Roles of Services in Global Value Chains: a review

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Outline

• Roles of services in GVCs
  – Enabling GVCs in goods
  – Creating GVCs of its own
• Issues and challenges for analytical work on services GVCs
• Current architecture: what do we know so far?
• Policy implications
Roles of services in GVCs
Role 1 “Enablers” of GVCs in goods

Ex1. Automotive GVCs

Value added of a typical US car (services are highlighted)

<table>
<thead>
<tr>
<th>序号</th>
<th>项目</th>
<th>增值比例 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R&amp;D (Japan)</td>
<td>17.5%</td>
</tr>
<tr>
<td>2</td>
<td>Design</td>
<td>about 3%</td>
</tr>
<tr>
<td>3</td>
<td>Assembly (ROK)</td>
<td>30%</td>
</tr>
<tr>
<td>4</td>
<td>Assembly (US)</td>
<td>37%</td>
</tr>
<tr>
<td>5</td>
<td>Supply of minor parts (TW)</td>
<td>4%</td>
</tr>
<tr>
<td>6</td>
<td>Advertising &amp; marketing (UK)</td>
<td>2.5%</td>
</tr>
<tr>
<td>7</td>
<td>Data processing (Ireland &amp; Barbados)</td>
<td>2%</td>
</tr>
<tr>
<td>8</td>
<td>Transport and insurance</td>
<td>about 4%</td>
</tr>
</tbody>
</table>

Contribution of services = 30%

Source: WTO (1998)
Role 1 (cont.)

Ex.2. Texas Instrument

GVCs of a high-speed telecom. chip (TCM9055) (services are highlighted)

<table>
<thead>
<tr>
<th>1. IT experts</th>
<th>Design quality improvement strategies (Ericsson, Sweden)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Designers</td>
<td>Create a blueprint for the chip (France)</td>
</tr>
<tr>
<td>3. Produce prototype</td>
<td>(Japan)</td>
</tr>
<tr>
<td>4. Chip production</td>
<td>(worldwide)</td>
</tr>
<tr>
<td>5. Engineering services</td>
<td>Fixing problems remotely through telecom. system (TW)</td>
</tr>
<tr>
<td>6. Packaging process</td>
<td>Southeast Asia</td>
</tr>
<tr>
<td>7. Chips implanted</td>
<td>US, Mexico, Australia</td>
</tr>
<tr>
<td>8. Transport and insurance</td>
<td>(worldwide)</td>
</tr>
<tr>
<td>9. Distribution</td>
<td>(worldwide)</td>
</tr>
</tbody>
</table>

Source: Burrows (1995)
Role 2: Creating GVCs in services

- Services are disaggregated and traded as separate ‘tasks’, thus creating value chains
- “Intermediates” represent 73% of trade in services, while 56% of trade in goods for OECD (Miroudot et al., 2009).

Source: (McKinsey Global Institute, 2009)

* Adoption of offshoring assesses the current and projected level of offshoring to low-wage countries within a sector.
* Theoretical Maximum Global Resourcing Potential describes the percentage of a sector or function may be performed remotely.
Data issues and challenges
Issues and challenges

• Sizes of services GVCs tend to be underestimated.
  - A large part of transactions in services GVCs is under mode 3 (commercial presence, ie. FDI) which is not included in services trade data.

Source: Miroudot et.al. (2009)
Issues and challenges

- The need for measuring goods and services on a value added basis
  - What is the contribution of services to final goods?
  - Value-added measures may give a totally different picture of world trade (e.g. i-phone case)

2009 US trade balance in iPhone (in millions of IS$)

<table>
<thead>
<tr>
<th>Traditional measure</th>
<th>Value added measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2,000</td>
<td>0</td>
</tr>
<tr>
<td>-1,901</td>
<td>-2,000</td>
</tr>
</tbody>
</table>

Of which:
- China: -73
- Japan: -695
- Korea, rep.of: -259
- Germany: -341
- Rest of World: -543

• Measuring services on a value added basis is a complex task because of lack of data.
  • Attempts have been made to categorize services by value added, based on intensity of human capital.
    • e.g. Gereffi and Fenandex-Stark (various years)
Current architecture of services GVCs
What do we know so far?

1) It is growing at a fast pace.
   - The enabling services in GVCs, in general, fall into the “other commercial services” category.
     - The “other commercial services” include a number of varieties such as communications, insurance, finance, computer and IT services, and other business services
     - The “other commercial services” increased its share from 40 to 53% of services trade from 1995 to 2010.
     - ‘Business and ICT services’ was the fastest growing component of world trade over the past decade.
2) Business models of services GVCs are quite similar to goods

Arrow 1: local outsourcing. e.g. Embrarer (Brazil)- CPM Braxis (Brazil)
Arrow 3: Offshore outsourcing. e.g. British telecom (UK) – Tech Mahindra (India).

