


N. Gregory Mankiw

Principles of
Macroeconomics
 Sixth Edition

3

Interdependence and the
 Gains from Trade

Premium
 PowerPoint
 Slides by
 Ron Cronovich



*In this chapter,
 look for the answers to these questions:*

- Why do people—and nations—choose to be economically interdependent?
- How can trade make everyone better off?
- What is absolute advantage?
 What is comparative advantage?
 How are these concepts similar?
 How are they different?

1

Interdependence

*Every day
 you rely on
 many people
 from around
 the world,
 most of whom
 you've never met,
 to provide you
 with the goods
 and services
 you enjoy.*



Interdependence

- § One of the Ten Principles from Chapter 1:
Trade can make everyone better off.
- § We now learn why people—and nations—choose to be interdependent, and how they can gain from trade.

3

Our Example

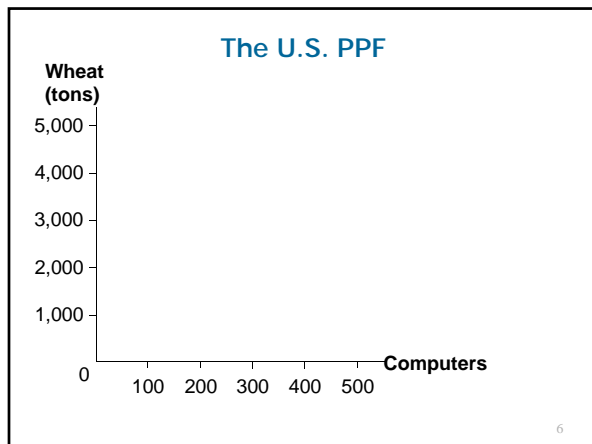
- § Two countries: the U.S. and Japan
- § Two goods: computers and wheat
- § One resource: labor, measured in hours
- § We will look at how much of both goods each country produces and consumes
 - § if the country chooses to be self-sufficient
 - § if it trades with the other country

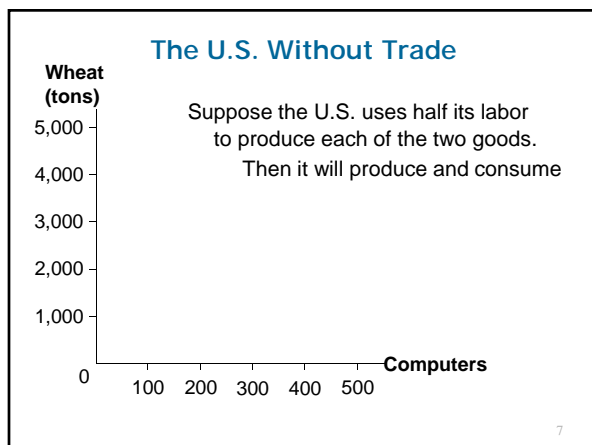
4

Production Possibilities in the U.S.

- § The U.S. has 50,000 hours of labor available for production, per month.
- § Producing one computer requires 100 hours of labor.
- § Producing one ton of wheat requires 10 hours of labor.

