"Global Value Chains, Industrial Upgrading and Governance: A Comparison of Mexico, China and India"

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Seminario Internacional
Innovación Tecnológica y Rentas Económicas en las Redes Globales de Producción: Un Enfoque desde las Estrategias de Desarrollo

El Colegio de México
6 y 7 De Marzo de 2008, Ciudad de México
Agenda

1. Global Value Chain Analysis and Industrial Upgrading
2. Comparing International Upgrading Trajectories
3. Case Studies: China Vs Mexico
4. Textiles and IT in India
5. Global Production Networks and Governance
1. Global Value Chain Analysis and Industrial Upgrading
Global Value Chains

- Global perspective – not just US-centric
- Organization of entire industries: raw materials to production to retail
- Linkages across firms and countries – coordination and integration
- Upgrading, especially for developing countries
- Power in the chain (drivers)
Industrial Upgrading

- **PRODUCTS:** Moving to higher value niches in GVCs (goods and services)
- **INDUSTRIES:** Moving from labor-intensive to capital-intensive to technology- and knowledge-intensive industries
- **ROLES:** Assembly → OEM → OBM → ODM
- **CAPABILITIES:** Production to Design to Commercialization to Innovation
2. Comparing International Upgrading

Trajectories
Composition of Mexico’s Exports to the World Market, 1986-2006

Source: UN Comtrade
Composition of China’s Exports to the World Market, 1987-2006

Source: UN Comtrade
Composition of India’s Exports to the World Market, 1985-2006

- % Export Market
- Total Exports US $B
- Source: UN Comtrade.
Composition of South Korea’s Exports to the World Market, 1985-2006

Source: UN Comtrade.
3. Case Studies: China Vs Mexico
Head-to-head competition in U.S. market

China is world’s leading exporter of many manufactures, esp. consumer goods

China and Mexico are typically among the top three exporters to the U.S. market in many product categories

China is moving ahead of Mexico with dominant market shares in the United States, especially in 2000-2005 period
## Top US Imports in which Mexico and/or China hold 40% or more of the US market, 2007

<table>
<thead>
<tr>
<th>Mexico</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product (SITC categories)</td>
<td>% Market Share in USA</td>
</tr>
<tr>
<td>054 Vegetables, fresh, chilled, frozen; roots, tubers and other edible vegs</td>
<td>59.9</td>
</tr>
<tr>
<td>773 Equipment for distributing electricity, n.e.s.</td>
<td>50.8</td>
</tr>
<tr>
<td>761 TV receivers (including video monitors &amp; projectors)</td>
<td>48.0</td>
</tr>
<tr>
<td>782 Motor vehicles for the transport of goods</td>
<td>46.6</td>
</tr>
<tr>
<td>772 Electrical apparatus for switching or protecting electrical circuits</td>
<td>28.3</td>
</tr>
<tr>
<td>872 Instruments and appliances for medical, surgical, dental or veterinary purposes</td>
<td>26.9</td>
</tr>
<tr>
<td>741 Heating and cooling equipment and parts thereof, n.e.s.</td>
<td>25.8</td>
</tr>
<tr>
<td>775 Household type electrical and nonelectrical equip.</td>
<td>25.6</td>
</tr>
<tr>
<td>658 Made-up articles of textile</td>
<td>48.8</td>
</tr>
<tr>
<td>762 Radio-broadcast receivers</td>
<td>45.4</td>
</tr>
<tr>
<td>775 Household type electrical and nonelectrical equip.</td>
<td>44.2</td>
</tr>
<tr>
<td>741 Heating and cooling equipment and parts thereof, n.e.s.</td>
<td>41.9</td>
</tr>
<tr>
<td>764 Telecommunications equipment, n.e.s. and telecommunications accessories</td>
<td>37.3</td>
</tr>
</tbody>
</table>


1 Criteria: Over 2 Billion in US Imports from China or Mexico in 2007 at the 3 digit SITC level
## Mexico's and China's Competing Exports to the United States, 2000-2007

