AP Micro: Absolute and Comparative Advantage

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James Redelsheimer

James Redelsheimer has been an AP and Regular Economics teacher at Robbinsdale Armstrong High School in Plymouth, Minnesota since 2003. James received his Bachelor’s degree from St. Olaf College and his Master's degree at the University of St. Thomas. He received the 3M Economics Educator Excellence Award from the Minnesota Council on Economic Education and was named Visa Practical Money Skills Innovative Educator of the Month.

James enjoys traveling and has been a guest lecturer in the economics department at the Batumi State University in The Republic of Georgia and has received travel grants and fellowships for study travel to learn about the economies of Japan, China, Turkey, Germany, Korea, among others, and studied economics of the environment in Costa Rica. He currently serves as an AP Economics reader, grading AP Economics exams. He enjoys teaching Economics because it relates to students' everyday lives.

Agenda

1. Define absolute and comparative advantage with real-world examples.
2. Practice multiple choice and FRQ Questions.
3. Activity from CEE's AP Economics Workbook

Objectives

In this webinar teachers will be able to:

- Calculate comparative advantage problems, including terms of the trade
- Implement effective lessons to prepare students for AP exam questions on comparative advantage
- Explain why countries trade based on comparative advantage

National Standards

Standard 5: Trade

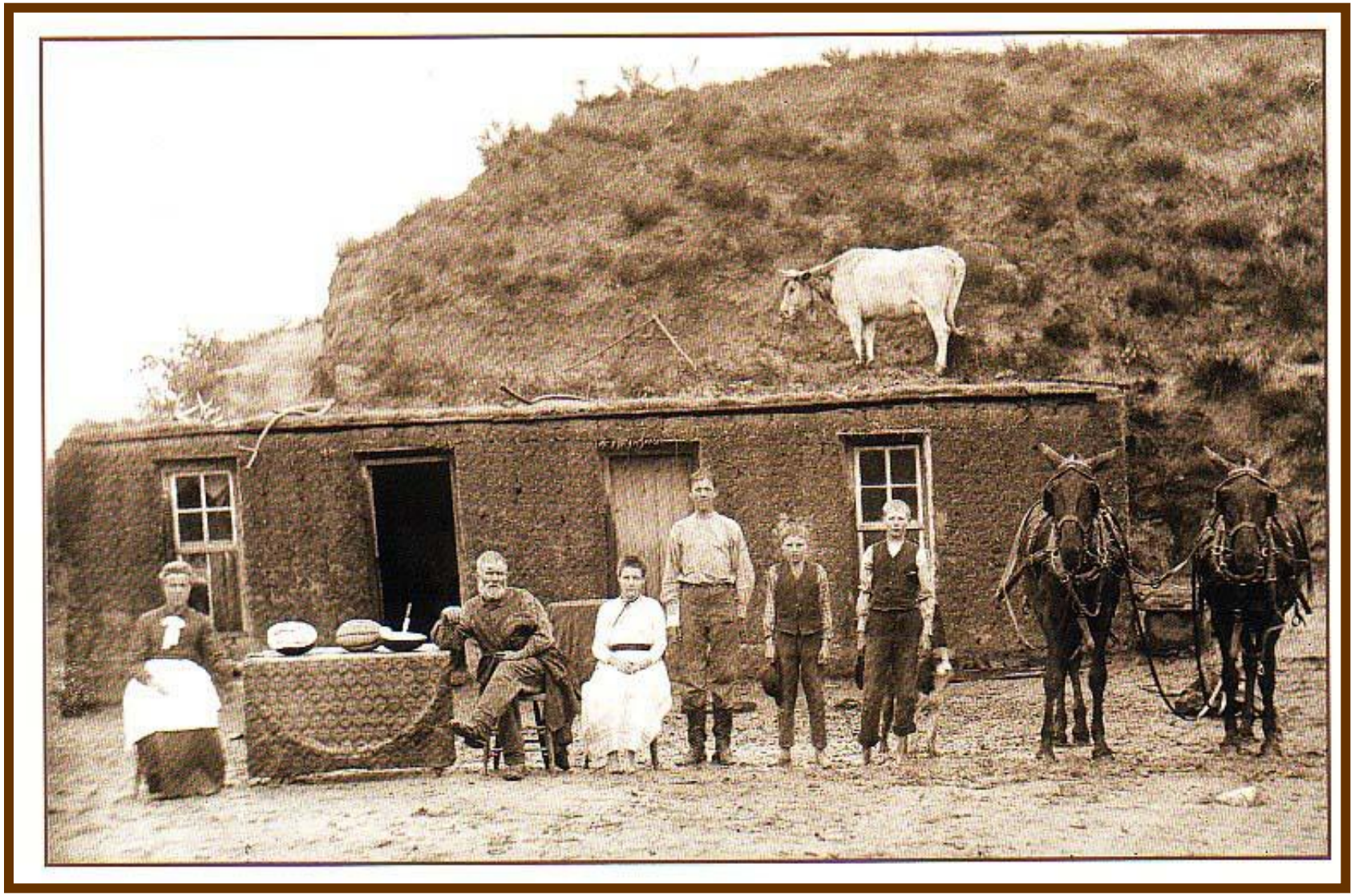
Standard 6: Specialization

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.

Independently Poor

If we consumed only the goods & services we produced, we would toil long hours but remain dirt poor



Why do people trade?

1. Assume people didn't trade. What things would you have to go without?

Everything you don't produce yourself!

(Clothes, car, cell phone, bananas, heath care, etc)

The Point: Everyone specializes in the production of goods and services and trades it to others

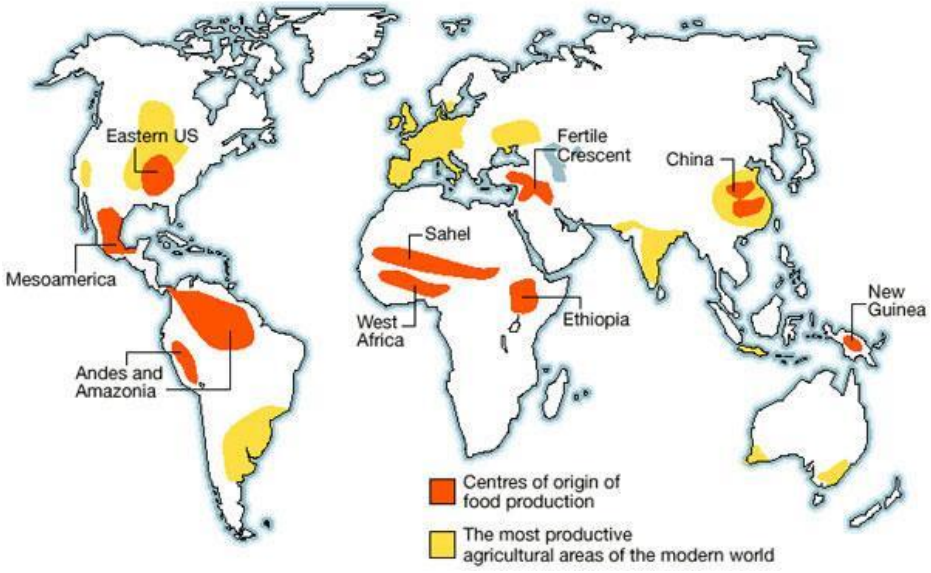
2. What would life be like if cities couldn't trade with cities or states couldn't trade with states?

Limiting trade would reduce people's choices and make people worse off.

The Point: More access to trade means more choices and a higher standard of living.