5



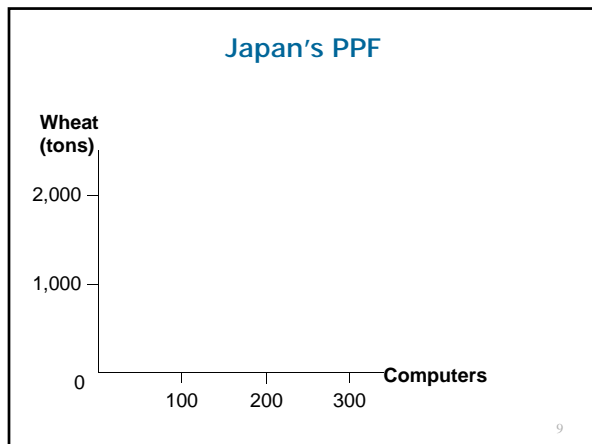


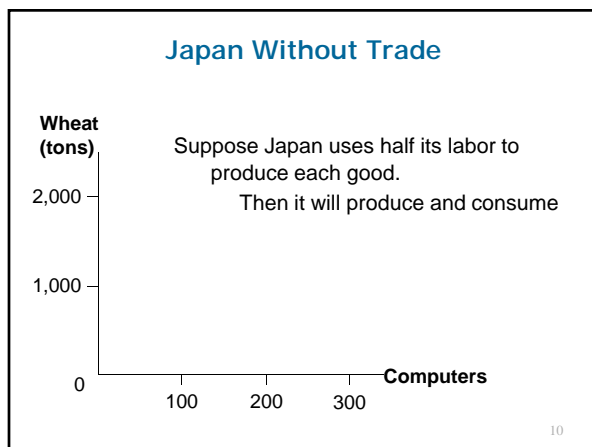
ACTIVE LEARNING 1
Derive Japan's PPF

Use the following information to draw Japan's PPF.

- § Japan has 30,000 hours of labor available for production, per month.
- § Producing one computer requires 125 hours of labor.
- § Producing one ton of wheat requires 25 hours of labor.

Your graph should measure computers on the horizontal axis.





Consumption With and Without Trade

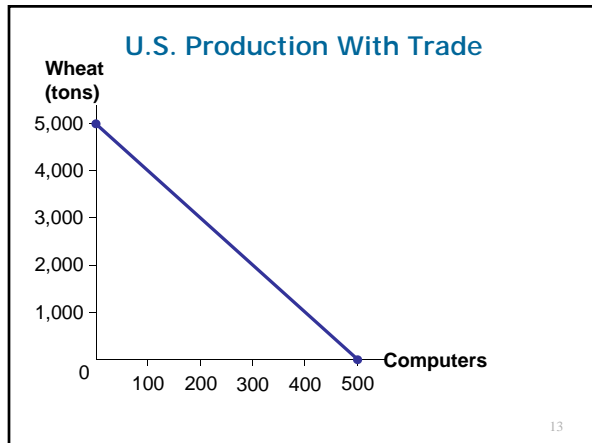
- § Without trade,
 - § U.S. consumers get ____ computers and ____ tons wheat.
 - § Japanese consumers get ____ computers and ____ tons wheat.
- § We will compare consumption without trade to consumption with trade.
- § First, we need to see how much of each good is produced and traded by the two countries.

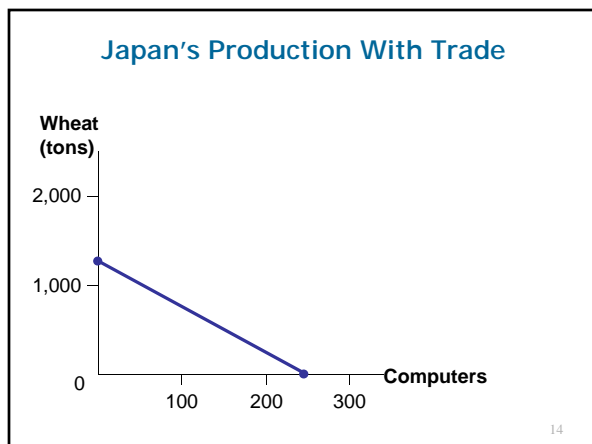
11

ACTIVE LEARNING 2

Production under trade

1. Suppose the U.S. produces 3400 tons of wheat. How many computers would the U.S. be able to produce with its remaining labor? Draw the point representing this combination of computers and wheat on the U.S. PPF.
2. Suppose Japan produces 240 computers. How many tons of wheat would Japan be able to produce with its remaining labor? Draw this point on Japan's PPF.





Exports & Imports

§ Exports:

goods produced domestically and sold abroad

To export means to sell domestically produced goods abroad.

§ Imports:

goods produced abroad and sold domestically

To import means to purchase goods produced in other countries.

