The Role of Services in Domestic and International Value Chains:
An Initial Analysis of Trends in Services Value Added in the Indian Economy

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ITC is a trade-related technical assistance agency under the joint auspices of United Nations Conference on Trade and Development (UNCTAD) and the World Trade Organisation (WTO).

Within the United Nations system, ITC is the niche development partner focused on support for SME competitiveness to achieve export success in developing countries.
Overview of Contents

• Importance of Services to the global and Indian economy
• Leapfrogging to services: East Asian models of services growth versus India’s “services revolution”
• Rise of Global Value Chains
  – Transformation of international trade; growing dominance of B2B trade in intermediates
  – Trade in Value-Added Tasks
• “Servification” of the Economy
• Role of India’s services industries in GVC participation
• Trade, development and industry policy insights
Importance of Services

Figure 03 Services Sector Growth (% of GDP) through Economic Evolution

Source: World Bank (2011)

Source: Yi (2011)
Importance of Services

Output and GNI per capita, 2007

- % Agriculture value added
- % Industry value added
- % Services value added
Services as a Driver for Development

• Source: World Bank (2009), *The Service Revolution in South Asia*, Figure 1.3-4, p. 41
India’s “Services Revolution”

• Services-led growth has mushroomed in South Asia, enabling South Asia to grow almost as fast as East Asia, but with a very different growth pattern.

• In East Asia, e.g. Hong Kong, SAR or Singapore, the services economy has been focused on enabling trade in Goods
  • Eg Hong Kong-based services such as finance, logistics, maritime services, and trade related services of all kinds have developed largely in response to the need to enhance the efficiency of the dynamic manufacturing base in the Pearl River delta
  • These services are firmly embedded in goods exports from the region

• In South Asia, there has been an explosion of business services, seemingly independent of manufacturing.
“Leapfrogging” to services

• Evidence has emerged that developing countries are shifting towards services sooner, at a lower per capita GDP than had been the case in the traditional development trajectory.

• This suggests that services could provide an alternative engine for development, enabling some latecomers to ‘leapfrog’ the traditional approach.
Services sector growing fastest in LDCs

<table>
<thead>
<tr>
<th>Year</th>
<th>Services, etc. value added (% of GDP)</th>
</tr>
</thead>
</table>

| LDC  | 13.06% |
| LIC  | 9.97%  |
| LMIC | 7.06%  |
| MIC  | 3.66%  |
| HIC  | 5.43%  |
| World| 4.86%  |

Average Growth Rates 2000-2010

- LDC: 13.06%
- LIC: 9.97%
- LMIC: 7.06%
- MIC: 3.66%
- HIC: 5.43%
- World: 4.86%
Contribution of services exports to GDP

- LDC
- High income
- Low income
- World
- Middle Income

Year:
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
China PRC

- Services are still underrepresented in GDP, compared with an average of 54% of GDP for developing countries as a group.
- Sector is targeted for accelerated development and close policy attention; determination to “frog leap” forward and catch up.
- Importance of services sector recognized in China’s Five Year National Development Plan and was an explicit focus in its economic stimulus package during the global recession.
- Targets set for services employment growth, including in the manufacturing heartland, the Pearl River Delta.
- Experimentation with services export zones eg Shanghai FTZ.
- The services sector has become extremely important in China’s outward FDI flows.
  - From 2010 to 2011, China’s outward FDI almost doubled.
  - 80% went to services industries-energy, construction, distribution and financial services.
Rise of Global Value Chains

International trade can no longer be understood in terms of export or import of finished goods or services produced by one firm, at one location, in one country and thereafter delivered to an unrelated party in another country.

Production of goods and increasingly of services involves a combination of intermediate inputs including services activities, sourced globally, to make up a finished output for the final consumer market.

This fragmentation of production into goods and services “tasks” has seen the emergence of a system of global supply or global value chains, referred to by the World Economic Forum as “the world economy’s backbone and central nervous system.”
Evolution of GVC phenomenon

1960s: trend towards vertically integrated firms and industries

1970s: wave of global dispersion of industrial activity through investment in offshoring by multinational corporations

1980s: the first evidence of both geographic and organizational fragmentation ("de-verticalisation" or "unbundling") of the firm by way of both outsourcing and offshoring into international supply chains

1990s: the rise of China and big new global suppliers.