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Value</td>
<td>Share of</td>
<td>Value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(billions)</td>
<td>US market</td>
<td>(billions)</td>
</tr>
<tr>
<td>752</td>
<td>Automatic Data Processing Machines and Units</td>
<td>Mexico</td>
<td>6.4</td>
<td>11.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>6.3</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Total</td>
<td>55.9</td>
<td>55.9</td>
</tr>
<tr>
<td>764</td>
<td>Telecommunications Equipments and Parts</td>
<td>Mexico</td>
<td>9.1</td>
<td>20.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>4.6</td>
<td>10.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Total</td>
<td>44.3</td>
<td>44.3</td>
</tr>
<tr>
<td>778</td>
<td>Electrical Machinery and Apparatus</td>
<td>Mexico</td>
<td>3.1</td>
<td>18.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>2.0</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Total</td>
<td>17.1</td>
<td>17.1</td>
</tr>
<tr>
<td>784</td>
<td>Auto Parts and Accessories</td>
<td>Mexico</td>
<td>4.6</td>
<td>16.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>0.4</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Total</td>
<td>28.4</td>
<td>28.4</td>
</tr>
<tr>
<td>821</td>
<td>Furniture</td>
<td>Mexico</td>
<td>3.2</td>
<td>16.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>4.5</td>
<td>23.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Total</td>
<td>18.9</td>
<td>18.9</td>
</tr>
<tr>
<td>84</td>
<td>Articles of Apparel and Cothing</td>
<td>Mexico</td>
<td>8.7</td>
<td>13.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>8.5</td>
<td>13.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US Total</td>
<td>64.3</td>
<td>64.3</td>
</tr>
</tbody>
</table>

Source: US Department of Commerce (http://dataweb.usitc.gov), Downloaded Feb 21, 2008
Main Competitors in the U.S. Market for Automatic Data Processing Machines and Units (SITC 752)

- China
- Malaysia
- Mexico
- Thailand
- Singapore
- Japan

Main Competitors in the U.S. Market for Furniture and Parts (SITC 821)

Main Competitors in the U.S. Market for Articles of Apparel and Clothing (SITC 84)

Why is China gaining U.S. market share over Mexico?

- China is a lower-cost producer overall (labor costs lower, but not transport & tariffs)
- China has huge scale economies
- China has a coherent and multidimensional upgrading strategy – diversify and add high value activities
- China is using direct foreign investment to promote “fast learning” in new industries
- China uses access to its domestic market to attract TNCs and promote knowledge spillovers
### China’s Supply Chain Cities in Apparel

**Made in China, Shipped Worldwide**

- **SHANDONG**: Zhucheng, Men's Wear (100 million pieces, $600 million, $100 million)
- **Jiangsu**: Haiyu, Changshu, Casual Wear (160 million pieces, $260 million, $58 million)
- **Zhejiang**: Xintang, Hangzhou, Xiaoshan, Down-filled products (26 million pieces, $470 million, $290 million)
- **Shangdong**: Shengzhou, Ties (300 million pieces, $1.21 billion, $384 million)
- **Zhejiang**: Dafang, Zhui, Socks (9 billion pairs, $1.57 billion, $240 million)
- **Shangdong**: Jinjiang, Shennu, Underwear (969 million pieces, $360 million, $290 million)
- **Guangdong**: Chaozhou, Wedding dresses, Evening gowns (510 million pieces, $950 million, $640 million)
- **Guangdong**: Xintang, Zengcheng, Jeans (225 million pieces, $1.04 billion, $480 million)

*Includes all textiles made in the city. †Wedding dress and evening gown exports only.*

Sources: China National Textile Council; Shennu Underwear Association; Datang Textile Government

What kinds of work are Chinese, Indian, and American engineers actually doing?

- Answer: Not just product adaptation, but cutting-edge research & commercialization

China: More than 1,000 MNC R&D Centers

- GE’s China Technology Center: Advanced research in energy storage, environmental management
- Microsoft Research Asia: Cutting-edge graphics & multimedia research
4. Textiles & Apparel and IT in India
Dramatic increase in sales & employment

85% of India’s cotton knitwear exports, ~4% of total exports

Transformed from basic knit garments for lower end of domestic market to a diversified production range, especially fashion basics/casual wear for exports

5,000 firms (few lead firms directly linked to global buyers)

15 active industry associations, Knit Fair Complex, logistics, fashion institute in collaboration with NIFT

**Labor Market Conditions***:

- 96% of workers are casual employees
- Mostly migrant women from backward castes
- Vast majority of women are ‘flexible’ seasonal workers
- 92% of women surveyed were paid on piece-rate (though time-rate is increasing)

Textiles & Apparel Value Chain
Upgrading Categories

Assembly

OEM (Full-Package)

ODM

OBM

Large Integrated Firms

Small Firms/ Intermediaries

Subcontractors

Internationalization
Domestic vs. Exports

Decent Work (Quality of Work)

Employment Relationship

Informality

Assembly

OEM (Full-Package)

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India: The Offshoring of IT Services

- India employs about 650,000 professionals in IT services, and this figure is expected to more than triple in the next five years.

