

# **Interdependence and the Gains from Trade**

## **Chapter 3**

# Interdependence and Trade

**Consider your necessary items in a typical day:**

- **Alarm clock**
- **Computer/laptop**
- **Mobile**
- **Dress material**
- **Food**
- **Ola cycle**
- **././././**
- **./././././**
- **...and you haven't been up for more than 5 hours yet!**

# **Interdependence and Trade**

**Remember, economics is the study of how societies produce and distribute goods in an attempt to satisfy the wants and needs of its members.**

# How do we satisfy our wants and needs in a global economy?

- We can be economically self-sufficient.
- We can specialize and trade with others, leading to economic interdependence.

# Interdependence and Trade

## **A general observation . . .**

**Individuals and nations rely on specialized production and exchange as a way to address problems caused by scarcity.**

# Interdependence and Trade

**But, this gives rise to two questions:**

- **Why is interdependence the norm?**
- **What determines production and trade?**

# **Why is interdependence the norm?**

**Interdependence occurs because people are better off when they specialize and trade with others.**

# **What determines the pattern of production and trade?**

**Patterns of production and trade are based upon differences in opportunity costs.**



# A Parable for the Modern Economy

- **Imagine . . .**
  - ... only two goods: potatoes and meat**
  - ... only two people: a potato farmer and a cattle rancher**
- **What should each produce?**
- **Why should they trade?**

# The Production Opportunities of the Farmer and the Rancher

	<i>Minutes needed to make 1 kg of:</i>		<i>Amount Produced in 8 Hours</i>	
	<b>Meat</b>	<b>Potatoes</b>	<b>Meat</b>	<b>Potatoes</b>
<b>Farmer</b>	60 min	15 min	8kg	32kg
<b>Rancher</b>	20min	10 min	24kg	48kg