2000s: widespread application of digital technology, beginning of services offshoring, global knowledge and innovation networks …..and the rise of India
• It is now well understood that any business function can become a core competence, or be outsourced (to another separate provider, for which the outsourced “task” becomes the core competence). Most can also be offshored (i.e. outsourced to an offshore location), leading to new competitive opportunities for both country and firm level specialization.

• Supply chain activity has been most pronounced in geographically integrated regions, such as the European Union and East Asia.

• Remarkably, trade in intermediate goods is now twice as large as trade in consumption goods.

• For India, 50% of imports are intermediate goods, of which 25% are being re-exported to a third country
B2B trade in intermediates

Trade in intermediates is more important than trade in final products (and has been for a long time)

World Trade by End Use 1990-2010
Source: Sebastien Miradout, OECD, 2011 (export flow)
Trade in “Tasks”

The application of enabling services such as telecommunications and IT has driven deeper segmentation of goods supply chains into production units which are dispersed geographically and yet connected.
There is lively debate on likely future industry trends, but general evidence suggests that industry continues to internationalise, the production process continues to fragment across borders and the GVC phenomenon is here to stay.

Boeing has transformed itself into a systems integrator and has outsourced an increasing proportion of its aircraft production.

<table>
<thead>
<tr>
<th>Model</th>
<th>Outsourcing Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>737 Classic</td>
<td>10% outsourced</td>
</tr>
<tr>
<td>747 series</td>
<td>20% outsourced</td>
</tr>
<tr>
<td>787 Dreamliner</td>
<td>80% outsourced</td>
</tr>
</tbody>
</table>

Parts built by Boeing in-house.

SOURCE: International Association of Machinists and Aerospace Workers; Boeing; Reuters; McKinsey Global Institute
Today’s Globalized Toy

Topper the Trick Terrier is a robotic dog that can talk and stand on its head. But the real trick is where its parts come from. This year 75,000 copies of the dog were made by Qualiman Industrial Co. in Nanhui, China for a Li & Fung American customer, the Original San Francisco Toymakers. It sells for $29.99 in the U.S.

**Made in**

**APEC**

**Sources:** Qualiman Industrial Co. Ltd.; Li & Fung.
Nutella Value Chain

- France (vanillin & sugar)
- Brantford, Canada
- Villers-Ecalles, France
- Brazil (sugar)
- Los Cardales, Argentina
- Poços de Caldas, Brazil
- Alba and Sant’Angelo dei Lombardi, Italy
- Malaysia (palm oil)
- Turkey (hazelnut)
- Vladimir, Russia
- Bobek, Poland
- Stadtallendorf, Germany
- Headquarters
- Main international suppliers
- Factories
- Main sales offices
Embodyed Services Value
Nokia N95

Source:
ETLA, The Research Institute of the Finnish Economy
T-shirt

- Fabric: $3.40
- Quota: $1.40
- Duty: $1.20
- Importer (services): $4.35
- Retail mark-up (design, retail services, marketing): $18.40

CMT - Cambodia: $2.00
Swedish National Board of Trade: “servicification”
The example of Sandvik - Heavy Tools Manufacturer

Picture 1: Services needed for effective supply chain and delivery of goods
Services Value Chains

• This is a more recent phenomenon, but globalisation is bringing about a similar transformation in services as took place in manufacturing.
• Telecommunications reforms and the application of digital technology to a widening range of business services is driving a rapid emergence of supply chains in services.
• Traditionally, services providers were constrained by their inability to capture, store and possess the value of the intangible. There were few opportunities to create step by step “pathways” to market as services tend to be delivered and consumed simultaneously.
• The application of information technology is radically changing this; there is now a constant quest in the services sector to segment out any business function in which knowledge can be commoditised and packaged as a “product”, and where ownership can be established, production can be scaled up and trade can take place separately from production.
• The innovative business process transformation is involving SMEs as well as creating globally integrated services firms.