- General Electric’s “70-70-70” outsourcing rule of thumb: about one-third of GE’s IT work will be done in India.

- A strong nucleus of domestic IT service providers has emerged:
  - Tata Consultancy Services – 23,400 employees and over $1 billion in revenues (as of March 2003)
  - Wipro Technologies – 19,800 employees and $690 million in revenues
  - Infosys Technologies – 15,500 workers, over $750 million in revenues
  - Satyam Computer Services and HCL Technologies – close to 10,000 employees each and $460 million and over $330 million in revenues

- Indian programmers make only 1/9 of their US counterparts, but in the domestic setting the Indian programmers are earning more than 16 times the min wage, while the average US programmer earns only twice the min wage.
Bangalore Software Cluster: ‘India’s Silicon City’

- Tremendous growth in software exports since the late 1980s
- Largest centre for software exports in India - 40% of India’s total exports
- 140 TNC development centers, 750 large and small domestic IT firms
- Movement from on-site to offshore projects, increasing customized services
- A degree of upgrading from labor-intensive (coding, testing and maintenance) to skill-intensive & high value-adding (design and requirement analyses)
The Next Wave of Globalization in India

- India as a center of research, design and innovation
- Pharmaceutical
  - Drug discovery, specialty pharmaceuticals, biologics, high value, bulk manufacturing, advanced intermediate manufacturing
- Aerospace
  - In-flight entertainment, airline seat design, collision control systems, navigation control systems, fuel inverting controls, first-class cabin design
- Consumer Appliances/ Semiconductors, etc.
  - Design of next generation washing machines, dryers, refrigerators, digital TV, cell phones - base stations, automobiles, tractors, locomotive motors
5. Global Production Networks, Governance, and Upgrading Revisited
Global Production, Private Governance and Public Governance

- **International Organizations:** ILO, WTO, etc.
- **Unions, NGOs, etc.**
- **State**
- **Developed Countries**
- **Developing Countries**
- **Global Production Networks**
- **Temporary and Informal Work**
- **Consumers**
- **Public Governance** Facilitative, Regulatory, Distributive
- **GVC Governance**
- **Private Governance**

# A Model of Industrial and Social Upgrading:
Integrating Global Production Networks, Private Governance, and Public Governance

## Scale and Quality of Work
- Wages
- Job stability
- Rights at work
- Respect for labor standards
- Voice and representation
- Workplace conditions
- Social protection

## Industrial Organization, GPN geography
- GPN geography
- GPN governance (hierarchy, captive, relational, modular, and market)

## Workforce Composition: Gender, etc.

## Typology of Work
- Labor-intensive, informal, casual, migrant, or contract
- Assembly for export
- “Full package”
- Original design
- Knowledge-intensive jobs

## Private Governance, Codes of Conduct
- Extent of code adoption
- Strength of codes
- NGO strength

## Trade union strength
- Employers’ organizations

## Representation among non-organized sectors

## Public Governance

### National
- Industrial and other “facilitative” policies
- Regulatory regime (labor standards, etc.)
- Distributive policies

### International
- ILO Conventions
- Social Compact
Options for Industrial and Social Upgrading

- **Industrial Upgrading**
  - Premise: Better location in value chain ➔ Better quality of work
  - Policy Instruments (Facilitative)
    - Targeted Industrial Policy
    - Investment incentives
    - Infrastructure
    - Education
    - etc.

- **Social Upgrading**
  - Premise: Given type of job and location in value chain, stronger governance ➔ Better quality of work
  - Policy Instruments
    - Regulatory (ILO conventions, national laws, enforcement capacity)
    - Distributive (Social insurance, etc.)
  - Private Governance
Thank you for your attention!

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