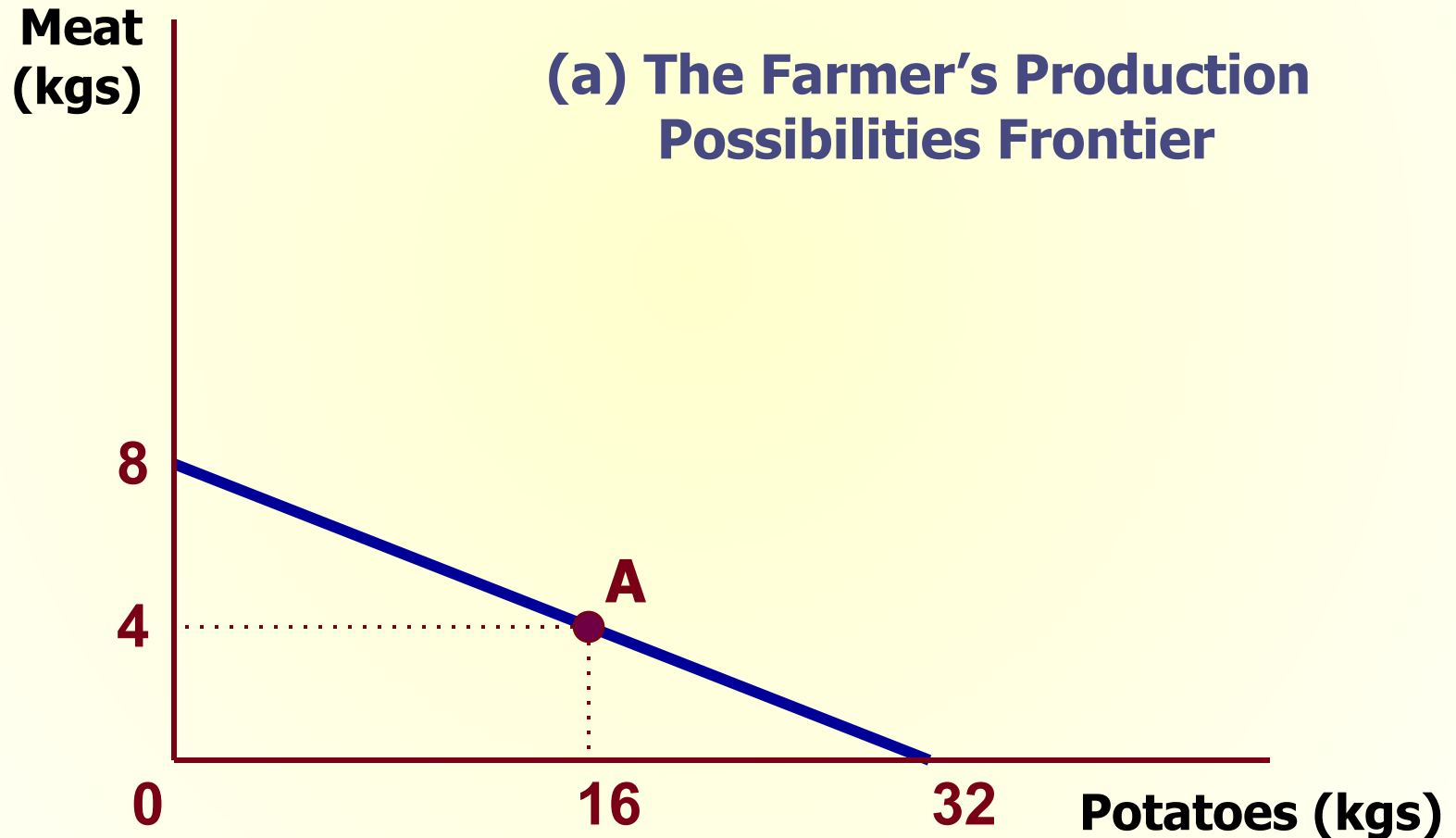
# Self-Sufficiency

By ignoring each other:

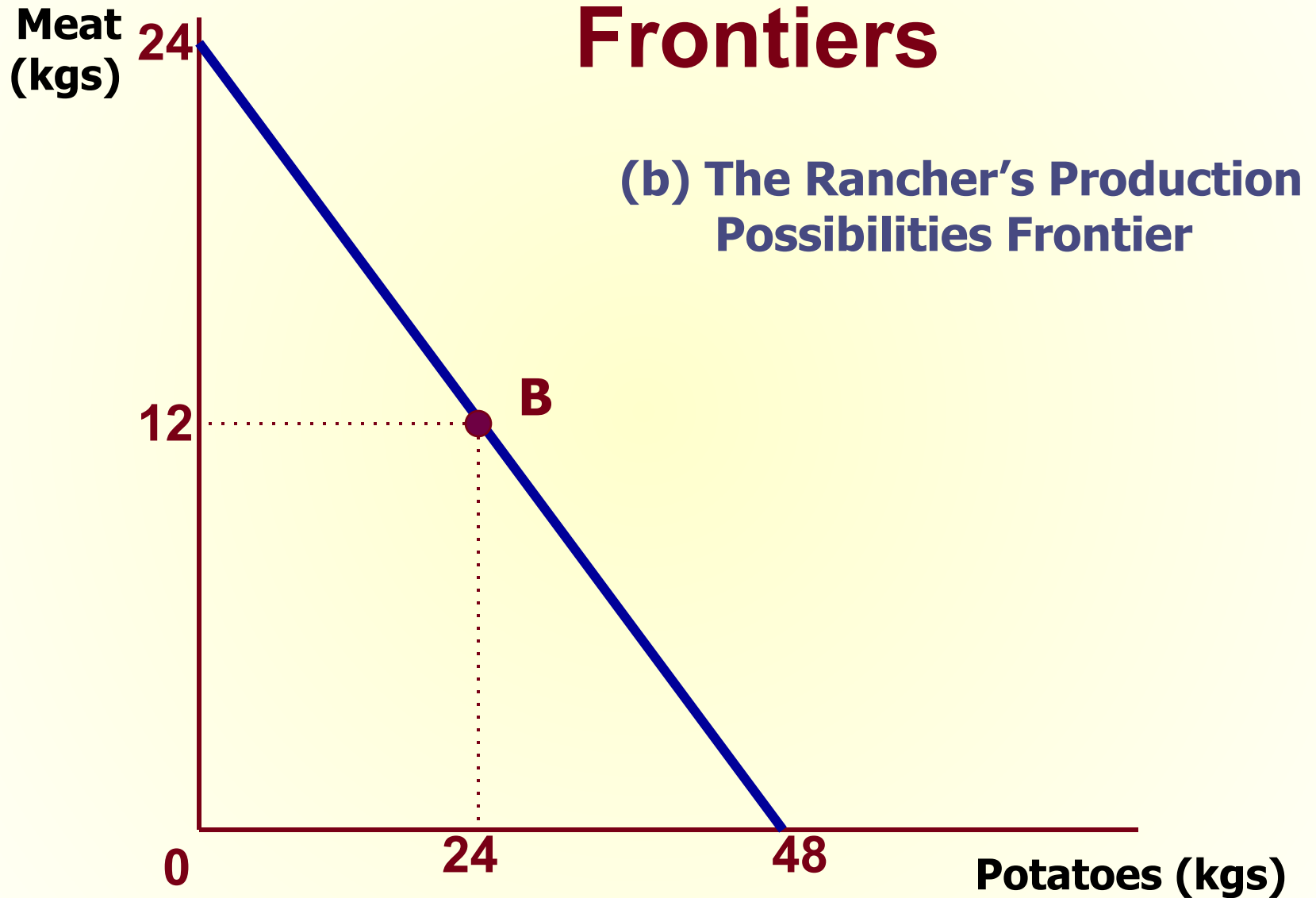
- Each consumes what they each produce.
- The production possibilities frontier is also the consumption possibilities frontier.

