Chapter 17

Global Production, Outsourcing, and Logistics

Ever hear of “General Average”?
The Budget and Economic Outlook: Fiscal Years 2013 to 2023

The Economic Outlook for 2013

- CBO expects that economic activity will expand slowly this year, with real **GDP growing by just 1.4 percent**. That slow growth reflects a combination of ongoing improvement in underlying economic factors and fiscal tightening that has already begun or is scheduled to occur—including the expiration of a 2 percentage-point cut in the Social Security payroll tax, an increase in tax rates on income above certain thresholds, and scheduled automatic reductions in federal spending. That subdued economic growth will limit businesses’ need to hire additional workers, thereby causing the **unemployment rate to stay near 8 percent this year**, CBO projects. The rate of **inflation and interest rates are projected to remain low**.

The Economic Outlook for 2014 to 2018

- After the economy adjusts this year to the fiscal tightening inherent in current law, underlying economic factors will lead to **more rapid growth, 3.4 percent in 2014 and an average of 3.6 percent a year from 2015 through 2018**. In particular, CBO expects that the effects of the housing and financial crisis will continue to fade and that an **upswing in housing construction** (though from a very low level), **rising real estate and stock prices**, and increasing availability of credit will help to spur a virtuous cycle of faster growth in employment, income, consumer spending, and business investment over the next few years.
- Nevertheless, under current law, **CBO expects the unemployment rate to remain high**—above 7½ percent through 2014—before falling to 5½ percent at the end of 2017. The rate of **inflation is projected to rise slowly after this year**: CBO estimates that the annual increase in the price index for personal consumption expenditures will reach about 2 percent in 2015. The **interest rate** on 3 month Treasury bills—which has hovered near zero for the past several years—is expected to climb to 4 percent by the end of 2017, and the rate on 10-year Treasury notes is projected to rise from 2.1 percent in 2013 to 5.2 percent in 2017.

SOURCE: http://www.cbo.gov/publication/43907
Global GDP 2016 – Issues

Where to find growth next year

2016 year-over-year GDP growth

- No data
- Decrease
- 0% - 2%
- 2% - 4%
- 4% - 6%
- 6% +

U.S.
- It should perform respectively in 2016, but the trade deficit is likely to widen as the dollar strengthens and imports increase.

UK
- Prime Minister David Cameron will stand a lot of 2016 trying to persuade voters to keep the country in the EU.

Russia
- Hobbled by sanctions, President Vladimir Putin is stuck in a recession that threatens to become the country’s longest in two decades.

Germany
- The absorption of refugees is likely to lift economic growth a bit.

Britain
- President Dilma Roussef fears foreign investors will flee if she raises spending and the central bank cuts rates to end the recession.

India
- A bright spot on the map, with growth expected to exceed 7 percent next year; cheap oil should help bring down inflation.

China
- The Communist Party is targeting medium-high economic growth, but the actual rate is likely to keep falling in 2016.

Japan
- The Bank of Japan says it won’t reach its 2 percent inflation target until the full year through March 2017.
Supply Chain Management Organizations

CSCMP (Council of Supply Chain Management Professionals)
   SCPro™ certification
IIPMR (International Institute for Procurement and Market Research)
   Certified Supply Chain Specialist (CSCS)
APICS (Association for Operations Management)
   Certified Supply Chain Professional (CSCP)
ISCEA (The International Supply Chain Education Alliance)
   Certified Supply Chain Manager (CSCM)
IOSCM (Institute of Supply Chain Management)
CISCN (Chartered Institute of Supply Chain Management)
   Chartered Supply Chain Management Professional (CSCM)
(ISM) Institute for Supply Management
   Certified Professional in Supply Management (CPSM)
Supply Chain Management Association (SCMA)
   Canada - Supply Chain Management Professional (SCMP)
American Purchasing Society
   Certified Purchasing Professional (CPP)
   Certified Professional Purchasing Manager (CPPM)
   Certified Professional Purchasing Consultant (CPPC)
Objectives of International Business are to:

- **Lower costs**
  - Produce in most efficient locations
  - Efficiently manage the global supply chain to better match supply and demand

- **Add value**
  - Eliminate defective products from the supply chain and the manufacturing process
  - Improved quality will also reduce costs

- **Both objectives are interrelated**
What is the impact of automation on jobs in:

1. High labor cost countries?
2. Low labor cost countries?
3. How will this impact location selection?

What makes a “most efficient” location is changing to where innovation, technology, clustering and training exist (low cost labor is becoming less important)
### Foreign vs. Domestic suppliers