• Services intermediates (generally known as knowledge-intensive B2B business services) are now the fastest growing component of world trade today
The fastest growing six sectors averaged annual growth rates ranging from 25-58%. BPO and ITO continue to dominate, although new niche areas, including engineering grew fast, and KPO fastest.
“Offshoring” Services Value Chain

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
    - Procurement, Logistics and Supply Chain 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)
  - Manufacturing
  - Telecommunications
  - Energy
  - Travel & Transportation
  - Health/Pharma
  - Retail
  - Others

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Example of a Services Supply Chain

- Human Resources
  - Manila, Philippines
- Accounts Payable
  - Shanghai, China
- Procurement Operations
  - Shenzhen, China
- Accounting
  - Kuala Lumpur, Malaysia
- Back Office Services
  - Dalian, China
- Help Desk and Customer Service
  - Brisbane, Australia
- Japan
What do Services Value Chains look like?
Measuring Trade in Value-Added

In 2011, the WTO and IDE/JETRO pioneered the way with a ground-breaking study on “trade in tasks” which showed how the emergence of GVCs radically challenges the concepts behind traditional measurements of trade flows.

The study highlighted the fact that as trade in intermediates becomes more important, traditional trade statistics become less meaningful, as they fail to reflect value-added (i.e., the value of exports minus imported inputs).

Understanding current patterns of production and trade, and the economic significance of India’s own participation or lack of participation in GVCs, requires analysis using the new WTO/OECD Trade in Value-Added (TiVA) data released in 2012.
OECD/WTO TiVA data

- TiVA data tracks the source of value that is added by each country/industry in the production of goods or services for export, avoiding double counting and revealing the role of imports in exports.

- TiVA database provides a breakdown of gross exports by industries and source:
  - Domestic Value Added
    - Direct (pure services exports e.g. transport services, business services, financial intermediation etc.)
    - Indirect (originating from domestic services intermediates)
    - Re-imported domestic services value added
  - Foreign Value Added by source country

- The data base covers large aggregated industry groups; in the services sector it covers ISIC 45 (construction), ISIC 50 to 55 (wholesale and retail trade, hotels and restaurants), ISIC 60 to 64 (transport and storage, post and telecommunication), ISIC 65 to 67 (financial intermediation), ISIC 70 to 74 (real estate, renting and business activities) and ISIC 75 to 95 (community, social and personal services).

- Not all countries have input/output tables on which this data is based. The country coverage is therefore limited.
TiVA services categories

1. **Direct domestic services VA** – (e.g. business services, financial intermediation) value added by services exporting industry, as measured also in the BoP. By definition, equals zero for all goods exports.

2. **Indirect domestic services VA** content of Gross Exports – VA by other domestic services companies that provide intermediate inputs to exports of goods/services (e.g. accounting for domestic goods/services exporting company)

3. **Foreign services VA** content of Gross Exports – always indirect since it is incorporated in exports via intermediate inputs used by goods/services exporting company.
Findings: Imports help grow exports in both manufacturing and services

Source: Huberth Escaith, WTO 2012

Source: Yose Rizal Damuri, CSIS, 2014
Findings: “Servicification”

In 2008, services were nearly half of world trade in value added.
Services Value added Content in Exports

TiVA data identifies the services content of gross exports, measuring a composition of both pure services exports (direct value added) as well as indirect domestic and foreign services embodied in goods exports, and reflecting the general level of servicification of a country’s exports.

Between 1995-2009 the share of total services value added in India’s exports has grown by 40% to reach 52% of total gross exports value, significantly above the global average of 45%, the OECD average of 48%, the BRICS average of 47% and the ASEAN average of 39%.

The only other economies in which this ratio is higher are Singapore, United Kingdom and Hong Kong, SAR.
India: Services industries exported VA 1995-2009 $USm

- Electricity, gas and water
- Construction
- Wholesale and retail trade
- Transport and storage, Financial intermediation
- Business services
- Other services

India: Industry Shares of Exported Domestic Value Added

Significant drops in Agriculture (-54%), Textiles (-67%), Chemicals (-38%)
Growth in Electrical and optical equipment (+137%), Manufacturing (nec) (+102%) and Transport equipment (+67%)
Business services: +133% growth

Combined share of all services industries exports, account for 57% of total exported DVA—compared with a 40% share in 1995.