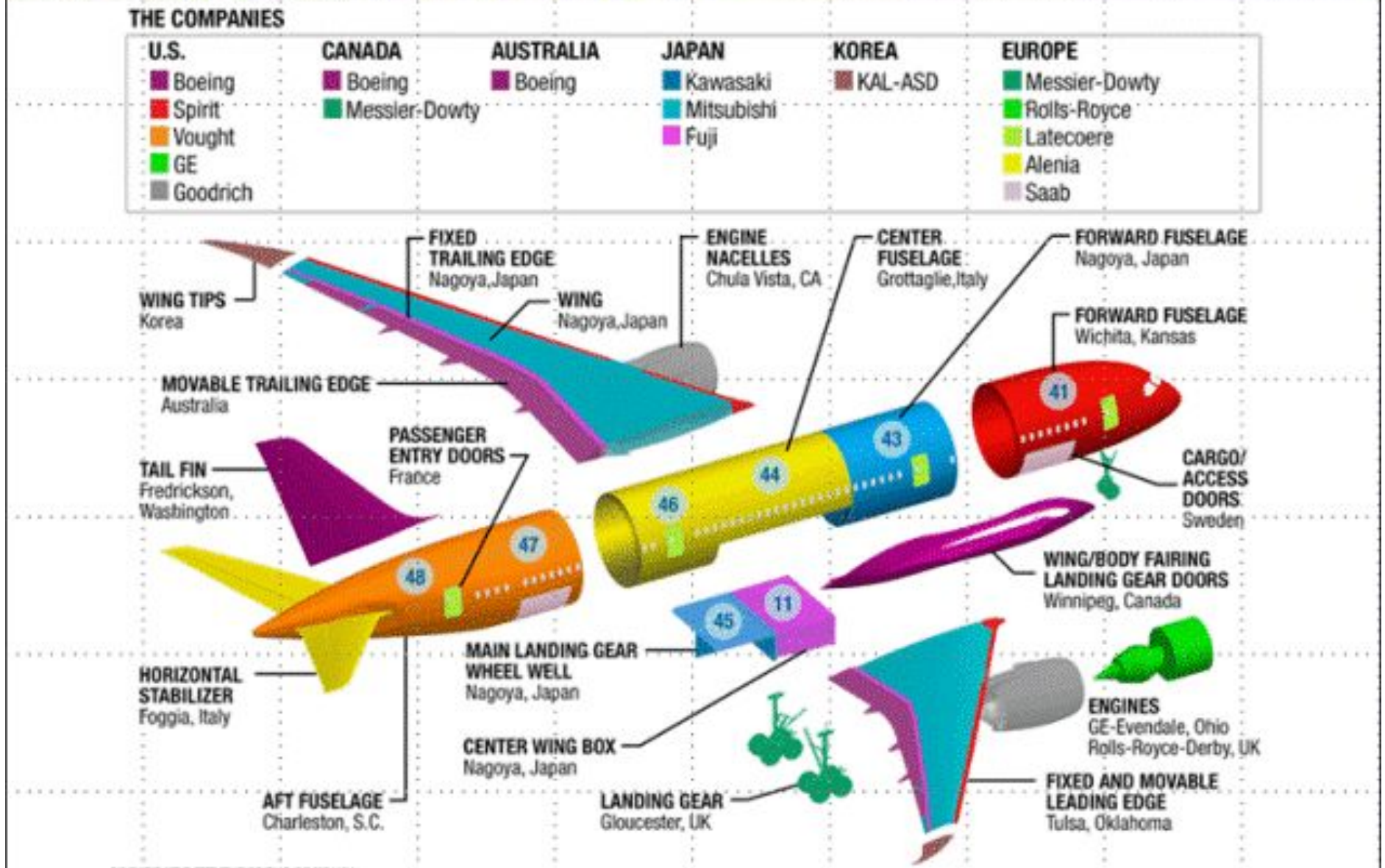
There Are Gains From Trade

- **Sample Discussion Questions:**
- Where were your shirts made?
- What have you eaten today?
- Who created the food you ate?
- Why didn't you perform these tasks on your own?
- Are we better off because we can focus on being a student while someone else focuses on growing food or manufacturing our clothes?



Partners Across The Globe Are Bringing The 787 Together

787 DREAMLINER



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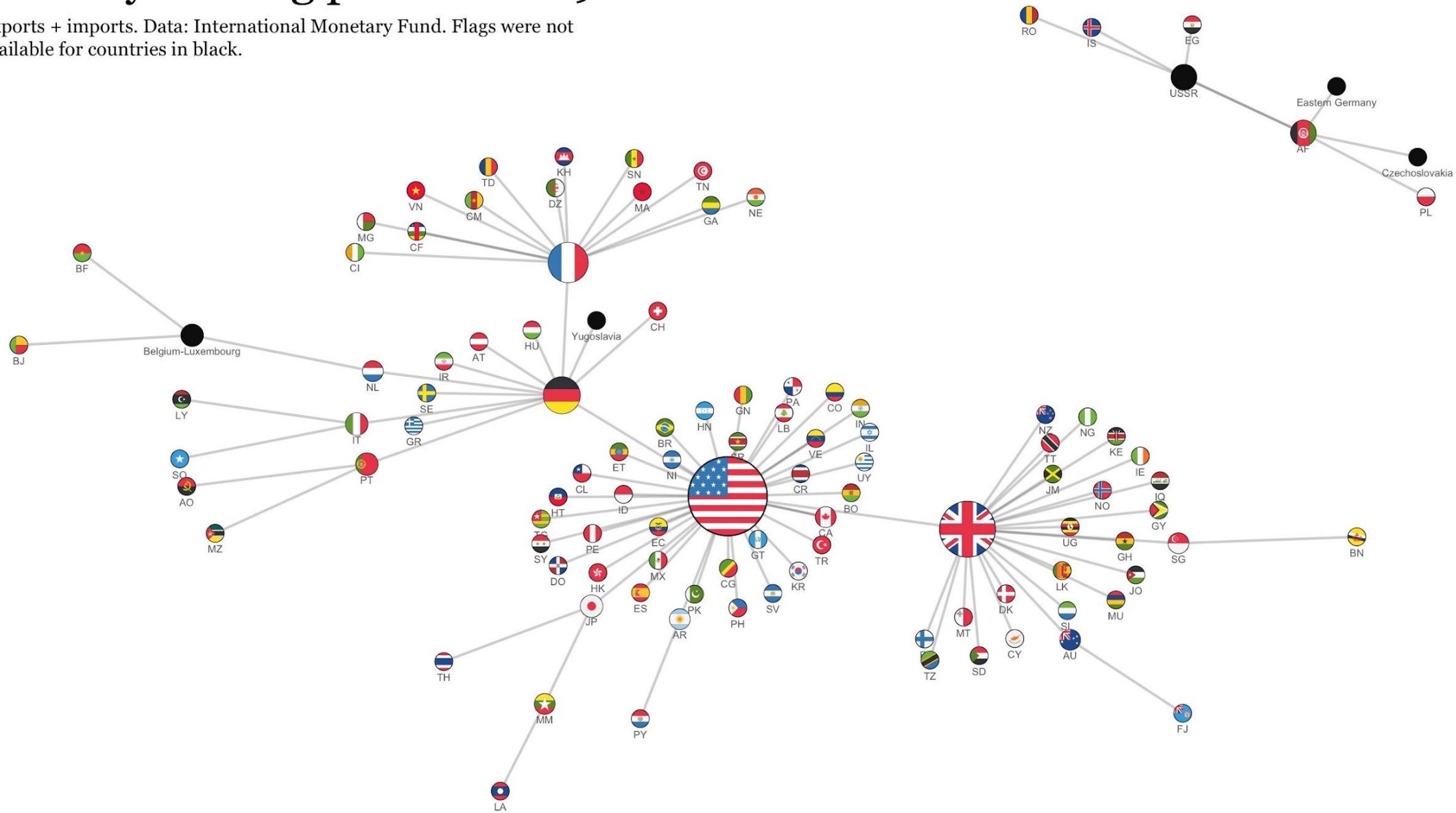
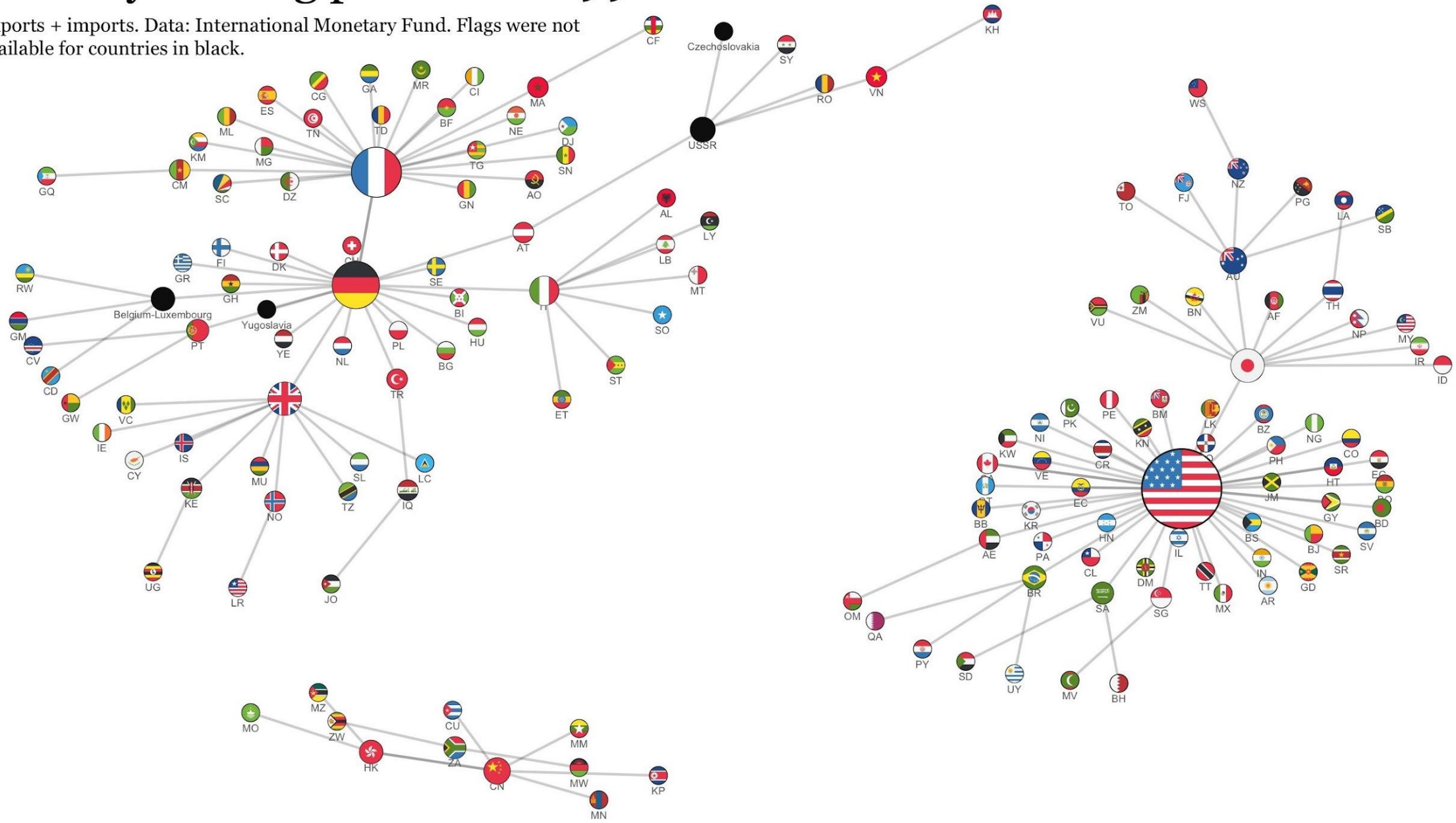
Countries connected to their primary trading partner in 1960

Exports + imports. Data: International Monetary Fund. Flags were not available for countries in black.



