Chapter 2
Production Possibilities and Opportunity Costs

This chapter discusses principles associated with

- Division of Labor and Specialization
- Technological Change and Economic Growth
- The Law of Increasing Costs

What are the Factors of Production?

- Labor
- Capital
- Land
- Entrepreneurship

What is Labor?
The physical and intellectual effort of people engaged in producing goods and services

What is Capital?
Manufactured goods used to make and/or market other goods and services

What is Human Capital?
The knowledge and skills acquired by labor, principally through education and training
What is Land?
A natural-state resource such as real estate, grasses and forests, and metals and minerals.

Who is an Entrepreneur?
A person who alone assumes the risks and uncertainties of a business. He is also the person who takes the initiative and comes up with the essential idea of the business.

What is Production Possibilities?
In order to understand what is meant by PPF, we would first consider a hypothetical economy.

Production Possibilities Frontier

Robinson Crusoe’s Production Possibilities:

<table>
<thead>
<tr>
<th>Consumption Goods</th>
<th>Capital Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Production Possibilities?
The combinations of goods that can be produced when resources and technology are used fully & efficiently.
What is true along the Production Possibilities Curve?

- available resources are used fully
- most efficient combination of resources

What choices are made along the Production Possibilities curve?

To have more of one product, units of the other product have to be given up

Opportunity Cost:

The quantity of other goods that must be given up to obtain a good

Law of Increasing Costs:

- The opportunity cost of producing a good increases as more of the good is produced
How do we have more of everything?

By increasing our resources

What other ways can we increase our PPF?

- Innovations - an idea that takes the form of new applied technology
- Technology - an improvement in capital

Once Rich it is Easier to Get Richer

Once Poor it is Easy to Stay Poor
Specialization of labor:
The division of labor into specialized activities.

Does division of labor increase productivity?
Yes. People become more proficient in one activity which results in greater output per person.

Example 1:
Production of Fish & Shirts per 8-hour Day

<table>
<thead>
<tr>
<th></th>
<th>Production of Fish</th>
<th>Production of Shirts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crusoe Island</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Yakamaya Island</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

Example 2:
Production of Fish & Shirts per 8-hour Day

<table>
<thead>
<tr>
<th></th>
<th>Production of Fish</th>
<th>Production of Shirts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crusoe Island</td>
<td>8 (1 S)</td>
<td>8 (1 F)</td>
</tr>
<tr>
<td>Yakamaya Island</td>
<td>8 (1/4 S)</td>
<td>2 (4 F)</td>
</tr>
</tbody>
</table>

In Crusoe Island, 1 Fish = 1 Shirt & 1 Shirt = 1 Fish
In Yakamaya, 1 Fish = 2/8 = 1/4 Shirt & 1 Shirt = 4 Fish
International Exchange Rate, 1 Shirt = 2 Fish

Adam Smith:
“One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations, to put it on is a peculiar business, ..........”

The reason for such division of labor, he noted, is that these 10 people could make as many as 48,000 pins in a day. If they had each worked separately and independently, they could not have produced more than 200.

Absolute Advantage:
- A country’s ability to produce a good using fewer resources than the country with which it trades

The Theory of Absolute Advantage states that a country should completely specialize and produce the good in which it has absolute advantage.
Comparative Advantage:
- A country’s ability to produce a good at a lower opportunity cost than the country with which it trades

The Theory of Comparative Advantage states that a country should completely specialize and produce the good in which it has comparative advantage.

What should a country specialize in producing?
In those goods and services in which it has a comparative advantage

Should a country produce that with which it has an Absolute Advantage?
No!
Not unless it also has a comparative advantage in those goods and services

Why?
- Because by so doing its opportunity costs may be too high

Example 3:
Production of Fish & Shirts per 8-hour Day

<table>
<thead>
<tr>
<th>Production of Fish</th>
<th>Production of Shirts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crusoe Island</strong></td>
<td>10 .4 S 2 4 .5 F</td>
</tr>
<tr>
<td><strong>Yakamaya Island</strong></td>
<td>8 .25 S 2 4 F</td>
</tr>
</tbody>
</table>

In Crusoe Island, 1 Fish = .4 Shirt & 1 Shirt = 2.5 Fish
In Yakamaya, 1 Fish = 2/8 = 1/4 Shirt & 1 Shirt = 4 Fish
International Exchange Rate, 1 Shirt = 3 Fish