Global Value Chains: Impacts and Implications

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Overview

- What is a global value chain (GVC)?
- How GVCs Fit In
- Drivers
- Measures
- High Values Activities
- Offshoring and Outsourcing
- Wrap-up
What Is A Global Value Chain?
A simplified value chain...

<table>
<thead>
<tr>
<th>Corporate Services</th>
<th>R&amp;D</th>
<th>Inputs</th>
<th>Assembly</th>
<th>Distribution</th>
<th>Sales</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Intermediate Input</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td>Services</td>
<td></td>
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<tr>
<td>HR/ Payroll</td>
<td></td>
<td>Intermediate Input</td>
<td></td>
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<tr>
<td>IT</td>
<td></td>
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<tr>
<td>Marketing</td>
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<tr>
<td>Logistics</td>
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</tbody>
</table>

Headquarters
...individual functions become separable...
...which can then be located anywhere in the world
How GVCs Fit In
A global value chain describes the full range of activities undertaken to bring a product or service from its conception to its end use and how these activities are distributed over geographic space and across international borders*

* Adapted from the global value chains initiative at Duke University
### How GVCs fit into trade theory

<table>
<thead>
<tr>
<th>Classical</th>
<th>Why Firms Trade</th>
<th>Source of Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ricardo</td>
<td>Differences in Technology</td>
<td>Location – Often Country</td>
</tr>
<tr>
<td>H-O</td>
<td>Differences in Endowments</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Trade Theory</th>
<th>Why Firms Trade</th>
<th>Source of Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Krugman</td>
<td>Scale, Trade Costs</td>
<td>Industry</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Heterogeneous Firms</th>
<th>Why Firms Trade</th>
<th>Source of Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various</td>
<td>IP, Management, Technology</td>
<td>Firm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global Value Chains</th>
<th>Why Firms Trade</th>
<th>Source of Advantage</th>
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<tbody>
<tr>
<td>Fenstra and Hanson</td>
<td>Activities</td>
<td>Within Firm</td>
</tr>
<tr>
<td>Grossman and Rossi-Hansberg</td>
<td>Tasks</td>
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How GVCs explain trade

**Classical**
- Resource exports
- Labour intensive exports from countries with cheap labour

**New Trade Theory**
- Industrial clustering
- Multinationals

**Heterogeneous Firms**
- Performance differences between firms

**Global Value Chains**
- Trade in intermediate inputs and services
- Move from horizontal to vertical FDI
Why this matters

• Global value chains do not make comparative advantage any less relevant (as some have claimed).
  – In fact, the opposite is more likely the case…GVCs give comparative advantage a finer edge.

• Same gains from trade!
  – Gains from trade may be even greater when trade takes place at a more granular level.

• Provides an important link between trade in goods, services, inward and outward FDI, movement of ideas and of people.

• Competition increases and becomes more refined.
Drivers of GVCs
Rising oil prices don’t seem to be having a major impact on global trade

Oil Prices and Global Trade

*U.S. dollars per barrel, near month Cushing future on NYMEX.
Data: WTO and U.S. Department of Energy
Source: Office of the Chief Economist, DFAIT
The growth of container shipping also seems to have had limited impact.

Data: UNCTAD, Review of Maritime Transport, 2010
Source: Office of the Chief Economist, DFAIT
Air transport appears to be an important contributor to the rise of GVCs…

Share of Canadian Exports by Air to Non-U.S. Destinations*, 2008

* By Value
Data: Statistics Canada and Transport Canada
Source: Office of the Chief Economist, DFAIT
...as does falling tariffs

Global Average Applied Tariff Rates on All Products

Data: World Bank
Source: Office of the Chief Economist, DFAIT
Measuring GVCs
Measurement can be very difficult
A Suite of Measurement Options

- **Existing measures**
  - Merchandise trade, services trade, FDI flows and stocks, royalty payments

- **Classification of trade by use**
  - Intermediate merchandise trade becomes proxy for GVCs

- **Input/output tables**
  - Shows links between industries
  - International linkages are not well measured, proportionality problem

- **Custom surveys**
  - Lack of comparability, limited time dimension, survey burden and cost
  - New survey in Canada, SIBS visit [www.international.gc.ca/economist-economiste](http://www.international.gc.ca/economist-economiste)
Existing measures show a rising importance of trade, investment, and services.