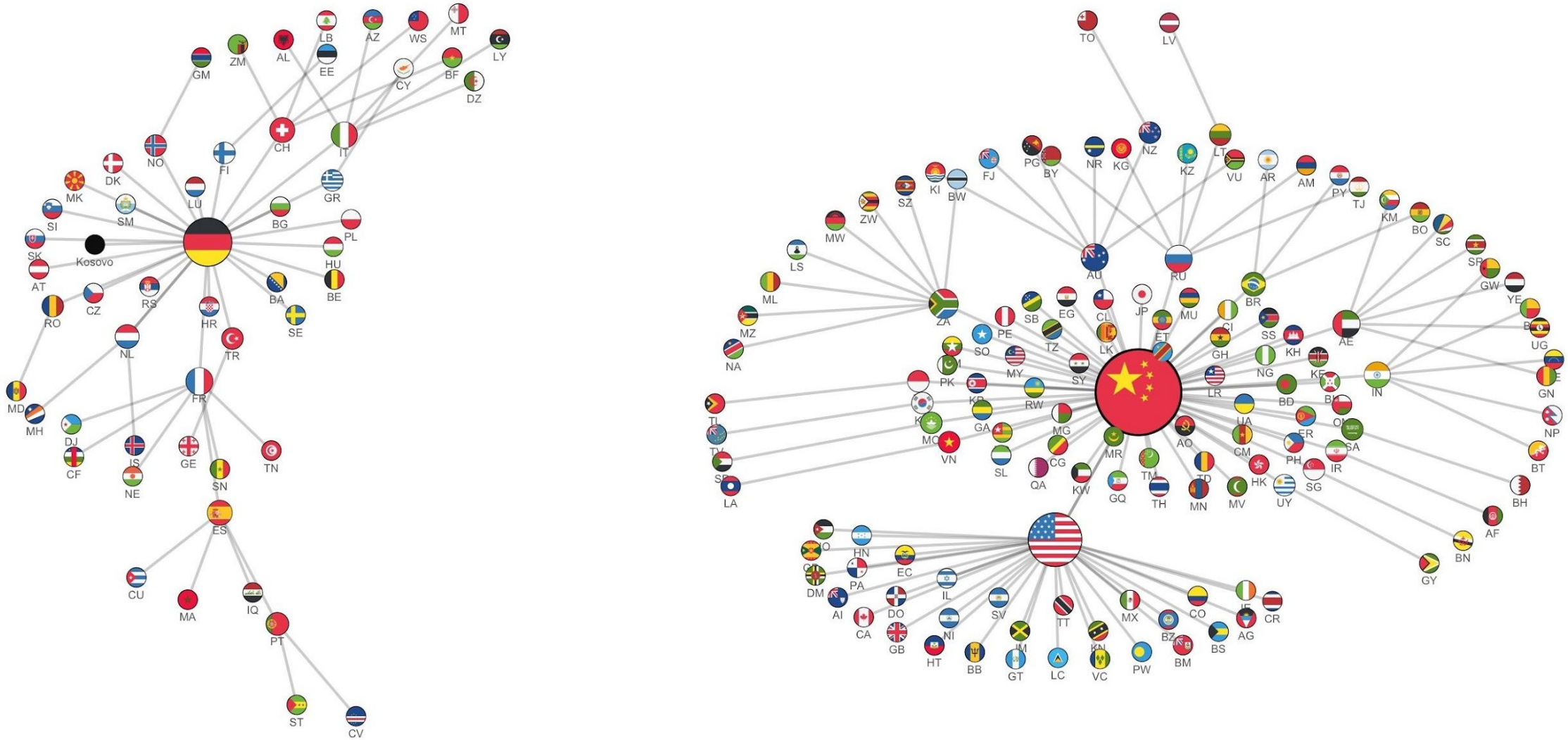
Countries connected to their primary trading partner in 1990

Exports + imports. Data: International Monetary Fund. Flags were not available for countries in black.



Countries connected to their primary trading partner in 2020

Exports + imports. Data: International Monetary Fund. Flags were not available for countries in black.



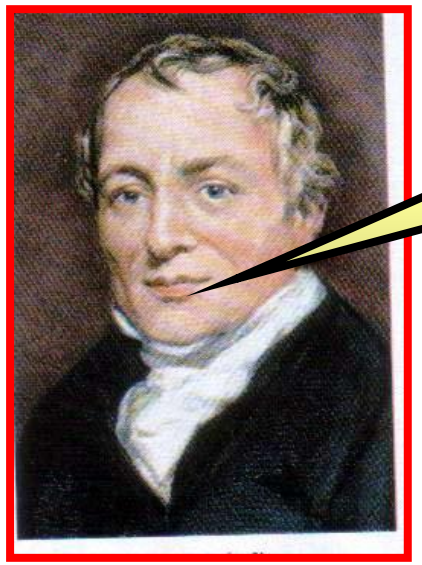
Absolute and Comparative Advantage

- **ABSOLUTE ADVANTAGE:**

When a country can produce more of a given product than another country.

Comparative Advantage

- The advantage conferred to producer with the lowest opportunity cost.
- They should specialize in the good that is "cheaper" for them to produce



It is comparative advantage that matters, not absolute advantage.

David Ricardo

Babe Ruth: Absolute Advantage in Hitting & Pitching

Babe Ruth was the **best hitter** and **pitcher** on His team. He had been the best pitcher in the American League for several years, winning **94 games** and losing only 46. The problem was that if he pitched, he would bat fewer times because Pitchers need rest after pitching.

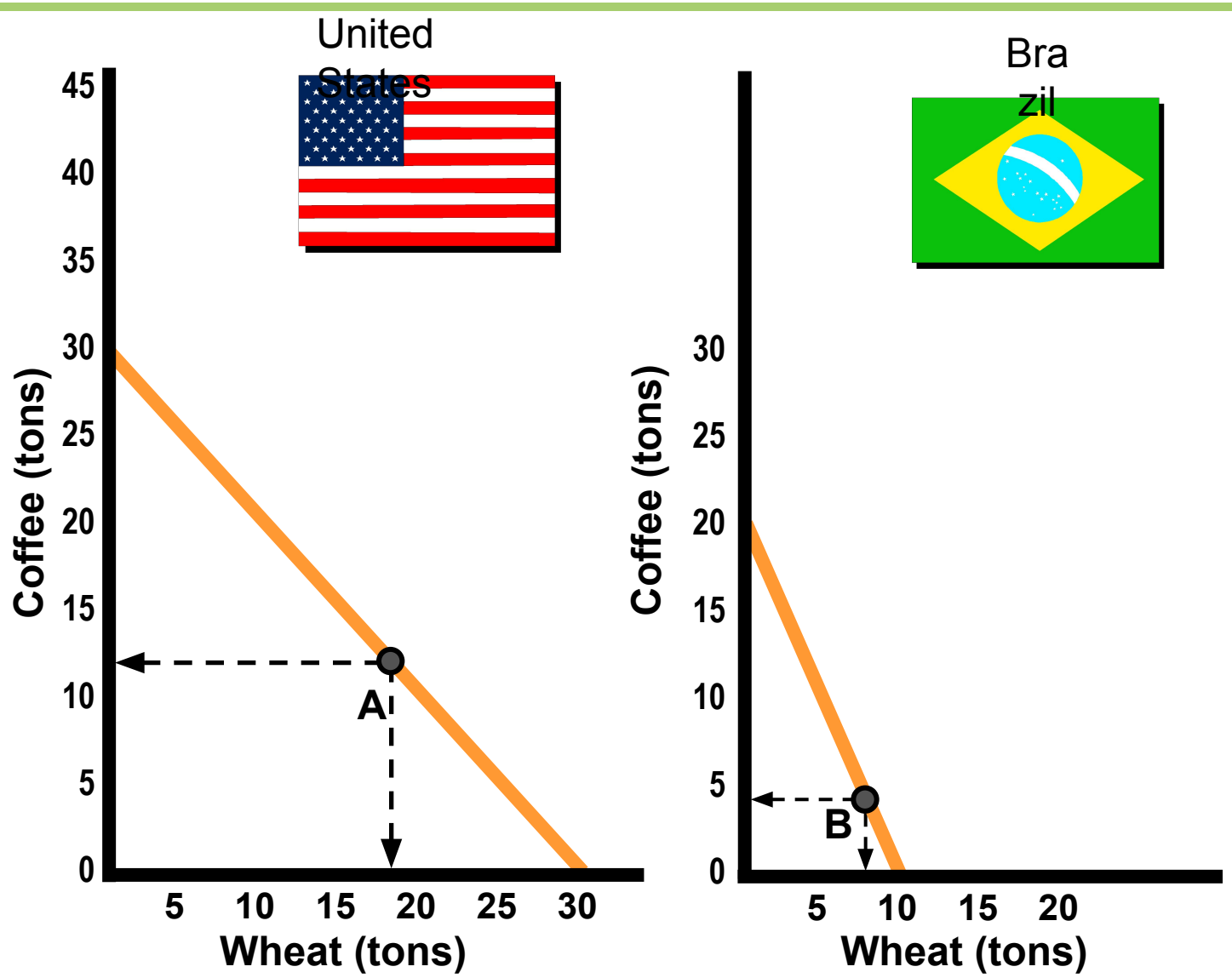
The Babe had helped the Red Sox win the pennant in **1915, 1916, & 1918**. After being **sold to the Yankees in 1920**, the coaches decided that the Babe had a **comparative advantage in hitting**. In terms of opportunity costs, the Yankees would win more games if the Babe specialized in hitting. So Babe ended up hitting **714 home runs** even though he spent seven years as a pitcher.

And the Red Sox don't win again – until 2004

I can produce more of the good than you can!

