UNDERSTANDING GLOBAL VALUE CHAINS

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Outline

– OECD work on global value chains – measuring Trade in Value Added (TiVA)

– The engagement and positioning of countries in GVCs

– Benefiting from GVCs

– Key policy issues

– Conclusions and further work
Global Value Chains

- Growth of international production networks, leading to the dispersion of production stages across countries and corresponding (intra-industry) trade
- Networks of activities, firms (MNEs and local firms), industries and countries
- Reallocation of resources across a growing number of countries: e.g. low skilled labour
- More specialisation and complex production relationships, changes in competitiveness
- Global flows of goods (final and inputs), services, capital, people, technology
Case studies of GVCs

Measurement of GVCs is a challenge

- When a good (or service) crosses borders several times at different stages of processing, conventional trade statistics record each time the full value of the good, including embodied (imported) intermediate inputs.

- Three issues:
  1. Multiple counting of intermediate goods and services
  2. Tends to conceal the actual patterns of trade & beneficiaries
  3. Income and knowledge flows are not measured.
A well-known example: the iPhone

10 million units exported from China to the US

Final good 1,875

Assembly 65

Final good 1,875

<table>
<thead>
<tr>
<th>US trade balance</th>
<th>CHN</th>
<th>TWN</th>
<th>DEU</th>
<th>KOR</th>
<th>ROW</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross</td>
<td>-1,646</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-1,646</td>
</tr>
<tr>
<td>Value added</td>
<td>-65</td>
<td>-207</td>
<td>-161</td>
<td>-800</td>
<td>-413</td>
<td>-1,646</td>
</tr>
</tbody>
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The analysis takes only into account the direct suppliers of the Chinese assembler
From case studies to statistics: Measuring Trade in Value Added.
Trade in value added: approach

• To disentangle domestic and foreign value-added in global value chains, we rely on an Inter-Country Input-Output (ICIO) table.
  • The value of a final product can be decomposed according to the country where the value is added.
  • Trade flows in value-added terms can be estimated (from the point of view of a given exporter)

• Gross exports can be decomposed into:

- Direct domestic value-added in the export industry
- Indirect domestic value-added generated via purely domestic transactions, broken down by all domestic industries.
- Indirect imported value-added (broken down by producing country and industry).
- Indirect domestic value-added embodied in imports (broken down by all domestic industries)
Measuring Trade in Value Added

- Global Input-Output Model: national IO tables linked by bilateral trade statistics
- Based on official statistics
- Large and growing coverage
  - 57 countries (all 34 OECD countries, BRIICS, 9 economies in SE Asia)
  - > 95% of GDP, > 90% of world trade
  - China; distinction between processing and non-processing trade
- First release (of results) on 16 January 2013 – latest release at OECD Ministerial Meeting (May 2013)
- Trade flows in value added and applied indicators
- Further work: more countries (e.g. Colombia, Costa Rica), employment and skills, income, firm heterogeneity...
Foreign value-added content of exports (1)

OECD countries

Source: OECD-WTO, Trade in Value Added database, April 2013,
Foreign value-added content of exports (2)

Emerging economies

Source: OECD-WTO, Trade in Value Added database, April 2013,
Regional or global value chains?

Dominant links between countries, exports of intermediates

Source: Calculations based on OECD Input-Output Database (September, 2010) and OECD STAN BTD (March, 2010)
Participation of countries in GVCs (1)

OECD countries

Source: OECD-WTO, Trade in Value Added database, April 2013,
Participation of countries in GVCs (2)

Emerging economies

Source: OECD-WTO, Trade in Value Added database, April 2013,
Services now account for a large share of value creation in GVCs …

Source: OECD-WTO, Trade in Value Added database, April 2013,
... also in the manufacturing sector

Services share of value added in manufacturing exports, world, 2009

Source: OECD-WTO, Trade in Value Added database, April 2013,
Value creation is a concern in many emerging economies ...

Total domestic value added, processing and non-processing exports, China

... as only little value is added in some industries

Domestic and foreign value added in final demand, Mexico, 2009

Source: OECD-WTO, Trade in Value Added database, April 2013,
Measuring trade in value added also changes bilateral trade balances

Bilateral trade balances for Mexico, 2009

Source: OECD-WTO, Trade in Value Added database, April 2013,
Implications of GVCs for trade & investment policies

• No mercantilistic approach: GVCs are about imports and exports;

• **Barriers to import = taxes on exports;** trade barriers are cumulative in GVCs

• **Trade facilitation + efficient services**

• Trade and investment **liberalisation:**
  – Multilateral vs regional vs bilateral agreements
  – Broad coverage

• The efficient functioning of GVCs (hence the participation of countries in GVCs) depends on the easy/smooth **circulation of productive resources** within GVCs: goods (final and intermediate), services, capital, people, human capital, technology;
Implications of GVCs for competitiveness

• Competitiveness is increasingly about activities instead of industries: in GVCs, what you do matters more than what you sell.

