New Perspectives on Foreign Direct Investment

Elhanan Helpman

Harvard University

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International trade and foreign direct investment have been among the fastest growing economic activities around the world.
Trade and FDI are concentrated in the industrial countries:

Figure I.1. FDI inflows, global and by group of economies, 1980–2005
(Billions of dollars)

Source: UNCTAD, based on its FDI/TNC database (www.unctad.org/fdi statistics).
## Table I.1. Distribution of FDI by region and selected countries, 1980-2005
(Per cent)

<table>
<thead>
<tr>
<th>Region</th>
<th>Inward stock</th>
<th></th>
<th></th>
<th></th>
<th>Outward stock</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed economies</td>
<td>75.6</td>
<td>79.3</td>
<td>68.5</td>
<td>70.3</td>
<td>87.3</td>
<td>91.7</td>
<td>86.2</td>
<td>86.9</td>
</tr>
<tr>
<td>European Union</td>
<td>42.5</td>
<td>42.9</td>
<td>37.6</td>
<td>44.4</td>
<td>37.2</td>
<td>45.2</td>
<td>47.1</td>
<td>51.3</td>
</tr>
<tr>
<td>Japan</td>
<td>0.6</td>
<td>0.6</td>
<td>0.9</td>
<td>1.0</td>
<td>3.4</td>
<td>11.2</td>
<td>4.3</td>
<td>3.6</td>
</tr>
<tr>
<td>United States</td>
<td>14.8</td>
<td>22.1</td>
<td>21.7</td>
<td>16.0</td>
<td>37.7</td>
<td>24.0</td>
<td>20.3</td>
<td>19.2</td>
</tr>
<tr>
<td>Developing economies</td>
<td>24.4</td>
<td>20.7</td>
<td>30.3</td>
<td>27.2</td>
<td>12.7</td>
<td>8.3</td>
<td>13.5</td>
<td>11.9</td>
</tr>
<tr>
<td>Africa</td>
<td>6.9</td>
<td>3.3</td>
<td>2.6</td>
<td>2.6</td>
<td>1.3</td>
<td>1.1</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>7.1</td>
<td>6.6</td>
<td>9.3</td>
<td>9.3</td>
<td>8.5</td>
<td>3.4</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Asia and Oceania</td>
<td>10.5</td>
<td>10.8</td>
<td>18.4</td>
<td>15.4</td>
<td>2.9</td>
<td>3.8</td>
<td>9.5</td>
<td>8.2</td>
</tr>
<tr>
<td>West Asia</td>
<td>1.4</td>
<td>2.2</td>
<td>1.1</td>
<td>1.5</td>
<td>0.3</td>
<td>0.4</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>South, East and South-East Asia</td>
<td>8.8</td>
<td>8.5</td>
<td>17.2</td>
<td>13.8</td>
<td>2.5</td>
<td>3.4</td>
<td>9.3</td>
<td>7.8</td>
</tr>
<tr>
<td>South-East Europe and CIS</td>
<td>..</td>
<td>0.01</td>
<td>1.2</td>
<td>2.5</td>
<td>..</td>
<td>0.01</td>
<td>0.3</td>
<td>1.2</td>
</tr>
<tr>
<td>World</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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</tr>
</tbody>
</table>
Trends in trade and FDI are related, because multinational corporations account for 40% of world trade.
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One-third of the volume of world trade is *intrafirm*.

A third of the volume of world trade is accounted for by transactions in which multinational firms are in one of the two sides of the exchange.
Types

Three types of FDI:

- Horizontal: Exporting vs. replication of the production process in a foreign market.
- Vertical: Fragmentation of production in the presence of factor price differences across countries.
- Complex: Assembly and components production can generate interdependence between horizontal and vertical FDI, as well as third market effects.
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Moreover, in the data there is a lot of within industry heterogeneity, with multinationals being larger and more productive than all other firms.
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Sorting into Exporting and FDI

- Profits domestic
- Export
- Productivity

Lines represent:
- Domestic
- FDI
- Export
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multinational</td>
<td>0.537</td>
<td>(14.432)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonmultinational exporter</td>
<td>0.388</td>
<td>(9.535 )</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coefficient difference</td>
<td>0.150</td>
<td>(3.694 )</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of firms</td>
<td>3,202</td>
<td></td>
</tr>
</tbody>
</table>

*Notes: T-statistics are in parentheses (calculated on the basis of White standard errors). Coefficients for capital intensity controls and industry effects are suppressed.*
The ratio of exports to FDI sales is:
Predictions

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The ratio of exports to FDI sales is:
- decreasing in transport costs;
- increasing in plant-level economies of scale;
- decreasing in productivity dispersion.
Dispersion is as important as trade costs and plant scale economies

### Table 4—“Beta” Coefficients: Narrow Sample with Controls

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>“Beta” coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREIGHT</td>
<td>1.863</td>
<td>0.653</td>
<td>-0.271</td>
</tr>
<tr>
<td>TARIFF</td>
<td>2.015</td>
<td>1.020</td>
<td>-0.205</td>
</tr>
<tr>
<td>FP</td>
<td>3.321</td>
<td>0.785</td>
<td>0.325</td>
</tr>
<tr>
<td>U.S. s.d.</td>
<td>1.749</td>
<td>0.316</td>
<td>-0.312</td>
</tr>
<tr>
<td>Europe s.d.</td>
<td>1.198</td>
<td>0.276</td>
<td>-0.250</td>
</tr>
<tr>
<td>France s.d.</td>
<td>1.224</td>
<td>0.375</td>
<td>-0.325</td>
</tr>
<tr>
<td>Europe reg.</td>
<td>1.260</td>
<td>0.333</td>
<td>-0.210</td>
</tr>
<tr>
<td>France reg.</td>
<td>1.257</td>
<td>0.336</td>
<td>-0.211</td>
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Early views of vertical FDI were based on factor price differences across countries. Together with the horizontal models they generated a theory in which the emergence of MNEs is determined by some combination of:

- lactational advantages (distance, factor prices);
- technological factors (firm vs. plant-level economies of scale).

These theories enhance our understanding of trade and FDI flows, but they share a common failure to account for internalization. Why is fragmentation occurring within firm boundaries? Or across firm boundaries?

More recent theories, based on contractual frictions, yield new insights. They predict:

- Larger shares of intra-firm trade in more headquarter-intensive sectors.
- Larger shares of intra-firm imports from countries that are well endowed with inputs that are intensively used in headquarter services.
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- Larger shares of intrafirm imports from countries that are well endowed with inputs that are intensively used in headquarter services.
Evidence 1


\[ y = -6.86 + 1.17 x \]
\[ (1.02) \quad (0.24) \]
\[ R^2 = 0.54 \]

Share of Intrafirm U.S. Imports and Relative Factor Intensities
Evidence 2

Notes: The Y-axis corresponds to the logarithm of the share of intrafirm imports in total U.S. imports for 28 exporting countries in 1992. The X-axis measures the log of the exporting country’s physical capital stock divided by its total number of workers. See Table A.2. for country codes and Appendix A.4. for details on data sources.

Share of Intrafirm Imports and Relative Factor Endowments
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In U.S. data intrafirm trade is larger:
Evidence 3

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  1. The larger the share of headquarter services (R&D intensity).
  2. The larger productivity dispersion.
  3. Intrafirm trade is largest where headquarter inputs are important and productivity is high.
  4. Internalization rises with improved contractibility of the supplier’s inputs.