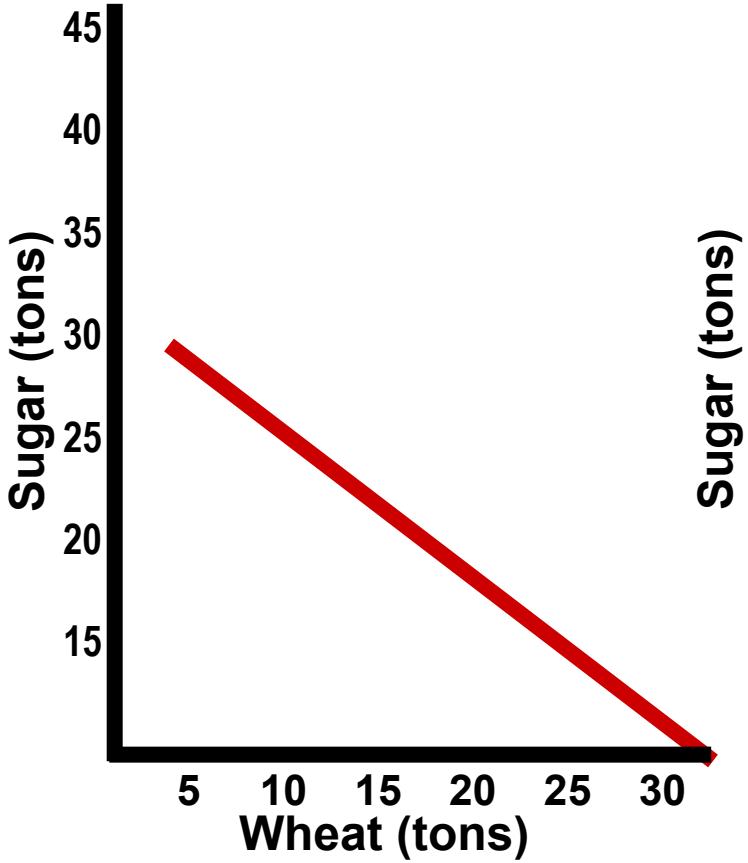
I have a lower opportunity cost...

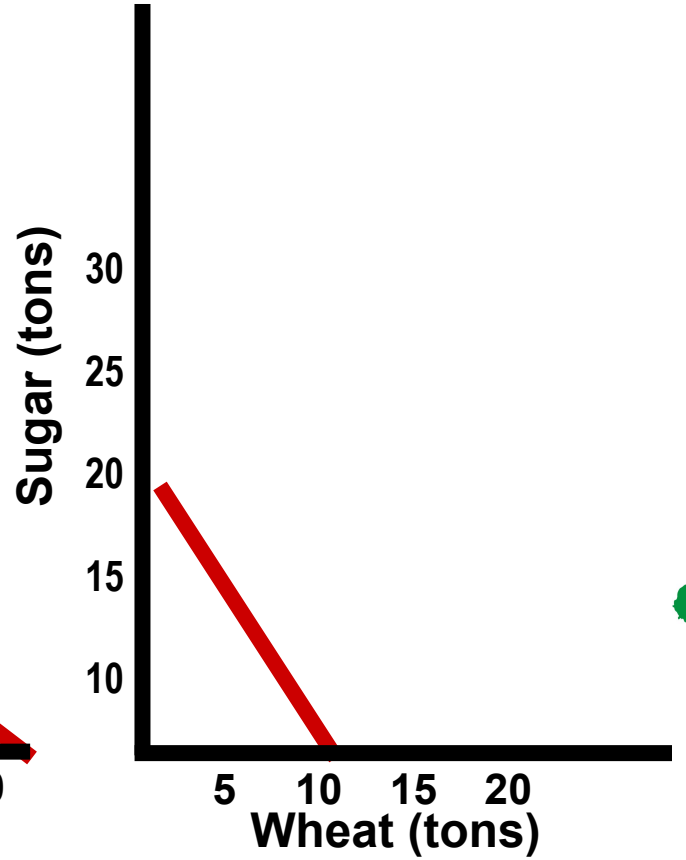
PRODUCTION POSSIBILITIES



	Wheat	Sugar
USA	30 (1W costs 1S)	30 (1S costs 1W)
Brazil	10 (1W costs 2S)	20 (1S costs 1/2W)

Which country has a comparative advantage in wheat?





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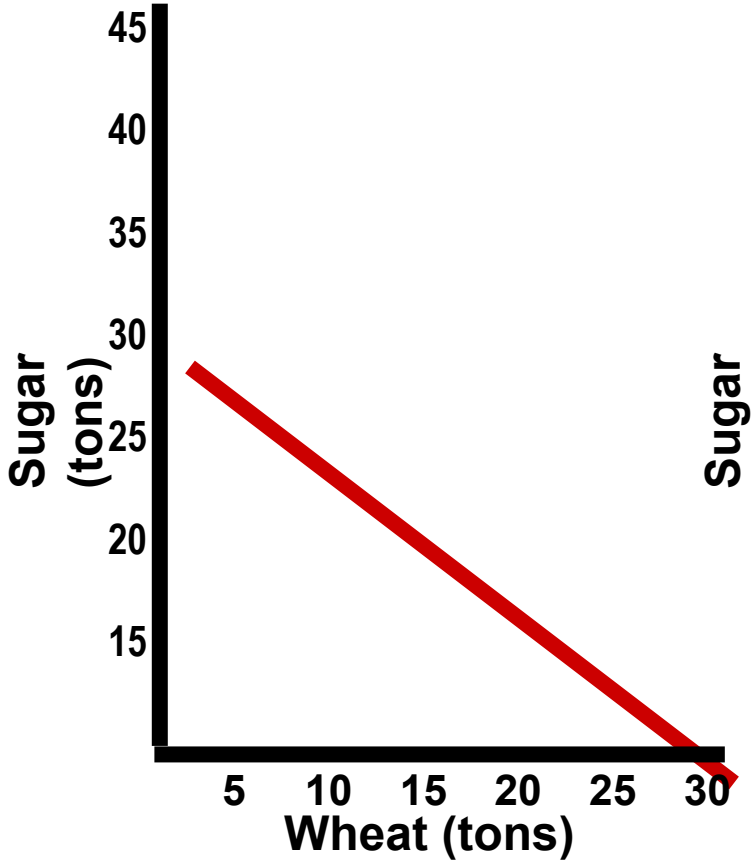
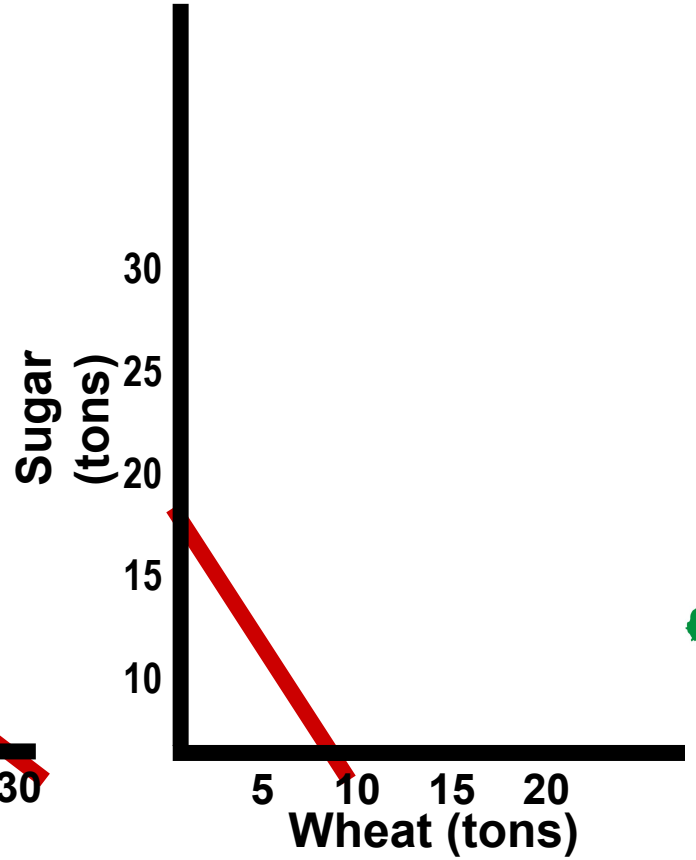
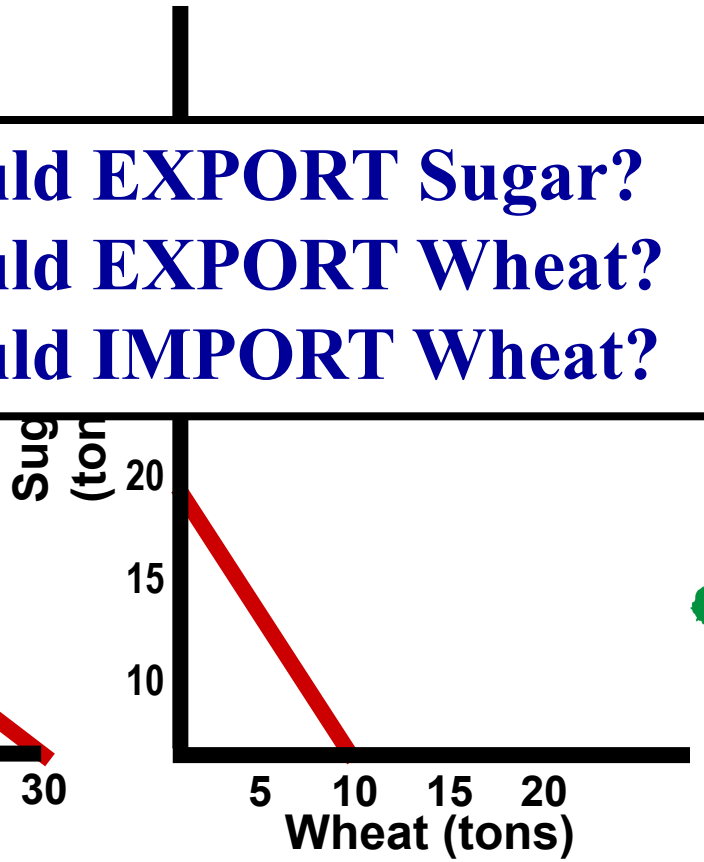




	Wheat	Sugar
USA	30 (1W costs 1S)	30 (1S costs 1W)
Brazil	10 (1W costs 2S)	20 (1S costs 1/2W)

Which country has a comparative advantage in wheat?