Source: ITC calculations OECD/WTO TiVA data base
Comparison with other BRICS (services% of exported VA)

- **Brazil**: 36% (1995), 39% (2009)
- **China**: 28% (1995), 29% (2009)
- **India**: 40% (1995), 57% (2009)
- **South Africa**: 37% (1995), 40% (2009)
OECD: Sector Shares of Exported Domestic Value Added

- Average OECD 2009
- Average OECD 1995

Total services: 53%
India: Share of services value added by source, as % of gross exports

- Direct domestic services
- Indirect domestic services
- Foreign services value added

<table>
<thead>
<tr>
<th>Year</th>
<th>Direct Domestic Services</th>
<th>Indirect Domestic Services</th>
<th>Foreign Services Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>12%</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>2000</td>
<td>17%</td>
<td>21%</td>
<td>12%</td>
</tr>
<tr>
<td>2005</td>
<td>22%</td>
<td>11%</td>
<td>19%</td>
</tr>
<tr>
<td>2008</td>
<td>23%</td>
<td>10%</td>
<td>19%</td>
</tr>
<tr>
<td>2009</td>
<td>23%</td>
<td>9%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Shifts are only slight; but any decline is a potential red alert in terms of “climbing the value added ladder”
OECD average: services inputs vital to goods GVCs

Source: OECD Trade and Agriculture Directorate
For both China and India, the share of foreign services VA has increased sharply (India: 125% growth, China: 175% growth). Need to compare this figure with trends in overall indirect services inputs – eg potential red alert re competitiveness on chemicals. Note sharp rise in foreign services content in some of India’s fastest growing goods exports: Electrical equipment (+72%), Manufacturing (nec) (+90%) and Transport equipment (+149%). Share of Foreign services VA also growing rapidly in India’s services exports as well (+ 785% in Other services, +223% for Business services exports, 103% growth for Financial services.)
Share of service value added by source, as % of gross exports BRICS

<table>
<thead>
<tr>
<th></th>
<th>Direct services VA growth</th>
<th>Indirect services growth</th>
<th>Foreign services VA growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>25%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>China</td>
<td>-29%</td>
<td>-19%</td>
<td>175%</td>
</tr>
<tr>
<td>India</td>
<td>92%</td>
<td>-5%</td>
<td>125%</td>
</tr>
<tr>
<td>Russia</td>
<td>-13%</td>
<td>5%</td>
<td>-33%</td>
</tr>
<tr>
<td>S. Africa</td>
<td>-11%</td>
<td>10%</td>
<td>25%</td>
</tr>
</tbody>
</table>
Role of Indian services industries in GVC participation

The % of domestic value added (DVA) in gross exports can be understood as a general reflection of the level of integration into GVCs:

- the lower the share of domestic content, the more integrated into GVCs
- High % can be expected in large economies which can source inputs domestically
- High % can also be expected in geographically isolated economies, in countries with high levels of trade barriers, in economies with exports dominated by upstream activities with little local value added such as mining and perhaps in economies with strong services export performance (direct export of services, as distinct from services embodied in goods).
India’s share of domestic content in exports is 78%, having dropped significantly from 90% in 1995, showing increased participation in GVCs. OECD countries average is 70%; China 67% (drop from 88%).
Comparison with other BRICS (DVA as % of GE)

Source: ITC calculations OECD/WTO TiVA data base
Domestic Value Added as % of Gross Exports: BRICS, EU27, OECD, Rest of World, ASEAN 8