#### Most important supplier: international or domestic

<table>
<thead>
<tr>
<th>Country</th>
<th>International</th>
<th>Domestic</th>
<th>Binomial test sign.</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>46.7</td>
<td>53.3</td>
<td>n.s.</td>
<td>0.54</td>
<td>0.26</td>
</tr>
<tr>
<td>Australia</td>
<td>63.3</td>
<td>36.7</td>
<td>n.s.</td>
<td>0.42</td>
<td>0.23</td>
</tr>
<tr>
<td><strong>Austria</strong></td>
<td><strong>93.3</strong></td>
<td>6.7</td>
<td>***</td>
<td>0.31</td>
<td>0.20</td>
</tr>
<tr>
<td>China</td>
<td>82.5</td>
<td>17.5</td>
<td>***</td>
<td>0.38</td>
<td>0.21</td>
</tr>
<tr>
<td>Fiji</td>
<td>66.4</td>
<td>33.6</td>
<td>***</td>
<td>0.42</td>
<td>0.16</td>
</tr>
<tr>
<td>Germany</td>
<td>38.9</td>
<td>61.1</td>
<td>n.s.</td>
<td>0.26</td>
<td>0.18</td>
</tr>
<tr>
<td>Ghana</td>
<td>63.9</td>
<td>36.1</td>
<td>**</td>
<td>0.67</td>
<td>0.23</td>
</tr>
<tr>
<td>Hungary</td>
<td>42.3</td>
<td>57.7</td>
<td>n.s.</td>
<td>0.29</td>
<td>0.20</td>
</tr>
<tr>
<td>Italy</td>
<td>45.1</td>
<td>54.9</td>
<td>n.s.</td>
<td>0.31</td>
<td>0.26</td>
</tr>
<tr>
<td>South Korea</td>
<td>25.7</td>
<td>74.3</td>
<td>***</td>
<td>0.52</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>Macedonia</strong></td>
<td><strong>80.0</strong></td>
<td>20.0</td>
<td>***</td>
<td>0.50</td>
<td>0.25</td>
</tr>
<tr>
<td>Mexico</td>
<td>44.2</td>
<td>55.8</td>
<td>n.s.</td>
<td>0.46</td>
<td>0.29</td>
</tr>
<tr>
<td>Poland</td>
<td>15.8</td>
<td>84.2</td>
<td>***</td>
<td>0.22</td>
<td>0.18</td>
</tr>
<tr>
<td>Sweden</td>
<td>69.2</td>
<td>30.8</td>
<td>n.s.</td>
<td>0.29</td>
<td>0.28</td>
</tr>
<tr>
<td><strong>Taiwan</strong></td>
<td><strong>82.0</strong></td>
<td>18.0</td>
<td>***</td>
<td>0.41</td>
<td>0.26</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>52.8</strong></td>
<td><strong>47.2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- **p < 0.01; **p < 0.05; *p < 0.10.**

Percentage of **foreign versus domestic suppliers** (selected countries)
Table 6. Primary reasons for outsourcing (in percent).