1. Which country should EXPORT Sugar? **Brazil**
2. Which country should EXPORT Wheat? **USA**
3. Which country should IMPORT Wheat? **Brazil**



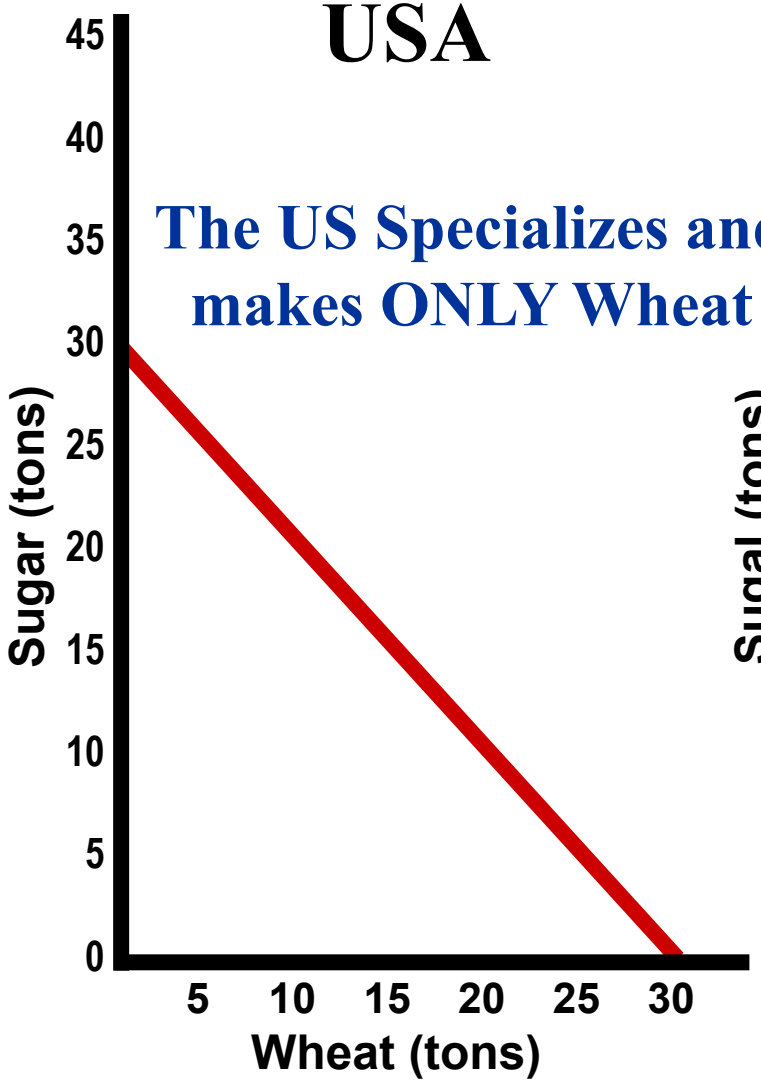
International Trade

Trade: 1 Wheat for 1.5 Sugar

S	W
0	30
1.5	29
3	28
4.5	27
6	26
7.5	25
9	24
10.5	23
12	22
13.5	21
15	20
16.5	19
18	18
19.5	17

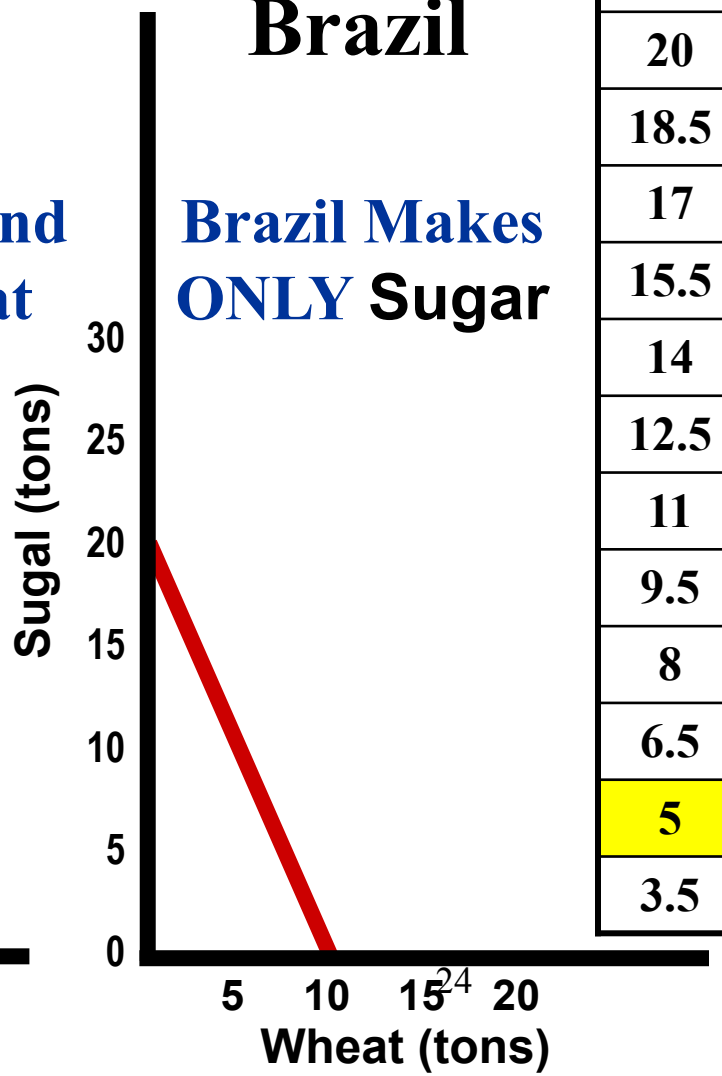
USA

The US Specializes and makes ONLY Wheat



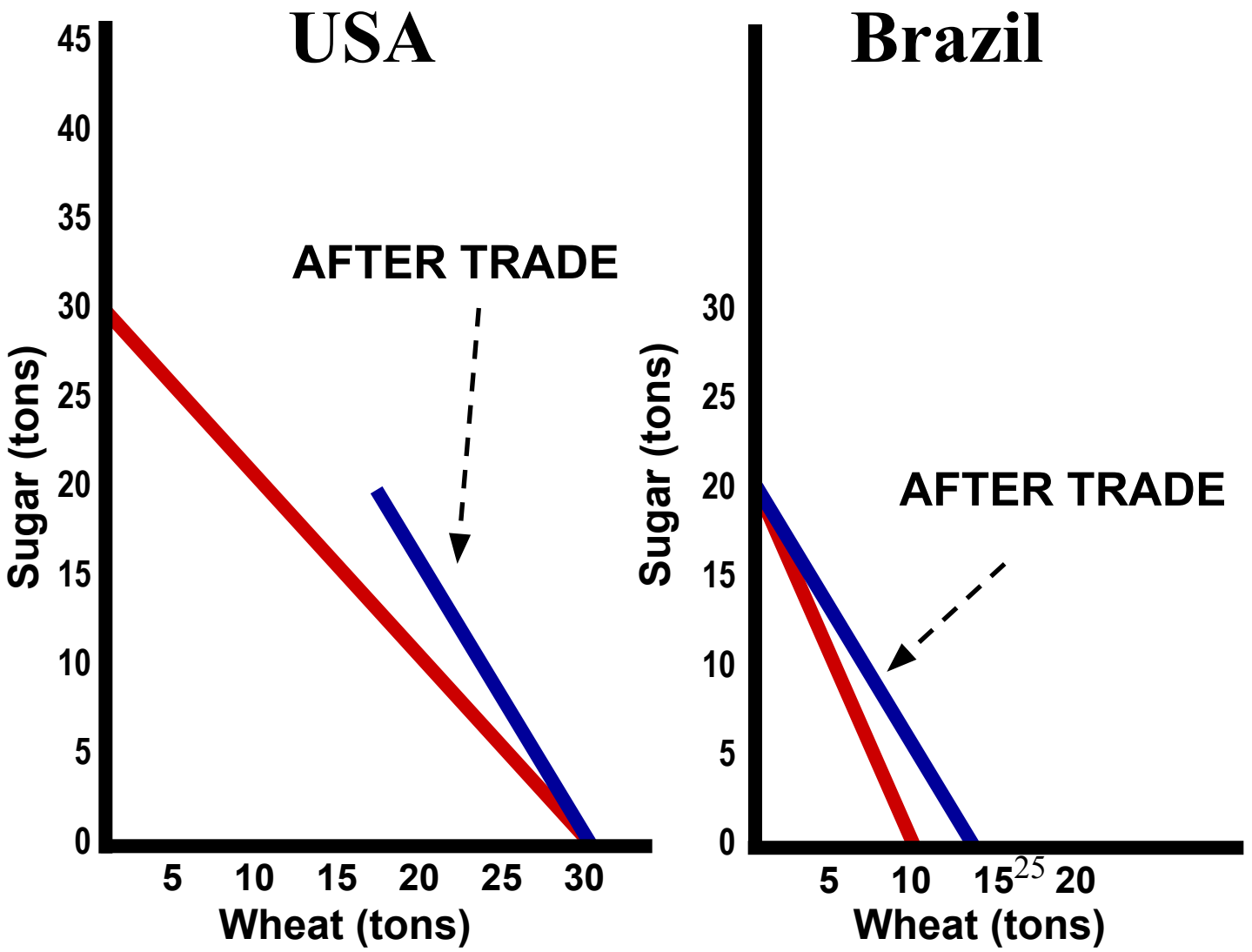
Brazil

Brazil Makes ONLY Sugar



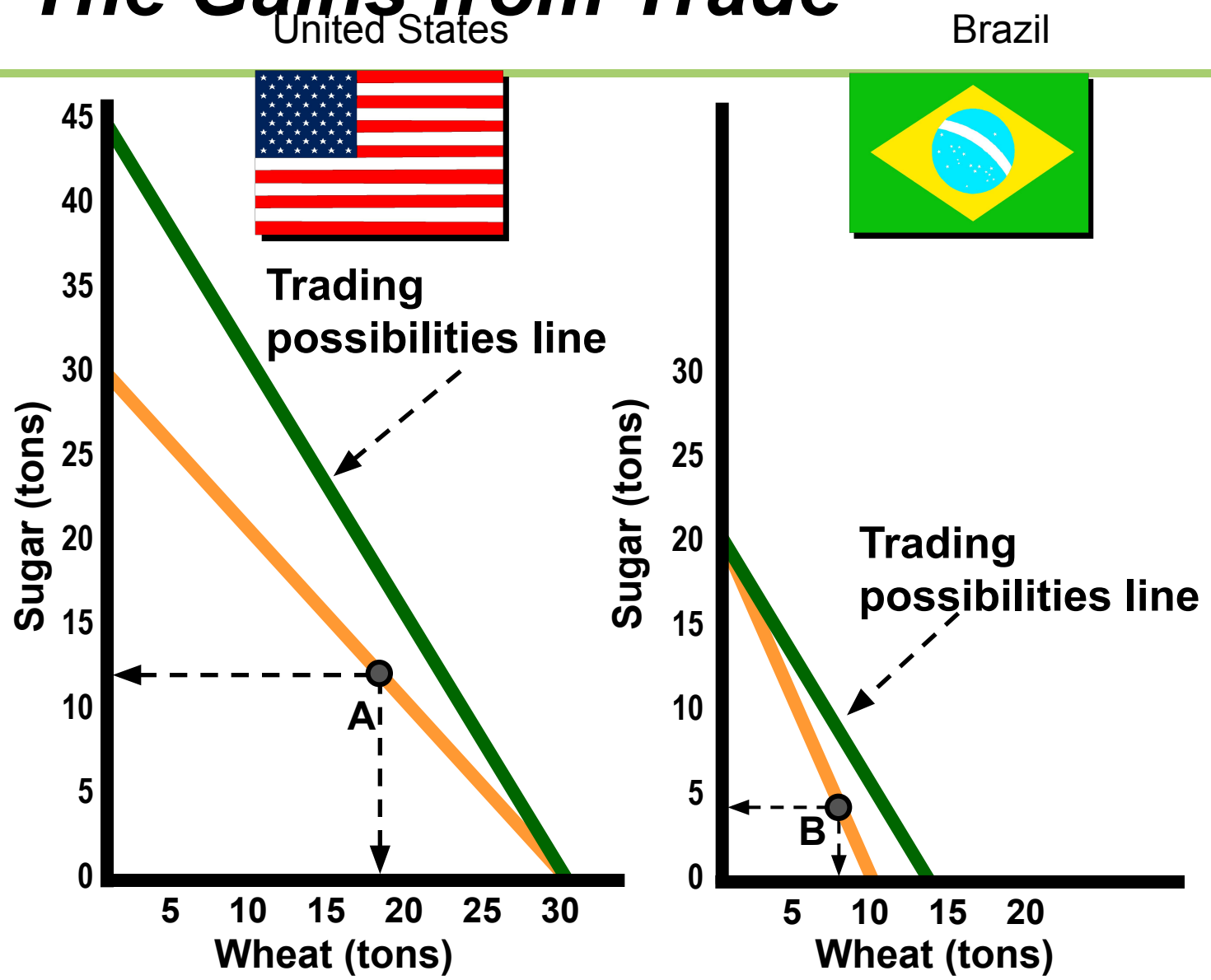
S	W
20	0
18.5	1
17	2
15.5	3
14	4
12.5	5
11	6
9.5	7
8	8
6.5	9
5	10
3.5	11

International Trade



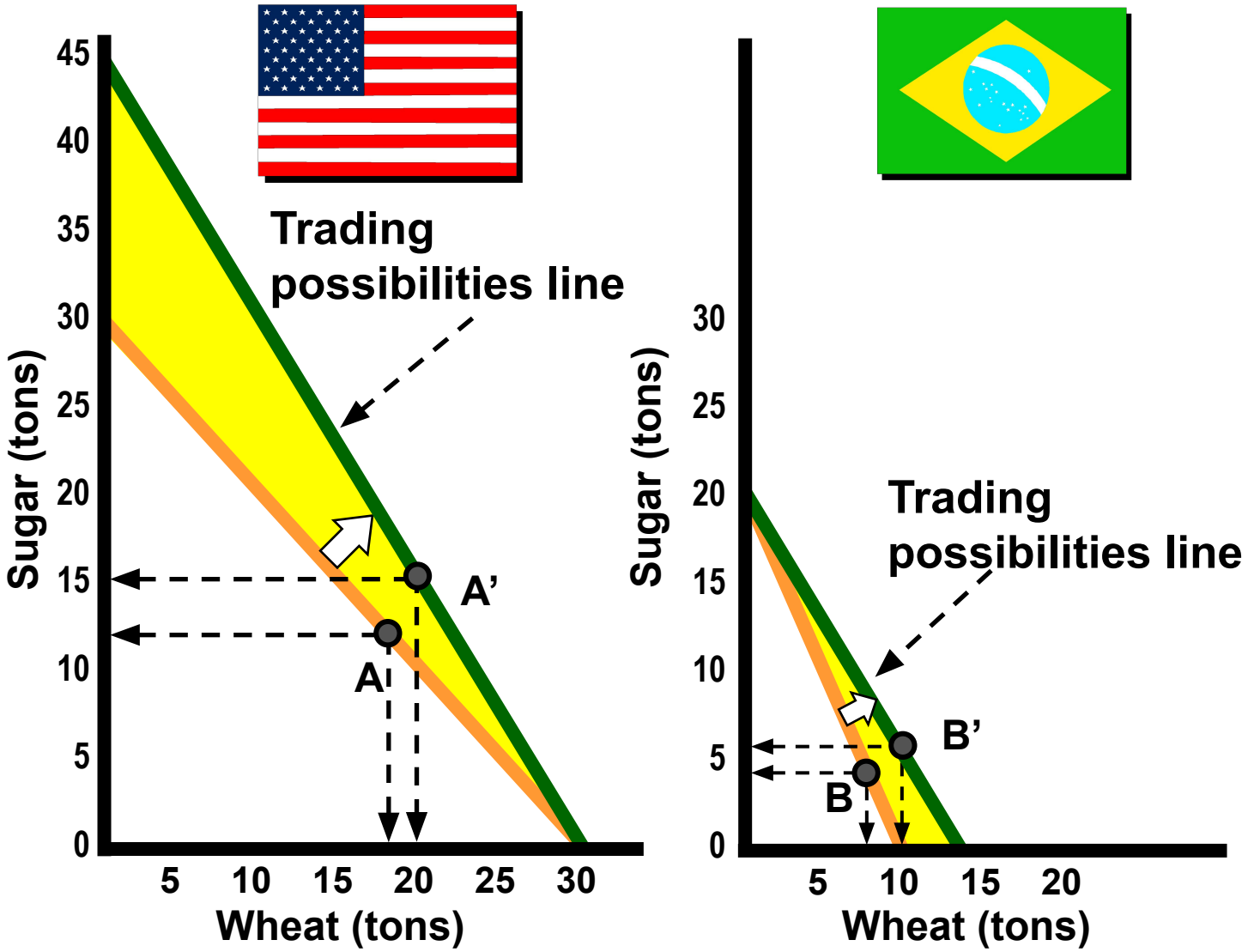
TRADING POSSIBILITIES LINES

The Gains from Trade



TRADING POSSIBILITIES LINES

The Gains from Trade



Video Clip: Comparative Advantage 0:00 – 6:06

Terms of Trade

Both countries can benefit from trade if they each have relatively lower opportunity costs.

Terms of Trade- The agreed upon conditions that would benefit both countries. It should be between the relative opportunity costs.

	Pineapples	Radios
Kenya	30 (1P costs 1/3R)	10 (1R costs 3 P)
India	40 (1P costs 1R)	40 (1R costs 1P)

Trading 1 radio for 2 pineapples will benefit both.

If Kenya produces radios by themselves, they give up 3 Pineapples for each radio. If they can trade 2 pineapples for each radio they are better off.

If India produces pineapples by themselves, they give up 1 pineapple for one radio. If they can get 2 pineapples for one radio they are better off.

The countries trade at a lower opportunity cost than if they made the products themselves!