• Competitiveness increasingly depends on exports and imports; offshoring/outsourcing can reinforce competitiveness.

• The manufacturing of goods remains a core activity in GVCs, but is increasingly dependent on efficient services that enable customisation to demand.

• Competitiveness in GVCs involves strengthening production factors that are "sticky' and not susceptible to movement across borders - importance of knowledge based capital
In several industries, value creation is closely linked to investment in intangible capital.

The smile curve, electronics

Source: based on Shih (1992), Dedrick and Kraemer (1999) and Baldwin (2012)
Intangible (or knowledge based capital) – adding value and enabling differentiation

SPORT SHOES: 100 EURO (final retail price)

- Production: 12 EURO
- Brand: 33 EURO
- Distribution: 55 EURO
- Raw material: 8 EURO
- Wages: 0.4 EURO
- Other expenses: 1.6 EURO
- Profits producer: 2 EURO
- Conception and design: 11 EURO
- Marketing and branding: 8.3 EURO
- Profits brand: 13.5 EURO

A SUIT... MADE IN CHINA, SOLD IN UNITED STATES


Source: Fung Global Institute

© General Motors, Chevy Volt
Creating and retaining value: the importance of “sticky” factors ...

- Increasingly important to make value ‘stick’ to a location (or country), e.g. through:
  - Improving the quality of institutional and policy frameworks
  - A sound business environment, including strong links between firms (large and small) and with universities and knowledge institutions
  - Investment in education, skills, research, infrastructure
  - Strengthening of domestic capabilities, including the strength of the SME supplier base and young, innovative firms
  - Links between stages of the value chain, e.g. R&D, design, production, etc – leading to the co-location of activities
  - Services, services, services
GVCs and economic development

• GVCs can help countries integrate in the global economy: **joining instead of building a value chain** (China, Costa Rica, Czech Republic, etc.)

• **Participation in GVCs**: border policies are key

• **Creating/capturing value in GVCs**: competitiveness, innovation, skills...

• **Adjusting to GVCs**: important effects on national economies due to reallocation of productive resources

• **Addressing risks**: interconnectedness between economies means also higher interdependency and vulnerability
Example of a national policy agenda for GVCs and development

Costa Rica: What next in GVC?

**Diversify**
- Participate in more GVC
- Increase tasks performed
- Expand number of firms

**Strengthen**
- Increase local content
- Promote backward linkages to local suppliers

**Upgrade**
- The role of innovation, science and technology
- Increased focus on high-skilled tasks
Conclusions

• Growing interconnectedness with the global economy:
  – Openness in all dimensions of GVCs, not just trade
  – Imports are just as important for competitiveness than exports
  – Competitiveness is about what you do, not about what you sell.

• Growing importance of knowledge capital for future competitiveness
  – Requires (public and private) investment in research, skills, and policies to foster innovation
  – A sound and stable business environment is key

• Services increasingly important: enable differentiation
  – Building a productive and high-quality services sector
  – Need for regulatory reform and innovation
Further OECD work on GVCs/TiVA

• Improving/extending the TiVA database – more countries, more industries, ....
• Jobs and skills – where is employment generated in GVCs
• Exploring the link to investment – role of MNEs, income flows within GVCs
• Link between GVCs and global innovation networks
• Moving up the value chain – participation and upgrading by emerging economies
• Exploring future trends - back-/re-/near-shoring – the future of manufacturing
New work: Demand in one country sustains jobs in another ...

Jobs in the business sector sustained by foreign final demand, 1995 and 2008
As a percentage of total business sector employment

http://dx.doi.org/10.1787/888932904469
... with different regions affecting countries

Jobs sustained by foreign final demand, by region of demand, 2008
As a percentage of total jobs embodied in foreign final demand

http://dx.doi.org/10.1787/888932904507
More on the OECD work on Trade in Value Added and Global Value Chains

Key urls:
oe.cd/tiva
oe.cd/gvc
www.oecd.org/sti/scoreboard
Thank you

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