<table>
<thead>
<tr>
<th>Country</th>
<th>No resources at needed location</th>
<th>Lack of specific skilled labour</th>
<th>Required by parent company</th>
<th>No patent for needed technology</th>
<th>Lower price</th>
<th>Long standing contract</th>
<th>Not enough time to acquire resources</th>
<th>Lack of specific capital equipment</th>
<th>No access to natural resources</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>28.6</td>
<td>7.1</td>
<td>6.7</td>
<td>7.1</td>
<td>21.4</td>
<td>13.3</td>
<td>7.1</td>
<td>28.6</td>
<td>13.3</td>
<td>10.0</td>
</tr>
<tr>
<td>Australia</td>
<td>10.0</td>
<td>3.3</td>
<td>6.7</td>
<td>6.7</td>
<td>30.0</td>
<td>7.7</td>
<td>6.7</td>
<td>7.7</td>
<td>15.4</td>
<td>30.8</td>
</tr>
<tr>
<td>Austria</td>
<td>15.4</td>
<td>7.7</td>
<td></td>
<td></td>
<td></td>
<td>7.7</td>
<td>6.7</td>
<td>7.7</td>
<td>14.8</td>
<td>3.7</td>
</tr>
<tr>
<td>China</td>
<td>15.8</td>
<td>21.1</td>
<td>10.5</td>
<td>1.8</td>
<td>15.8</td>
<td>5.3</td>
<td>17.5</td>
<td>18.2</td>
<td>9.1</td>
<td>3.5</td>
</tr>
<tr>
<td>Fiji</td>
<td>27.3</td>
<td>15.5</td>
<td>0.9</td>
<td>3.6</td>
<td>15.8</td>
<td>10.0</td>
<td>13.6</td>
<td>31.6</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Germany</td>
<td>35.2</td>
<td>7.4</td>
<td></td>
<td>1.9</td>
<td>7.4</td>
<td>3.5</td>
<td>14.8</td>
<td>3.5</td>
<td>9.3</td>
<td>20.4</td>
</tr>
<tr>
<td>Ghana</td>
<td>8.8</td>
<td>7.0</td>
<td>7.0</td>
<td></td>
<td>3.5</td>
<td>11.6</td>
<td>7.0</td>
<td>4.7</td>
<td>7.3</td>
<td>19.5</td>
</tr>
<tr>
<td>Hungary</td>
<td>9.8</td>
<td>7.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14.9</td>
<td>7.0</td>
<td>7.0</td>
<td>23.3</td>
</tr>
<tr>
<td>Italy</td>
<td>32.6</td>
<td>7.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14.9</td>
<td>7.0</td>
<td>7.0</td>
<td>23.3</td>
</tr>
<tr>
<td>South Korea</td>
<td>10.6</td>
<td>4.3</td>
<td>6.4</td>
<td>7.4</td>
<td>2.1</td>
<td>14.9</td>
<td>2.1</td>
<td>31.6</td>
<td>41.5</td>
<td>6.4</td>
</tr>
<tr>
<td>Macedonia</td>
<td>22.9</td>
<td>2.9</td>
<td>31.4</td>
<td></td>
<td>5.7</td>
<td>17.1</td>
<td>2.9</td>
<td>8.6</td>
<td>23.6</td>
<td>8.6</td>
</tr>
<tr>
<td>Mexico</td>
<td>25.0</td>
<td>6.9</td>
<td>2.8</td>
<td>8.3</td>
<td>5.6</td>
<td>17.1</td>
<td>2.9</td>
<td>8.6</td>
<td>23.6</td>
<td>8.6</td>
</tr>
<tr>
<td>Poland</td>
<td>44.9</td>
<td>2.0</td>
<td>6.1</td>
<td>2.0</td>
<td>20.4</td>
<td>16.3</td>
<td>4.1</td>
<td>7.7</td>
<td>15.4</td>
<td>7.7</td>
</tr>
<tr>
<td>Sweden</td>
<td>30.8</td>
<td>15.4</td>
<td></td>
<td></td>
<td></td>
<td>7.7</td>
<td>7.7</td>
<td>7.7</td>
<td>7.7</td>
<td>15.4</td>
</tr>
<tr>
<td>Taiwan</td>
<td>6.0</td>
<td>22.0</td>
<td>2.0</td>
<td>12.0</td>
<td>4.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Total</td>
<td>21.2</td>
<td>8.3</td>
<td>4.2</td>
<td>6.4</td>
<td>6.4</td>
<td>7.2</td>
<td>5.7</td>
<td>13.3</td>
<td>10.7</td>
<td></td>
</tr>
</tbody>
</table>

Reasons for outsourcing - largest % = “No resources at needed location”

International Journal of Production Research
The Economist Intelligence Unit (EIU) aggregates these and other "labor market factors... likely to disrupt business operations" into a single measure of "labor market risk." These risk indicators feed into an overall score from 0 to 100, with 100 reflecting the highest risk to business profitability. The United States posted a score of 18, the third best score of the 180 countries assessed, ranking below only Liechtenstein and Switzerland. Japan and many European countries posted scores in the 20s, including Germany (29), a location of choice when China is too pricey—Vietnam, had a score of 64. According to EIU, China and Mexico also came in relatively high in terms of labor risk, both having scores of 57.
Quality Focus

Six Sigma

Reduce defects, boost productivity, eliminate waste, and cut costs throughout a company

- 3.4 defects per million units

Total Quality Management (TQM)

Goal of improving product quality

- Mistakes, defects and poor materials are unacceptable
- Employees do NOT fear reporting problems

ISO 9000

European Union -firms must meet the standards before they are allowed access to the European marketplace
Quality Standards – 3 Levels

1. General level
   - Deming Award [for demonstrated excellence in quality]
   - Malcolm Baldrige National Quality Award [for demonstrated quality strategies and achievements]

2. Industry-specific level
   - “Certifications” or “ABC approved products”

3. Company level
   - Companies set supplier standards
Where to Go?

You are an electronics manufacturer located in City of Industry. For more than two decades, your company has designed, manufactured and supplied electronic components and finished goods. You have excellent quality.
- Become more price competitive (domestic market)
- Expand sales abroad.