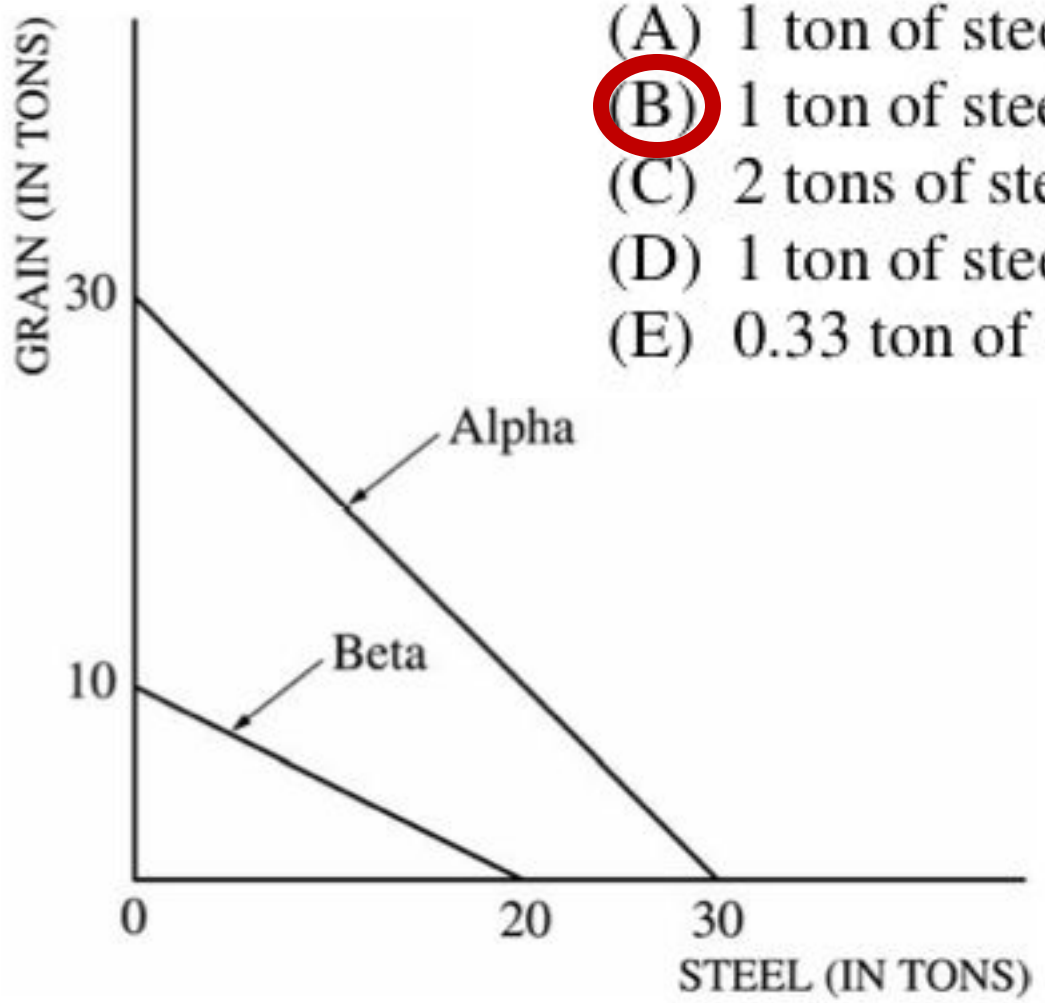
Determining Comparative Advantage

Voluntary trade between two individuals or two countries occurs if both parties feel that they will benefit. Producers have an incentive to make products for which they have a lower opportunity cost than other producers. When both producers specialize according to their *comparative advantage*, they increase the total amount of goods and services that are available for consumption. To determine who has a comparative advantage in producing a particular item, we need to calculate each producer's opportunity costs of creating the items. The way we calculate opportunity cost depends on how the productivity data are expressed.

There are two ways to measure productivity: the "input method" and the "output method." We can calculate the quantity of output produced from a given amount of inputs, or we can measure the amount of inputs necessary to create one unit of output. Examples of output are tons of wheat per acre, miles per gallon, words per minute, apples per tree, and televisions produced per hour. Examples of input are number of hours to do a job, number of gallons of paint to paint a house, and number of acres to feed a horse. We will work through an example that expresses productivity from the perspectives of an input measure and an output measure.

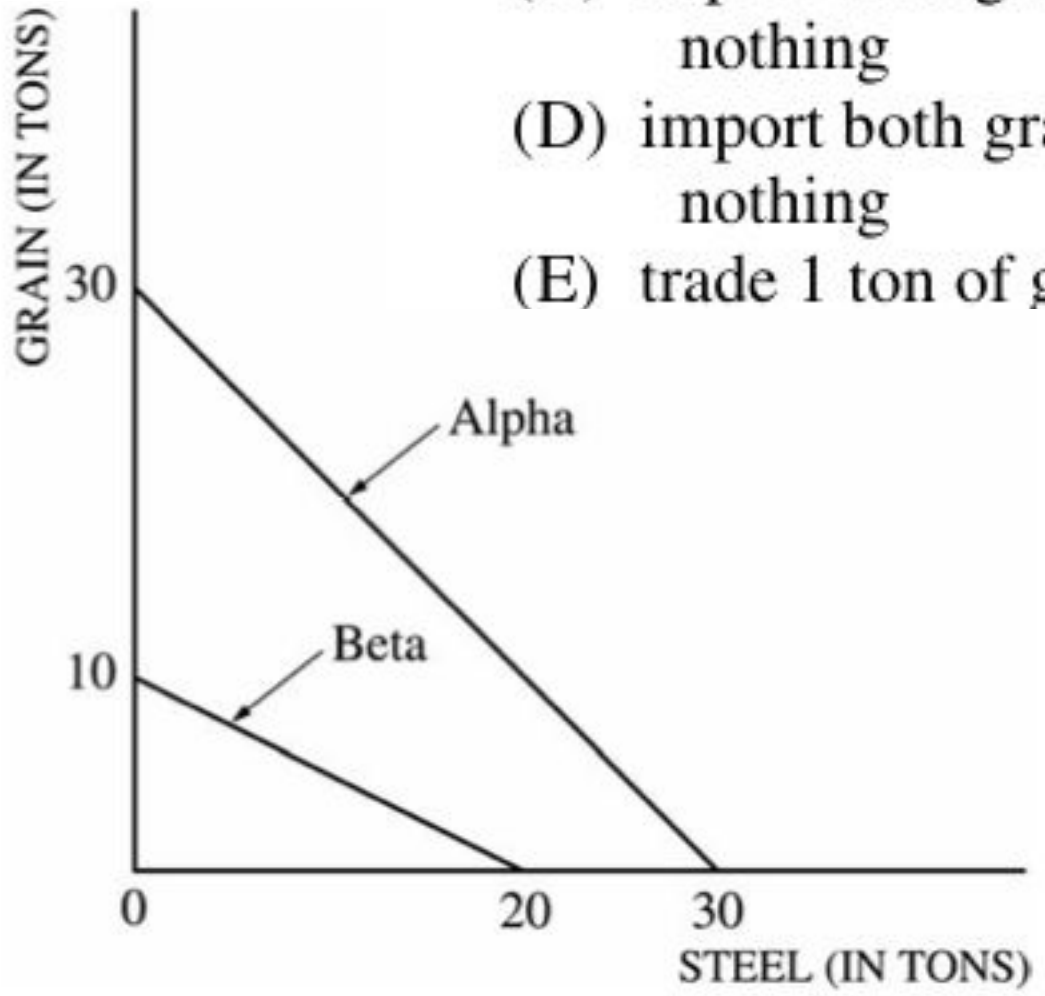
32. Before specialization and trade, the domestic opportunity cost of producing 1 ton of grain in Alpha and in Beta is which of the following?

	Alpha	Beta
(A)	1 ton of steel	1 ton of steel
(B)	1 ton of steel	2 tons of steel
(C)	2 tons of steel	1 ton of steel
(D)	1 ton of steel	0.5 ton of steel
(E)	0.33 ton of steel	1.5 tons of steel



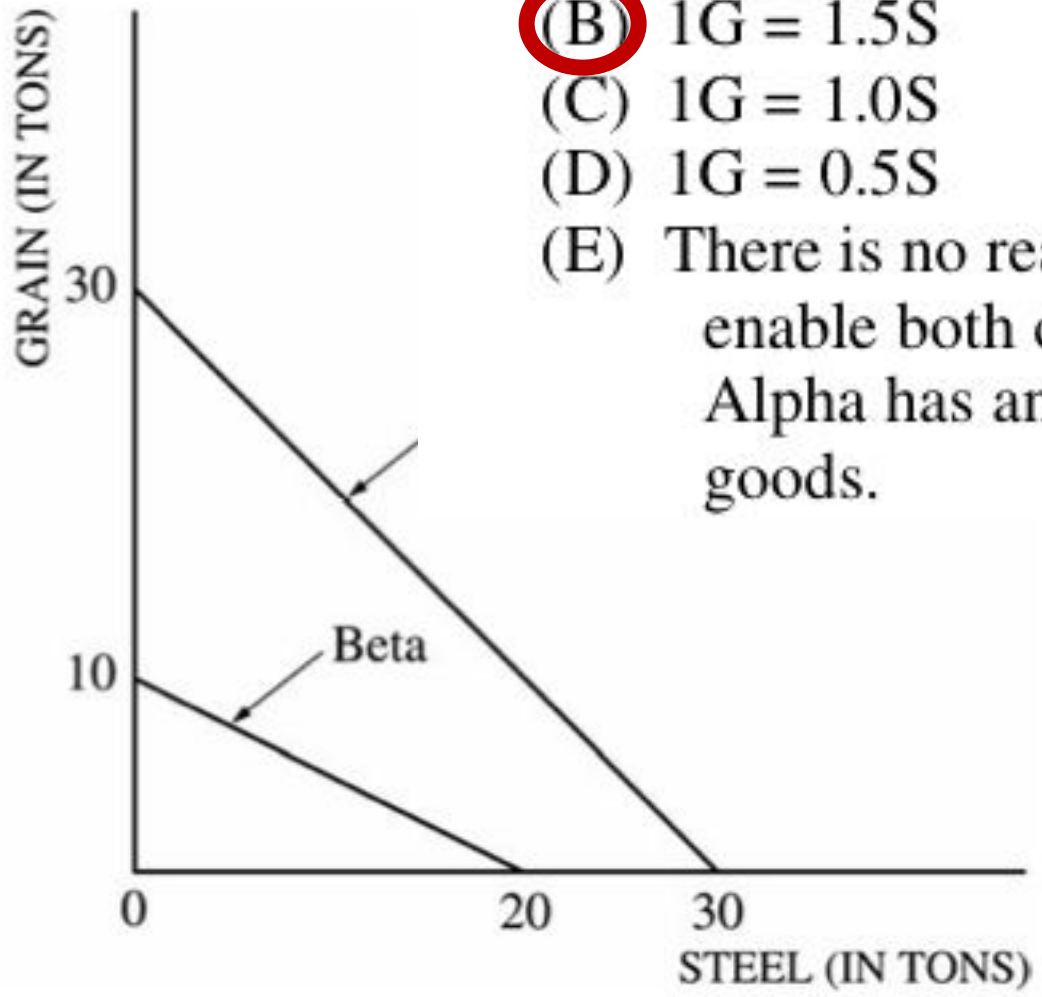
33. The theory of comparative advantage implies that Alpha would find it advantageous to

(A) export grain and import steel
(B) export steel and import grain
(C) export both grain and steel and import nothing
(D) import both grain and steel and export nothing
(E) trade 1 ton of grain for 0.5 ton of steel

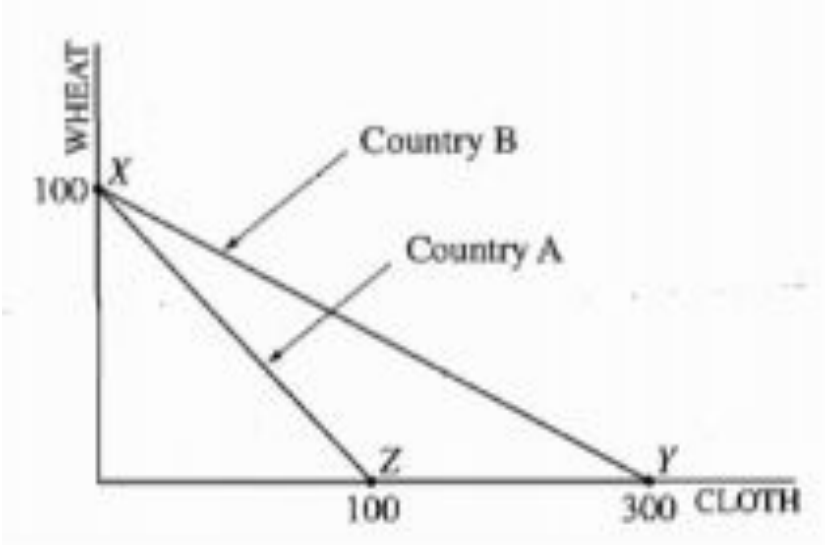


34. At what real exchange ratio, also referred to as the terms of trade, between grain (G) and steel (S) would both Alpha and Beta find it mutually advantageous to specialize and trade?