Without trade, economic gains are diminished.

# Production Possibilities Frontiers



# Production Possibilities Frontiers



# **The Farmer and the Rancher Specialize and Trade**

**Each would be better off if they specialized in producing the product they are more suited to produce, and then trade with each other.**

- **The farmer should produce potatoes.**
- **The rancher should produce meat.**

# The Principle of Comparative Advantage

Differences in the costs of production determine the following:

- Who should produce what?
- How much should be traded for each product?

Who can produce potatoes at a lower cost--the farmer or the rancher?

# Differences in Costs of Production

Two ways to measure differences in costs of production:

- The number of hours required to produce a unit of output. (for example, one kg potatoes)
- The opportunity cost of sacrificing one good for another.



# Absolute Advantage

- Describes the productivity of one person, firm, or nation compared to that of another.
- The producer that requires a smaller quantity of inputs to produce a good is said to have an absolute advantage in producing that good.

# Comparative Advantage

- Compares producers of a good according to their *opportunity cost*.
- The producer who has the smaller opportunity cost of producing a good is said to have a comparative advantage in producing that good.

# Specialization and Trade

- **Who has the absolute advantage?**  
**The farmer or the rancher?**
- **Who has the comparative advantage?**  
**The farmer or the rancher?**

# Absolute Advantage

- The Rancher needs only 10 minutes to produce a kg of potatoes, whereas the Farmer needs 15min.
- The Rancher needs only 20 min to produce a kg of meat, whereas the Farmer needs 60min.

The Rancher has an absolute advantage in the production of both meat and potatoes: Input cost is low.

# The Opportunity Cost of Meat and Potatoes

	Opportunity cost of 1kg of Meat	1kg of potatoes
Farmer	4kg P	$\frac{1}{4}$ kg M
Rancher	2kg P	$\frac{1}{2}$ kg M

# Comparative Advantage

...so, the Rancher has a comparative advantage in the production of meat but the Farmer has a comparative advantage in the production of potatoes.

# **The Principle of Comparative Advantage**

- **Comparative advantage and differences in opportunity costs are the basis for specialized production and trade.**
- **Whenever potential trading parties have differences in opportunity costs, they can each benefit from trade.**

# Benefits of Trade

**Trade can benefit everyone in a society because it allows people to specialize in activities in which they have a comparative advantage.**



# Adam Smith and Trade

In his 1776 book *An Inquiry into the Nature and Causes of the Wealth of Nations*, **Adam Smith** performed a detailed analysis of trade and economic interdependence, which economists still adhere to today.

# David Ricardo and Trade

In his 1816 book *Principles of Political Economy and Taxation*, **David Ricardo** developed the principle of comparative advantage as we know it today.

# Should Kohli Mow His Own Lawn?



# Summary

- **Interdependence and trade allow people to enjoy a greater quantity and variety of goods and services.**

# Summary

- The person who can produce a good with a smaller quantity of inputs has an absolute advantage.
- The person with a smaller opportunity cost has a comparative advantage.

# Summary

- **The gains from trade are based on comparative advantage, not absolute advantage.**
- **Comparative advantage applies to countries as well as to people.**