**Growth In Global Value Chains in Canada**

Growth Relative to Canadian GDP, 1990-2008

- X - Goods
- X - Comm. Services
- X - Royalties & Lic. Fees
- X - R&D Services
- Outward FDI
- FA Sales Abroad
- M - Goods
- M - Comm. Services
- M - Royalties & Lic. Fees
- M - R&D Services
- Inward FDI
- FC Sales in Canada

*For FA Sales and FC sales, period is 1999-2008.*

Data: Statistics Canada

Source: Office of the Chief Economist, DFAIT
BEC data shows mixed results for trade in intermediate goods

Exports by Type

Growth (2000-2008)
- Capital
- Intermediate
- Consumption

Share (2008)
- Capital
- Intermediate
- Consumption

Data: UN Comtrade
Source: Office of the Chief Economist, DFAIT
But, I/O data shows the growing importance of imported inputs...

Share of Inputs that are Imported

Data: Statistics Canada
Source: Office of the Chief Economist, DFAIT
...especially for key types of services

Professional Service* Inputs

* Engineering, scientific, accounting, legal, advertising software development and misc. services to business.

Data: Statistics Canada
Source: Office of the Chief Economist, DFAIT
High Valued Activities
Case studies of some high-valued activities…HQs and R&D

- **Headquarters (HQs)**
  - Employ relatively well paid, educated, skilled people
  - Provide services to rest of enterprise
  - Locally support other skilled professions such as legal, financial, etc…
  - Make decisions about location and sourcing of activities (matters if local bias)
  - Philanthropy?

- **R&D**
  - Employ relatively well paid, educated, skilled people
  - R&D activities ‘spill-over’ into local community
Methodology

- How does Canada stack up as a location for these activities (HQs and R&D)?
  - Is Canada viewed as a desirable location from which to lead a global company? Difference between HQ activities and HQs.
  - Is Canada seen as a desirable location for global companies to locate their R&D activities? Is Canada viewed as a good location for sourcing R&D?

- What environment / policy levers are most important for attracting and retaining these activities?
Canada hosts the HQs of few global companies…

Number of Companies on Fortune Global 500 Scaled by Size of Economy

Data: Fortune Magazine and World Development Indicators, 2010 list of companies, 2008 GPDs
Source: Office of the Chief Economist, DFAIT
Company Revenues of Fortune Global 500 Scaled by Size of Economy

Operations of Canadian and U.S. MNEs Outside of North America*

US level as a multiple of Canadian level

Index

Data: Fortune Magazine and World Development Indicators, 2010 list of companies, 2008 GDPs.
Source: Office of the Chief Economist, DFAIT

Source: Office of the Chief Economist, DFAIT
R&D is globalizing extremely quickly...

Share of R&D Budget Spent Outside of the Home Country*

* 209 MNEs, estimate for 2004
Canada is more important as a destination than as a source.

Cross-Border R&D Shares

Percent

Data: OECD
Source: Hall (2011)
Offshoring and Outsourcing in Canada
Offshoring and inshoring are circular flows...

