]
Country Risk Classification

The Country Risk Classification Method measures the country credit risk, i.e. the likelihood that a country will service its external debt.

Source: OECD

http://www.oecd.org/document/49/0,2340,en_2649_34171_1901105_1_1_1_1,00.html

Availability: Classified in Jan 2009
Trade Finance Data (5)

- Depth of Credit Information Index
  The depth of credit information index measures rules affecting the scope, accessibility and quality of credit information available through either public or private credit registries.

- Source: World Bank
  http://www.doingbusiness.org/
Trade Finance Data (6)

- Collecting data at the grassroots level: country data
  - Thailand – ExIM Bank
  - State Bank of Pakistan
  - And more?
  - ESCAP Trade Finance Questionnaire
  - IMF Trade Finance Questionnaire
Trade Finance Study - List of Questions/Issues of Interest (ESCAP)

- What are the main sources of import/export finance in Pakistan? If possible, can you provide information on the value and proportion of each source of trade finance:
  1) Domestic public institutions (e.g. Pakistan EXIM Bank and other specialized institutions);
  2) Commercial Banks operating in Pakistan;
  3) Foreign official trade finance (e.g. official export credits, officially guaranteed or insured suppliers' credits, which are credits extended by exporters to importers);
  4) Foreign non-official trade finance (e.g. foreign companies);
  5) Others (to be elaborated on)
List of Questions/Issues of Interest (ESCAP)

- How has the importance of the various trade finance providers changed over time, in particular since the beginning of the current economic crisis?
- What is the average cost of trade finance? What are major components of the cost of trade finance? How much did it increase since the beginning of crisis?
- Etc.
IMF Survey 2009

Where Value of Transactions has Declined, is this due to . . .?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A fall in the demand for trade activities</td>
<td>73%</td>
</tr>
<tr>
<td>Less credit availability at your own institution</td>
<td>57%</td>
</tr>
<tr>
<td>Less credit availability at your counterparty banks</td>
<td>57%</td>
</tr>
<tr>
<td>A fall in the price of transactions</td>
<td>43%</td>
</tr>
<tr>
<td>A shift towards cash-in-advance transactions</td>
<td>14%</td>
</tr>
<tr>
<td>A shift toward open account</td>
<td>14%</td>
</tr>
<tr>
<td>Economic crisis; increased risk at the global level</td>
<td>14%</td>
</tr>
<tr>
<td>Other</td>
<td>11%</td>
</tr>
</tbody>
</table>
Has Pricing of Trade Finance Increased Because of . . .?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own institution’s increased cost of funds</td>
<td>71%</td>
</tr>
<tr>
<td>Increased capital requirements</td>
<td>58%</td>
</tr>
<tr>
<td>Increased risk of trade finance products relative to other working</td>
<td>39%</td>
</tr>
<tr>
<td>capital lending to same non-financial corporate borrowers</td>
<td></td>
</tr>
</tbody>
</table>
How Has the Implementation of Basel II Impacted Your Ability to Provide Trade Finance?

<table>
<thead>
<tr>
<th>Impact</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No impact</td>
<td>40%</td>
</tr>
<tr>
<td>Negative impact</td>
<td>33%</td>
</tr>
<tr>
<td>Positive impact</td>
<td>27%</td>
</tr>
</tbody>
</table>

- **Negative impact**
  - Reduces ability to undertake new business; greater restrictions and more costly
- **Positive impact**
  - Includes more selective trade finance offerings; risk rating more individual
IMF Survey 2009

Have Trade-related Guidelines Changed Since October 2008

- Yes: 70%
- No: 30%

31
**IMF Survey 2009**

*How Guidelines Have Changed*

<table>
<thead>
<tr>
<th>Requested Change</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>More cautious with certain countries</td>
<td>83%</td>
</tr>
<tr>
<td>More cautious with certain sectors</td>
<td>77%</td>
</tr>
<tr>
<td>Requested shorter tenors</td>
<td>67%</td>
</tr>
<tr>
<td>Requested more collateral</td>
<td>47%</td>
</tr>
<tr>
<td>Requested more Export Credit Insurance</td>
<td>37%</td>
</tr>
</tbody>
</table>
IMF Survey 2009

- What Official Sectors Should Do with Respect to Trade Credit Financing

- Most respondents offer suggestions which center around greater government involvement in providing credit, support, and policies specific to the trade finance industry.
Future research

- Which models of export credit insurance and guarantee organizations are most appropriate for developing countries of the region?
- How are SMEs financing their imports and exports and what are their needs and priorities in this area?
- How important is trade finance for South-South trade development?
- What is trade finance gap in your country?
Summary

1. Understand basic trade models for empirical analysis;
2. Understand data issues and tools for data collections;
3. Analyze trade finance issues and assess whether the linkages between external trade finance and trade volumes.
Further readings

- Or
- Trade finance in times of crisis and beyond
Questions?