U.S. Trade and Industry: A Glimpse Under the Hood

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Outline

• Breaking down U.S. trade
  • By partner
  • By types of goods

• Value-added measures of trade
  • Re-examine the trade linkages

• A historical perspective of industry in the U.S.
  • Composition of U.S. employment
  • Driving forces
Top U.S. Import Partners and Patterns

Source: Haver Analytics
Composition of U.S. Goods Imports

- Food, feeds & beverages
- Industrial supplies & materials
- Capital goods ex automotives
- Automotive vehicles, parts & engines
- Nonfood consumer goods ex automotives
- Other

Source: Haver Analytics
Composition of U.S. Trade Deficit

Source: Haver Analytics
What is “value-added” trade?

- Classic example: the iPhone.
- China assembles iPhones and exports them to the U.S.
  - China imports components from various sources: Japan, Korea, Germany, the U.S., etc.
- Gross value of export is accredited to China.
  - But China does not create all of the value.
- Repatriate the contribution of each source in the global supply chain to the final value.
- Similar for much of the trade between the U.S. and Mexico, specifically in autos and parts.
Measuring trade flows in global supply chains: value-added approach

A U.S. consumer purchases an iPhone for $500: How is the value-added distributed?

Recording the transaction in gross terms.

Implied gross trade deficit b/w U.S. and China: **$169**.

Implied gross trade deficit b/w U.S. and ROW: **$0**.
Measuring trade flows in global supply chains: value-added approach

A U.S. consumer purchases an iPhone for $500: How is the value-added distributed?

Recording the transaction in gross terms. Trade in intermediate goods gets repatriated to original source.
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A U.S. consumer purchases an iPhone for $500: How is the value-added distributed?

Recording the transaction in gross terms. Remaining value of the iPhone sale covers distribution, R&D, and other value-added by Apple.

<table>
<thead>
<tr>
<th>USA</th>
<th>CHN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor, camera, etc.</td>
<td>$162</td>
</tr>
<tr>
<td>Memory and audio</td>
<td>$11</td>
</tr>
<tr>
<td>Sale to consumer</td>
<td>$500</td>
</tr>
<tr>
<td>Assembled product</td>
<td>$180</td>
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<tr>
<td>Processor, camera, etc.</td>
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<td>Memory and audio</td>
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<tr>
<td>$320</td>
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</tr>
<tr>
<td>Assembly</td>
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</tbody>
</table>
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Implied value-added trade deficit b/w U.S. and China: $7

Implied value-added trade deficit b/w U.S. and ROW: $162.
Value-added trade figures restate U.S. bilateral trade linkages

• U.S. tends to concentrate more on upstream production in the global supply chain.

• China and Mexico specialize more on downstream production.

• The U.S. bilateral trade deficits with China and Mexico are smaller when measured in terms of value added.

• Paints a new picture when thinking about currency wars.
  • A devaluation makes imports more expensive.
  • A country with small value added will gain very little from devaluing.
Value-added trade shares restate U.S. bilateral trade linkages

Source: OECD Trade in Value Added database
Value-added trade figures restate U.S. bilateral trade deficits

Gross net export shares

Value-added net export shares

Source: OECD Trade in Value Added database
Value-added trade figures restate U.S. bilateral manufacturing trade deficits

Source: OECD Trade in Value Added database
De-industrialization: A historical perspective

- The decline in manufacturing, or industrial production, is part of a process known as “structural transformation.”
- The share of employment in industrial sectors has been declining since the 1960s: Why?
  - Technology: advanced in productivity in manufacturing processes.
  - Demand: Increased demand for services (health care, education, etc.)
  - Trade: Increased specialization in global supply chains.
Historical growth and structural transformation in the U.S.

Changes in private consumption expenditures in the U.S.

Source: Bureau of Economic Analysis
Prices of services in the U.S. grew faster than both agricultural and industrial prices.

Source: Bureau of Economic Analysis
Sectoral linkages: Changes in U.S. firms’ intermediate expenditures

Industrial productivity growth
pre-1980: 2.0%  post-1980: 3.1%

Source: Bureau of Economic Analysis
De-industrialization: the U.S. is not alone

Japan’s industrialization process linked to trade

Industrial employment percentages

Asian Tigers’ industrialization and de-industrialization

Industrial employment percentages

China’s industrialization

Employment composition tied to GDP per capita

The decline in industrial activity

• Part of the economic growth process.
• Improved technology reduces the resources needed for production.
• Higher income and longer life-expectancy increases the demand for services.
• Globalization allows for specialization in the global supply chain.
  • The U.S. specializes more in service-intensive, upstream activities.