15

ACTIVE LEARNING 3

Consumption under trade

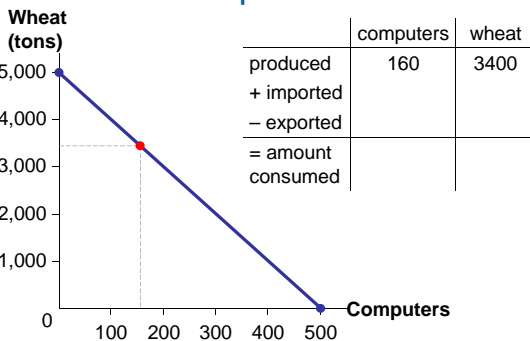
Suppose the U.S. exports 700 tons of wheat to Japan, and imports 110 computers from Japan.

(So, Japan imports 700 tons wheat and exports 110 computers.)

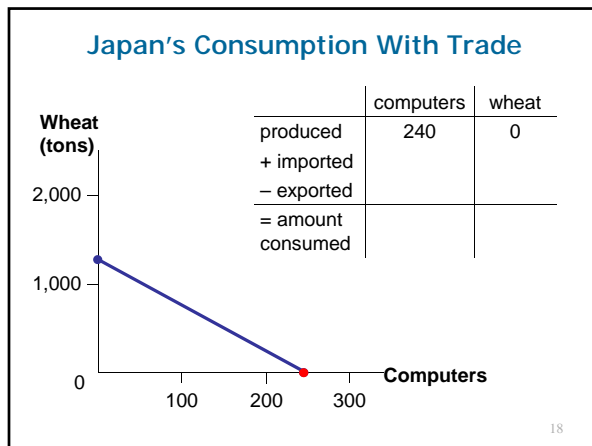
§ How much of each good is consumed in the U.S.? Plot this combination on the U.S. PPF.

§ How much of each good is consumed in Japan? Plot this combination on Japan's PPF.

U.S. Consumption With Trade



17



Trade Makes Both Countries Better Off

U.S.			
	consumption without trade	consumption with trade	gains from trade
computers	250		
wheat	2500		

Japan			
	consumption without trade	consumption with trade	gains from trade
computers	120		
wheat	600		

19

Where Do These Gains Come From?

§ **Absolute advantage:**

§ The U.S. has an absolute advantage in wheat:

§ If each country has an absolute advantage in one good and specializes in that good, then both countries can gain from trade.

20

Where Do These Gains Come From?

- § Which country has an absolute advantage in computers?

**So why does Japan specialize in computers?
Why do both countries gain from trade?**

21

Two Measures of the Cost of a Good

- § Two countries can gain from trade when each specializes in the good it produces at lowest cost.
- § Absolute advantage measures the cost of a good in terms of
- § Recall:
Another measure of cost is *opportunity cost*.
- § In our example,
the opportunity cost of a computer is

22

Opportunity Cost and Comparative Advantage

- § **Comparative advantage:**

- § Which country has the comparative advantage in computers?
- § To answer this, must determine the opportunity cost of a computer in each country.

23

Opportunity Cost and Comparative Advantage

§ The opportunity cost of a computer is
§ _____ tons of wheat in the U.S., because

§ _____ tons of wheat in Japan, because

§ So, _____ has a comparative advantage in computers.

Lesson:

24

Comparative Advantage and Trade

§

§ When each country specializes in the good(s) in which it has a comparative advantage, total production in all countries is higher, the world's "economic pie" is bigger, and all countries can gain from trade.

§ The same applies to individual producers (like the farmer and the rancher) specializing in different goods and trading with each other.

25

ACTIVE LEARNING 4

Absolute and comparative advantage

Argentina and Brazil each have 10,000 hours of labor per month.

In Argentina,

§ producing one pound coffee requires 2 hours

§ producing one bottle wine requires 4 hours

In Brazil,

§ producing one pound coffee requires 1 hour

§ producing one bottle wine requires 5 hours

Which country has an absolute advantage in the production of coffee? Which country has a comparative advantage in the production of wine?

ACTIVE LEARNING **4**
Answers

Unanswered Questions...

- § We made a lot of assumptions about the quantities of each good that each country produces, trades, and consumes, and the price at which the countries trade wheat for computers.
- § In the real world, these quantities and prices would be determined by
- § We will begin to study this in the next chapter.
- § For now, though, our goal was merely to see how trade can make everyone better off.

28
