Global Value Chains and Employment: Some Sectoral Perspectives

Connecting Local Enterprises to Global Markets
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Relevance of sectoral perspectives

- SMEs are not generally diversified across industry lines
- From their viewpoint, the question is not in which industries to engage in GVCs (the industrial policy perspective) but whether and how to engage in GVCs, including the challenge of technological upgrading mainly within industries
- Still, sectoral perspectives are potentially important for having a sense of prospects for SMEs engaging in GVCs
Relevance of sectoral perspectives

• Though GVCs exist in many industries, they are most strongly concentrated in a few – apparel and footwear but esp. electronics and automobile industries, as measured by reliance on imported intermediates in *value* terms – Sturgeon and Memedovic, 2010

• Technical considerations? “Component standardization and advances in modular technology” – Athukorala and Menon, 2010

• Growing interest in potential viability of a services-led growth path, that is, whether services can function as a “leading sector” in a similar way as manufacturing, e.g., the case of India
Findings of recent research

• 3 papers applying growth decomposition and input-output employment multiplier analysis to sectoral data

• “Structural drivers of productivity and employment growth: A decomposition analysis for 81 countries,” CJE, September 2014, with Leanne Roncolato, Franklin and Marshall College
  • ILO and UN data

• “The manufacturing-services dynamic in economic development,” with Leanne Roncolato
  • GGDC data for 18 countries in Asia and LAC

• “Employment implications of trade in intermediates,” with Xiao Jiang, Denison University [working title of work in progress]
  • WIOD data for 8 late-developing/emerging economies
Questions addressed (sectoral-level results)

1. Which sectors have contributed most strongly to aggregate employment and labour productivity growth and how has this changed over time?

2. How do these sectoral characteristics differ between better and worse performing countries in terms of aggregate employment and productivity growth?

3. Viability of services-led growth path? Services as a “leading sector” in economic development?

4. To what extent are conventional employment multipliers distorted by not accounting for trade in intermediates? Looked at differently, for which sectors does reliance on imported intermediates matter most for aggregate employment?
Q’s 1 and 2: Sectoral drivers

• Consistent with traditional structuralist views, manufacturing is an important driver of productivity growth in many countries but generally a weak driver of employment growth.

• Along with other studies, we find evidence that services are an increasingly important driver of productivity growth in developing countries while remaining an important driver of employment growth.

• Multiple paths to favorable macroeconomic performance: China, S. Korea, Thailand driven more by manufacturing productivity growth, Hong Kong, Singapore, Taiwan and India* driven more by services productivity growth
Q 3: Services-led growth and India

• In India, services-led growth path is characterized by weak aggregate employment growth, weak transfers of workers out of low-productivity agricultural jobs, and weak job prospects for less skilled workers.

• Thus even more favorable assessments of India’s growth path argue for continued importance of manufacturing.

• In a more positive sense, knowledge-intensive manufacturing industries are main users of producer services (finance, communication, business), and such demand appears to be a key determinant of international competitiveness in such producer services – Guerrieri and Meliciani, 2005.

• That is, manufacturing (knowledge-intensive) and services (producer) are best seen as complements, rather than in terms of manufacturing- vs. services-led growth paths.
Q 4: Reliance on imported intermediates in terms of employment

- Using data from World Input-Output Tables (WIOD), construct “conventional” Leontief employment multipliers (that is, employment generated in all sectors by a unit change in final demand in any given sector), using technical coefficient matrix (A) combining domestic and imported intermediates.

- Construct “adjusted” Leontief employment multipliers accounting for imported intermediates, yielding employment multipliers that are truly domestic (that is, substitute $A^D$ for $A$ in constructing Leontief inverse, where $A^D = A - A^M$).

- The differences between conventional and adjusted employment multipliers provide measures of the extent to which conventional employment multipliers are distorted by not accounting for trade in intermediates or, alternatively, industry-by-industry measures of how aggregate employment is affected by reliance on imported intermediates.
Q 4: Reliance on imported intermediates in terms of employment

<table>
<thead>
<tr>
<th>Percent difference relative to adjusted, manufacturing, 2009</th>
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<tbody>
<tr>
<td>Brazil</td>
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<tr>
<td>Food, Beverages and Tobacco</td>
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<tr>
<td>Textiles and Textile Products</td>
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<tr>
<td>Leather, Leather Products and Footwear</td>
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<td>Wood and Products of Wood and Cork</td>
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<td>Pulp, Paper, Paper, Printing and Publishing</td>
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<td>Coke, Refined Petroleum and Nuclear Fuel</td>
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<td>Chemicals and Chemical Products</td>
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<tr>
<td>Rubber and Plastics</td>
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<tr>
<td>Other Non-Metallic Mineral</td>
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<tr>
<td>Basic Metals and Fabricated Metal</td>
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<tr>
<td>Machinery, Nec</td>
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<tr>
<td>Electrical and Optical Equipment</td>
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<tr>
<td>Transport Equipment</td>
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<tr>
<td>Manufacturing, Nec; Recycling</td>
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- Green shading indicates industries most reliant on imported intermediates in value terms
- Red font indicates tight natural resource constraints: reliance on imported intermediates is not equivalent to integration into GVCs
Next steps

• Need to finish calculating which industries account most for differences between conventional and adjusted multipliers

  • Level of industry aggregation in WIOD means that industries of particular interest are heavily reliant on intermediates produced within the industry

  • E.g., electrical & optical equipment industry *itself* is most important in accounting for differences between conventional and adjusted multipliers for the industry in 7 of 8 countries (India the exception)
Some open questions

• “It is likely that the motor vehicle industry and especially the apparel and footwear industries have experienced strong production deepening in producing countries from expanded domestic production of intermediate inputs” – Sturgeon and Memedovic, 2010

• What explains this? How does “production deepening” relate to technological upgrading, particularly functional upgrading, in the context of gains from trade particularly via vertical trade specialization?

  • Functional upgrading def’n: Changing mix of activities to include higher-value added activities

More open questions

• GVCs and the quality of employment?
  • For developing countries, GVC jobs in assembly and re-export tend to pay lower wages than firms engaged only in domestic markets – Kawakami, 2011; Shepherd and Stone, 2013

• GVCs and broader development considerations?
  • “[B]argaining power [between lead and supplier firms], not transactions costs minimization per se, is the driver of externalization strategies of lead firms” – Milberg and Winkler, 2013
  • Greater rents accruing to lead firms in GVCs, with implications for reinvestment for domestic development – Sturgeon and Memedovic, 2010
  • Weak terms of trade for manufacturing exports: “Prebisch-Singer Trap for the 21st Century” – Milberg and Winkler, 2013
  • Possibility of conflicting interests between lead and supplier firms on technological upgrading depending on what drives GVCs?