(Arrow2 is indirect offshore outsourcing)

Arrow 4: “Captive” offshoring (FDI). e.g. BHP Billiton (Australia) established a service centre in Malaysia

Arrow 5: Shifting from FDI to offshore outsourcing. e.g. BHP Billiton (Australia) established a service centre in Malaysia
3) Offshore Services Value Chain

A highly dynamic sector
India the 1990s -2010

Offshore Services Value Chain

India in the early 2000s

India from the mid 2000s

Offshore Services Value Chain: India

**Horizontal Activities**

- **ITO (Information Technology Outsourcing)**
  - Software R&D
  - IT Consulting
  - Software
    - ERP (Enterprise Resource Planning): manufacturing/operations, supply chain management, financial & project management
    - Applications Development
    - Applications Integration
    - Desktop management
  - Infrastructure
    - Applications Management
    - Network Management
    - Infrastructure Management

- **KPO (Knowledge Process Outsourcing)**
  - Business Consulting
  - Business Analytics
  - Market Intelligence
  - Legal Services

- **BPO (Business Process Outsourcing)**
  - ERM (Enterprise Resource Management)
    - Finance & Accounting
    - Procurement, Logistics and Supply Chain Management
    - Content/Document Management
  - HRM (Human Resource Management)
    - Training
    - Talent Management
    - Payroll
    - Recruiting
  - CRM (Customer Relationship Management)
    - Marketing & Sales
    - Contact Centers/Call Centers

**Vertical Activities: Industry specific**

- Banking, Financial Services and Insurance (BFSI)
  - Ex. investment research, private equity research, and risk management analysis
- Manufacturing
  - Ex. Industrial Engineering and sourcing and vendor management
- Telecommunications
  - Ex. IT transformation, Interoperability testing and DSP and multimedia
- Energy
  - Ex. Energy Trading and Risk Management, and Digital oil field solutions
- Travel & Transportation
  - Ex. Revenue management systems, customer loyalty solutions
- Health/Pharma
  - Ex. R&D, clinical trials, medical transcription
- Retail
  - eCommerce and Planning, merchandising and demand intelligence
- Others

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Philippines in the early 2000s

Horizontal Activities

ITO
Information Technology Outsourcing
- Software R&D
- IT Consulting

KPO
Knowledge Process Outsourcing
- Business Consulting
- Business Analytics
- Market Intelligence
- Legal Services

BPO
Business Process Outsourcing

ERM (Enterprise Resource Management)
- Finance & Accounting
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- Content/Document Management

HRM (Human Resource Management)
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CRM (Customer Relationship Management)
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Philippines in the mid 2000s

Philippines in the late 2000s

**Horizontal Activities**

- **ITO** (Information Technology Outsourcing)
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  - Business Analytics
  - Market Intelligence
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    - Marketing & Sales
    - Contact Centers/Call Centers
  - Recruiting

**Vertical Activities**

- Industry specific
  - Banking, Financial Services and Insurance (BFSI)
  - Manufacturing
  - Telecommunications
  - Energy
  - Travel & Transportation
  - Health/Pharma
  - Retail
  - Others

**Source:** Gereffi (2011), *Global Value Chain Analysis and its Implications for Measuring Global Trade.*
Offshore Services Value Chain: Philippines

Horizontal Activities

- ITO: Information Technology Outsourcing
  - Software R&D
  - IT Consulting
- KPO: Knowledge Process Outsourcing
  - Business Consulting
  - Business Analytics
  - Market Intelligence
  - Legal Services
- BPO: Business Process Outsourcing
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    - Training
    - Talent Management
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    - Telecommunications
    - Energy
    - Travel & Transportation
    - Health/Pharma
    - Retail
    - Others

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Mapping Selected Countries in the Offshore Services Value Chain

4) Developing countries and intra-regional trade still play a minor role

Trade in intermediate goods

Trade in intermediate services

The LHS map represents imports of intermediate goods above 20 billion USD, while the RHS map represents that of services above 5 billion USD. Circles stand for intra-regional imports and arrows for inter-regional imports. Arrows and circles are proportional to the value of the flows. Source: Maroudot et al. (2009)
Figure 5. Share of regions in world intermediate goods imports (2006)

Source: Miroudot et.al. (2009)
Figure 7. Share of regions in world intermediate services imports (2005)

For countries where 2005 data were not available for services, we use data for the latest year available at 2005 prices.

Source: Miroudot et al. (2009)
5) Cost advantage is not enough for a country to attract Service MNCs

Cost advantage is not enough (cont.)

Offshoring Locations Chosen by Business Function

<table>
<thead>
<tr>
<th>Offshore Locations</th>
<th>Back Office</th>
<th>Contact Centers</th>
<th>IT</th>
<th>Procurement</th>
<th>Product Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>45%</td>
<td>31%</td>
<td>49%</td>
<td>27%</td>
<td>41%</td>
</tr>
<tr>
<td>Philippines</td>
<td>12%</td>
<td>19%</td>
<td>6%</td>
<td>10%</td>
<td>2%</td>
</tr>
<tr>
<td>Latin America</td>
<td>9%</td>
<td>14%</td>
<td>9%</td>
<td>12%</td>
<td>9%</td>
</tr>
<tr>
<td>China</td>
<td>7%</td>
<td>3%</td>
<td>7%</td>
<td>29%</td>
<td>19%</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>7%</td>
<td>6%</td>
<td>9%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>Other Asia</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>Western Europe</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Canada</td>
<td>3%</td>
<td>8%</td>
<td>3%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Mexico</td>
<td>3%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
<td>-3%</td>
<td>-1%</td>
<td>-3%</td>
<td>-6%</td>
</tr>
</tbody>
</table>

Percentage of Firms Indicating Offshoring Location Preference by Function

5) Asian economies are an attractive location for mid-end tasks of services GVCs
Policy implications
Policy implications

1) Although the location decisions are decided at the firm level where sourcing strategies are determined, a positive environment can be created by national government policies:
   - Development of human capital and skilled personnel
   - Efficient infrastructure requires pro-competitive policy in infrastructure sector such as telecom sector.
   - Quality of institutions is also important for the MNCs’ location decisions.
Policy implications

2) Services liberalization should be modal neutral.
   - Services MNCs will choose modes of supply based on cost efficiency.

3) Although new RTAs in Asia have services and investment commitments, their impacts on regional services network may be small.
   - Services GVCs depend mainly on inter-regional trade.
   - Liberalization on unilateral and multilateral level will be more effective.
Thank you for your attention!