If you were to offshore manufacture – what should you consider when deciding where to go?
Three Factors to Consider (know for exam)

**Country Factors**
- Skilled Labor availability
- Trade Barriers Formal and informal
- Exchange Rate - volatility expectations
- Transportation costs
- FDI regulations

**Technological Factors**

**Product Factors**
Where To Produce?

Country Factors

Technological Factors

Product Factors

Technological Factors

- Level of fixed costs
  Mfg plant set up costs
- Flexibility of the technology
  - Equipment set-up time reductions
  - Scheduling efficiency - Increase machine utilization
  - Quality Control improvements
Where To Produce?

Country Factors

Technological Factors

Product Factors

Product Factors
- Value-to-weight ratio
  - Impacts the shipping mode
  - High value – ship any way (e.g., jewelry, computer chips)

- Type of need served
  - Standardize products (low cost)
  - Adapted products (localized)
## Produce in How Many Locations?

<table>
<thead>
<tr>
<th>Concentrate production</th>
<th>Multiple Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>- High fixed costs</td>
<td>- Low fixed costs</td>
</tr>
<tr>
<td>- High minimum efficient scale of production</td>
<td>- Low minimum efficient scale of production</td>
</tr>
<tr>
<td>- Available flexible manufacturing technologies</td>
<td>- No available flexible manufacturing technologies</td>
</tr>
<tr>
<td>- High value-to-weight ratio</td>
<td>- Low value-to-weight ratio</td>
</tr>
<tr>
<td>- Standardized products</td>
<td>- Adapted products</td>
</tr>
</tbody>
</table>
Question: Should a firm **make or buy** the component parts to go into its final product?

Make-or-buy decisions are important to firms' manufacturing strategies.

- Service firms also face make-or-buy decisions.
- Decisions involving international markets are more complex than those involving domestic markets.
Why Make?

- Vertical integration - making component parts in-house

1. **Lowers costs**
   - if a firm is more efficient at that production activity than any other enterprise, manufacturing in-house makes sense

2. **Facilitates investments in highly specialized assets**
   - internal production makes sense when substantial investments in _specialized assets_ are required
Why Make?

3. Protects proprietary technology

- in-house production makes sense when component parts contain proprietary technology

How to protect your brand in export markets:

1. Decide on the necessity for protecting your brand as a registered trademark – most of the time **trademark registration is desirable and necessary**;

2. **File for trademark registration** in that market **prior to exporting** to that market;

3. Determine whether any of your export markets are members of the Madrid system – if so, file with WIPO


4. If your export market is not member of the Madrid system, file for trademark registration directly with the individual countries
Who were the “Top 10” Madrid Filing countries?

Who were the “Top 10” Madrid Filing companies?
Why Make?

4. Facilitates the scheduling of adjacent processes
   - planning, coordination, and scheduling of adjacent processes can be easier with in-house production
   - Adjacent Processes – one process begins where the other left off (continuous)
Buying component parts from independent suppliers

1. **Gives the firm greater flexibility**
   - important when changes in exchange rates and trade barriers alter the attractiveness of various supply sources over time
Why Buy?

2. Helps drive down the firm's cost structure
   - avoids challenges of coordination and control of additional subunits
   - avoids the lack of incentive associated with internal suppliers
   - avoids the difficulties with setting appropriate transfer prices

3. Helps the firm capture orders from international customers
   - can help firms gain orders from suppliers’ countries
Re-Shoring (back to the U.S.)?

Please write answers to:

1. Top 3 reasons to bring mfg jobs back to the U.S.?
2. By 2020, how many manufacturing jobs are projected to return to the U.S.?
3. How might this impact business (and life) in:
   A. U.S.
   B. China
   C. Nigeria

FILM (4 min)
Chindia – China & India

Considerations

1. Transfer pricing
2. Infrastructure
3. Tax compliance
4. Accounting requirements
5. Incentives for businesses
6. State owned enterprise competition
7. Strength of private sector
8. Due diligence
9. Control of foreign investments
10. Corporate governance
11. Labor contract law
12. Bankruptcy laws