2009

1995

OECD

ASEAN 8

BRICS

EU-27

Rest of the World

ITC

EXPORT IMPACT FOR GOOD
<table>
<thead>
<tr>
<th>Region</th>
<th>Share of Foreign Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition Economies</td>
<td>13%</td>
</tr>
<tr>
<td>South America</td>
<td>14%</td>
</tr>
<tr>
<td>Caribbean</td>
<td>21%</td>
</tr>
<tr>
<td>Central America</td>
<td>31%</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>21%</td>
</tr>
<tr>
<td>West Asia</td>
<td>16%</td>
</tr>
<tr>
<td>South Asia</td>
<td>11%</td>
</tr>
<tr>
<td>East and South-East Asean</td>
<td>30%</td>
</tr>
<tr>
<td>Asia</td>
<td>27%</td>
</tr>
<tr>
<td>Africa</td>
<td>14%</td>
</tr>
<tr>
<td>Developing Economies</td>
<td>25%</td>
</tr>
<tr>
<td>APEC</td>
<td>26%</td>
</tr>
<tr>
<td>Japan</td>
<td>18%</td>
</tr>
<tr>
<td>United States</td>
<td>11%</td>
</tr>
<tr>
<td>European Union</td>
<td>39%</td>
</tr>
<tr>
<td>Developed Economies</td>
<td>31%</td>
</tr>
<tr>
<td>Global</td>
<td>28%</td>
</tr>
</tbody>
</table>

Developing country average
Total foreign content is 22%, cf world average 28% and OECD average of 31%. This has more than doubled since 1995. India’s growth rate in this indicator is the second highest in the database and significantly above average growth of OECD countries (2 %) and average for all BRICS (60%). Agriculture, mining, financial services exports stand out as dragging the overall figure down, with average foreign content of around 5%. In high value added services sectors, which are also liberalised, such as business services, these low figures are good news, signalling a high degree of local competitiveness.
India: Foreign Value Added as % of Gross Exports by Sector

Source: ITC calculations OECD/WTO TiVA data base
GVC Participation Index

The OECD also computes an overall “GVC Participation Index” based on the percentage of a country’s exports that form part of GVC activity.

The index is broken down into “backward” participation i.e imported inputs and “forward” participation i.e exports destined as inputs into other countries’ exports.

In India’s case, the GVC participation is at 41%, the bulk of which is due to backward linkages. India’s forward linkages are largely as a result of exports of business services.

The only other country in the BRICS category that surpasses India in terms of GVC participation is Russia with GVC participation at 50%, largely due to forward linkages of mining and quarrying.

Korea, for the purposes of comparison, has a GVC participation rate of over 60%, with the bulk of activity (roughly 2/3) being backward participation.
GVC Participation Index: BRICS

<table>
<thead>
<tr>
<th></th>
<th>Backward</th>
<th>Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>27%</td>
<td>73%</td>
</tr>
<tr>
<td>China</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>India</td>
<td>54%</td>
<td>46%</td>
</tr>
<tr>
<td>Russia</td>
<td>14%</td>
<td>86%</td>
</tr>
<tr>
<td>S. Africa</td>
<td>52%</td>
<td>48%</td>
</tr>
</tbody>
</table>
Policy thoughts

• Services are so important as intermediate inputs in all other sectors that efficiency in India’s domestic services industries is important to India’s overall performance in all export sectors.

• A strategy for growth in Indian industry engagement in increasingly high value-added manufacturing for the global market will require a focus on developing capacity across all the intermediate services inputs.

• The services sector is deeply interlinked with the goods sectors; there is no room for an “either or” industry policy choice.

• India already has first mover advantage in high value-added knowledge-intensive business services.

• But the global competitive challenge is real.

• The policy challenge is to get the enabling factors right, so that business can move into higher value-added tasks. This requires a dedicated focus on all of the factors being shown in the research literature as driving services trade performance.

    – One of the best conceptual frameworks for understanding this is the “Smiley Face”, originally drawn by Stan Chih of ACER computers.
Drivers of Services Competitiveness

1. Human Capital (talent, education, skills, ideas, culture of customer focus)

2. Investment in Intangible Assets (corporate IP including business methodologies) and supportive environment for Innovation

3. Enabling Digital and other Infrastructure

4. Quality of Institutions & Efficiency of Domestic Regulation

5. Connectedness with the International Markets (trade & investment reform, standards, mutual recognition)

6. Organised Services Business Advocacy and public/private Stakeholder Consultation

7. Deliberate National Policy Focus
Value-added

Tasks along the Pathway to Market

“Smiley Face”: Role of Services in Goods Value Chains (pre and post manufacture)

“Servicification”: Everyone is in services