Value Chain Dynamics and Intra- and Inter-Regional Integration in Latin America and Asia

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Value chain linkages between Asia and Latin America: Case of Brazil

This section looks at the results from the decomposition of trade between Brazil and economies in East Asia and the Pacific. Results indicate a need to diversify and expand integration across other markets and products.
Let’s start by decomposing gross trade into value-added components.

Based on the WWZ (2017) decomposition framework to measure international production sharing at the bilateral level.

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**Domestic Value-Added (DVA_G)**

1. Final Goods and Services Exported
   - (DVA_FIN)
2. Intermediate Exports Absorbed by Direct Importer
   - (DVA_INT)
3. Intermediates Sent to First Importer and then Re-exported to Third Country
   - (DVA_INTrex)

**Vertical Specialization (VS)**

4. Domestic Value Added First Exported then Returned Home
   - (RDV_G)
5. Foreign Value Added
   - (FVA)

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**Pure Double Counting from Domestic Sources (DDC)**

6. Foreign Value Added Contained in Final Exports
   - (FVA_FIN)
7. Foreign Value Added Contained in Intermediate Exports
   - (FVA_INT)

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**Pure Double Counting from Foreign Sources (FDC)**

8. Foreign Value Added Contained in Final Exports
   - (FVA_FIN)

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**Note:** E* can be at country-sector, country aggregate, bilateral-sector, or bilateral aggregate. Both VAX_G and RDV_G are based on backward industrial linkages.
Brazil’s trade balance with East Asia & the Pacific using gross terms...

![Graph of Brazil's Trade Balance with East Asia and the Pacific (US$ million)]

- Exports
- Imports

![Graph of Year-on-year growth rates of Brazil's export to and import from East Asia & Pacific](image1)

- Exports
- Imports

![Graph of Brazil's Export Basket to East Asia & Pacific](image2)

- primary
- manufacturing
- service

![Graph of Brazil's Import Basket from East Asia & Pacific](image3)

- primary
- manufacturing
- service
...slightly portrays a different picture when viewed from a value-added perspective...
...which is increasingly important given the country’s changing vertical specialization patterns...
…where access to foreign inputs becomes a central feature in its international production sharing…

Foreign value added in Brazil's exports to EA&P, % to total VS

Foreign value added in EAP's exports to Brazil, % to total VS
…especially when we look at its primary exports to Asia…

Foreign value added in Brazil's primary exports to EA&P, % to total VS

Foreign value added in EA&P's manufactured exports to Brazil, % to total VS
…suggesting the different positions each player occupies in global value chains…

Domestic value added (F) trade between Brazil and East Asia & Pacific, All sectors

A. Primary sector

B. Manufacturing sector
...as well as shifts in exporting sectors’ degree of revealed comparative advantages...
...which expands our current understanding of how ‘traditional’ sectors are driving the economy...
...including the sensitivity of the economy against shocks in certain sectors (1)...

- “Extracting” the extractive sectors would have the most impact in Chile and Peru.
- However, the impact eased from 2010 to 2015 as countries slowly diversify its economic structure.

Inter-industrial linkages of the mining sector

Impact to gross output (%), 2010 & 2015

Note: 1 = key sectors (generally dependent); 2 = dependent on inter-industry demand; 3 = generally independent; 4 = dependent on inter-industry supply
...including the sensitivity of the economy against shocks in certain sectors (2)...

- In this scenario, labor income would be most affected in Peru.
- However, in terms of employment, Chile would be experiencing the most impact.
...pointing to a much greater need to diversify the market base for exports...

A. Exports and imports of domestic value added in primary sectors between Brazil and EA&P

B. Brazil's exports to PRC and USA (2000-2018)
...and to move up in the value chain ladder to ensure the sustainability of gains from international trade.

<table>
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<tr>
<th>Year</th>
<th>DVA_FIN</th>
<th>DVA_INT</th>
<th>DVA_INTrex</th>
<th>RDV_B</th>
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<td>61%</td>
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<tr>
<td>2017</td>
<td>15%</td>
<td>62%</td>
<td>22%</td>
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DVA (B) composition of Brazil's exports to East Asia & the Pacific

<table>
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<th>DVA_INT</th>
<th>DVA_INTrex</th>
<th>RDV_B</th>
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<td>52%</td>
<td>9%</td>
<td>1%</td>
</tr>
</tbody>
</table>

DVA (B) composition of Brazil's imports from East Asia & the Pacific
Data helps contextualize trade in the GVC world…

Compendium of GVC statistics

1. Exports decomposition framework by WWZ (2017)
2. Revealed comparative advantage by WWZ (2017)
3. GVC Participation Index by WWZ (2017)
4. Trade in Value Added by Johnson & Noguera (2013)
5. GVC Income by Timmer et al (2013)
3-dimensional characterization of global value chains

**Systemic**
- Size
- Speed

**Relational**
- Orientation
- Length
- Position

**Structural**
- Shape
- Breadth
- Depth

- Magnitude and momentum of trade channel
- Strength of the trade-growth nexus
- Trade promotion and facilitation strategies
- Direction (or mode) of linkage
- Downstream value chain: demand-side policies (upgrading, competitiveness, diversification)
- Upstream: supply-side policies (logistics, trade facilitation, infrastructure, ease of doing business)
- Channels of transmission (risk or growth)
- Design of preferential trade agreements
- Bilateral balance of trade
...in order to strengthen where gaps are prominent.

GVC matters for growth.

VS growth (X) positively correlated with value creation growth (Y) in Developing Asia (2007-2017)

“At-the-border” policies count

Logistics performance (X) positively correlated with vertical specialization (Y), 2007-2016

As well as across- and behind-the-border policies

Ease of doing business (trading across borders and enforcing contracts) links with GVC intensity
Takeaways

- A commodity-for-manufacturing pattern remains a dominant feature of trade between Brazil and Asia. Asia’s resource-constraints and comparative advantages in manufactured goods suggest that this type of exchange will endure in the future.

- Maximizing the benefits from global value chain trade means strengthening connectivity between regions.

- Deepening the understanding of GVCs are important for shifting the discussion from gross to value-added perspectives.

- However, generating critical GVC statistics are premised under quality national statistical systems. Strengthening collaboration and harmonization of methods and data sources are important first step to a clearer view of the GVC phenomenon.
Thank you for your attention.