Global Circulation of Business Activities

**Offshoring**

- **Percentage Of Firms**
  - All Industries: 1.9%
  - Manufacturing: 5.2%

**Inshoring**

- **Percentage Of Firms**
  - All Industries: 1.8%
  - Manufacturing: 5.0%

Data: Statistics Canada – SIBS Survey

Source: Office of the Chief Economist, DFAIT
Inshoring and Offshoring of Business Activities
In Manufacturing

Data: Statistics Canada – SIBS Survey
Source: Office of the Chief Economist, DFAIT

...but with important differences between activities
Outsourcing is more prevalent

Outsourcing of Business Activities in Manufacturing

- Production of goods
- Provision of services
- Distribution & logistics
- Call centers
- Marketing & sales
- Software development
- Data processing
- ICT
- Legal Services
- Accounting
- HR mgnt
- Financial mgnt
- Engineering
- R&D

Percent of Firms

Data: Statistics Canada – SIBS Survey
Source: Office of the Chief Economist, DFAIT
## Offshoring and outsourcing is mostly driven by costs

### Top Motivations for Offshoring or Outsourcing*
- Manufacturers -

<table>
<thead>
<tr>
<th>Motivation</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Labour Costs</td>
<td>69.7</td>
</tr>
<tr>
<td>Labour Costs</td>
<td>63.7</td>
</tr>
<tr>
<td>Access to New Markets</td>
<td>41.7</td>
</tr>
<tr>
<td>Delivery Times</td>
<td>34.5</td>
</tr>
<tr>
<td>Access to Knowledge</td>
<td>34.0</td>
</tr>
<tr>
<td>Logistics</td>
<td>29.6</td>
</tr>
<tr>
<td>Focus on Core Business</td>
<td>28.8</td>
</tr>
<tr>
<td>New goods or services</td>
<td>28.6</td>
</tr>
<tr>
<td>Following comp or clients</td>
<td>28.4</td>
</tr>
<tr>
<td>Tax or Financial</td>
<td>20.3</td>
</tr>
<tr>
<td>Lack of Labour</td>
<td>18.0</td>
</tr>
<tr>
<td>Other</td>
<td>2.9</td>
</tr>
</tbody>
</table>

* Those indicating medium or high motivation

Data: Statistics Canada – SIBS Survey
Source: Office of the Chief Economist, DFAIT
Those offshoring and outsourcing face different obstacles than exporters

Top Obstacles when Offshoring or Outsourcing*  
- Manufacturers -

<table>
<thead>
<tr>
<th>Obstacle</th>
<th>% of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to producers</td>
<td>55.5</td>
</tr>
<tr>
<td>Identifying providers</td>
<td>54.9</td>
</tr>
<tr>
<td>Language or cultural</td>
<td>45.1</td>
</tr>
<tr>
<td>Tariffs</td>
<td>43.9</td>
</tr>
<tr>
<td>Foreign legal or admin</td>
<td>41.3</td>
</tr>
<tr>
<td>Lack of mgmt expertise</td>
<td>37.4</td>
</tr>
<tr>
<td>Cnd Legal or Admin.</td>
<td>33.4</td>
</tr>
<tr>
<td>Distance to customers</td>
<td>32.7</td>
</tr>
<tr>
<td>Concerns of employees</td>
<td>32.0</td>
</tr>
<tr>
<td>Lack of financing</td>
<td>30.5</td>
</tr>
<tr>
<td>Tax</td>
<td>25.0</td>
</tr>
<tr>
<td>International standards</td>
<td>24.5</td>
</tr>
<tr>
<td>Social Values</td>
<td>20.4</td>
</tr>
<tr>
<td>IP</td>
<td>8.3</td>
</tr>
</tbody>
</table>

*Those indicating medium or high motivation
Data: Statistics Canada – SIBS Survey
Source: Office of the Chief Economist, DFAIT
Wrap-up

• GVCs is trade, but at a more granular level – producing similar gains.

• Competition becomes greater and more finely-tuned.

• Measures confirm growing importance of GVCs.

• Some of the drivers, most notably tariffs, are controlled by policy.

• Offshoring and outsourcing are strategies used by business to be competitive globally – brings benefits to Canada.

• It's all about establishing an environment that will create an attractive location for firms to undertake high-valued activities and from which to serve global markets.

• Little difference matter more than ever.
Canada’s State of Trade: Trade and Investment Update – 2011

www.international.gc.ca/economist-economiste

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Coming Soon