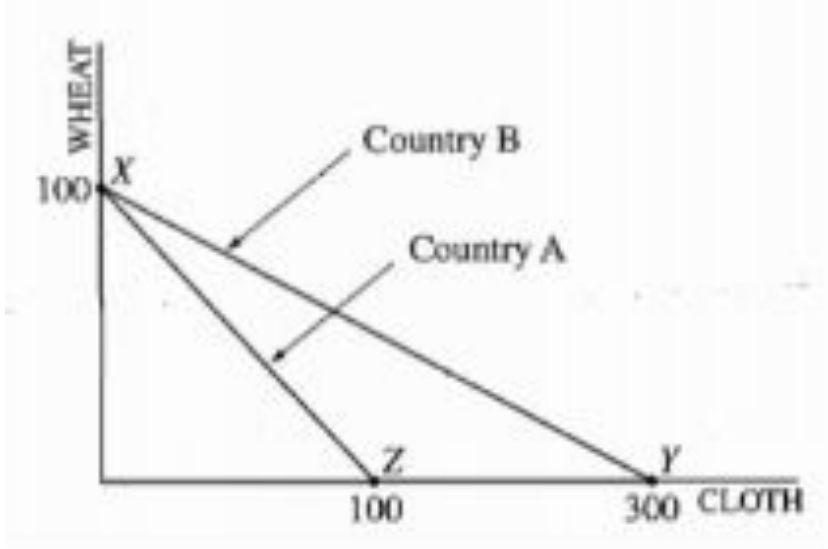
(A) 1G = 3.0S
(B) 1G = 1.5S
(C) 1G = 1.0S
(D) 1G = 0.5S
(E) There is no real exchange ratio that would enable both countries to benefit, since Alpha has an absolute advantage in both goods.



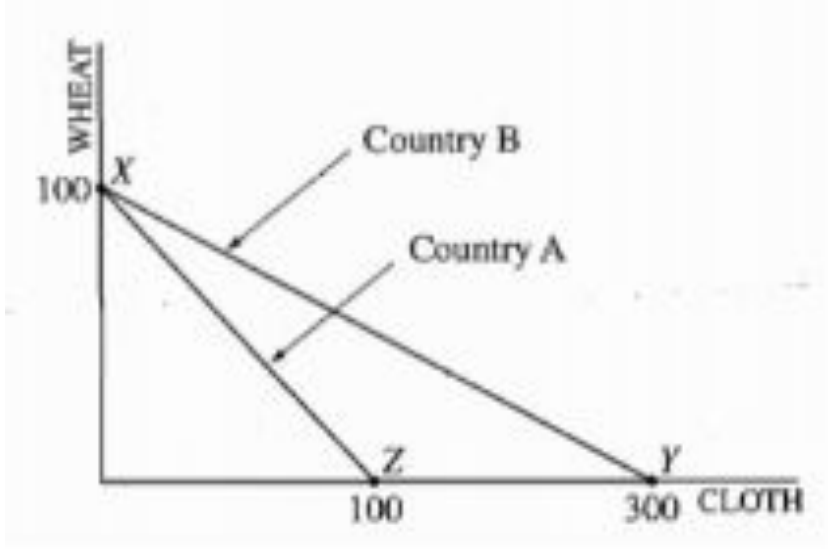
PRACTICE FRQ



Assume that Countries A and B have equal amounts of resources and identical technologies. Country A can produce 100 bushels of wheat or 100 yards of cloth or any combination, as shown by the line *XZ* in the figure above. Country B can produce 100 bushels of wheat or 300 yards of cloth or any combination, as shown by the line *XY* in the figure above.

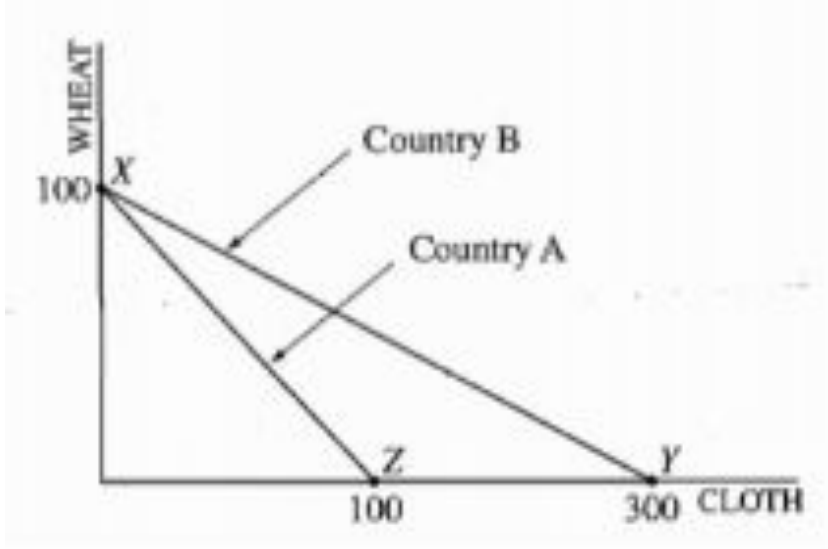


1a. Which country has an absolute advantage in the production of wheat and which has an absolute advantage in the production of cloth? Explain how you determined your answer.

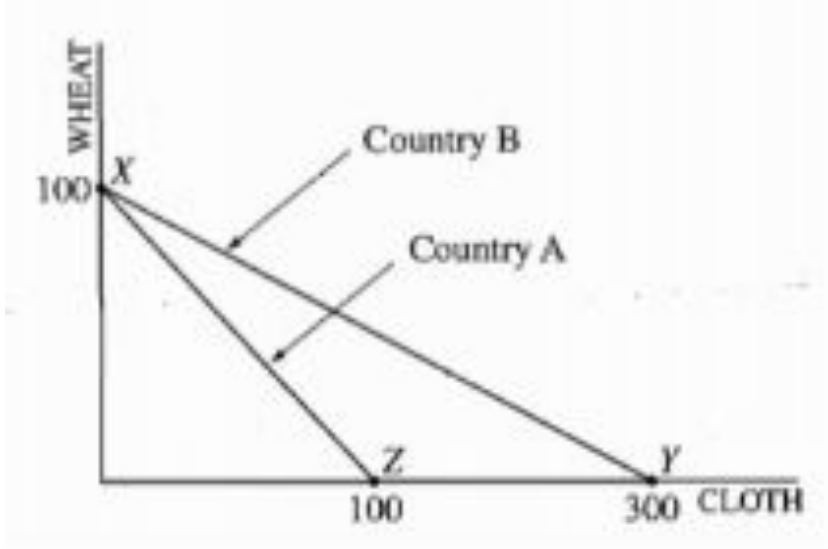


1a. Which country has an absolute advantage in the production of wheat and which has an absolute advantage in the production of cloth? Explain how you determined your answer.

1 - For wheat: neither country has an absolute advantage, identical outputs (with the same resource) Cloth: Country B, as it produces more output (with the same resources)



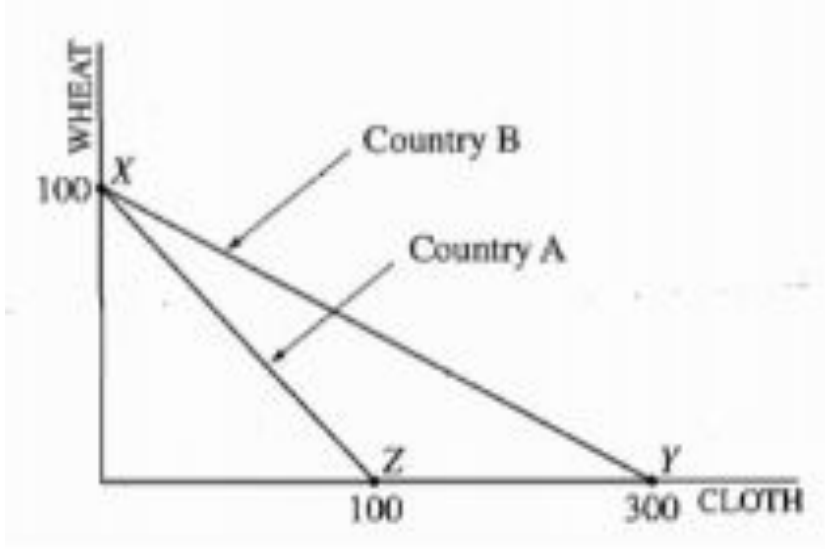
1B. Which country has a comparative advantage in the production of wheat and which has a comparative advantage in the production of cloth? Explain how you determined your answer.



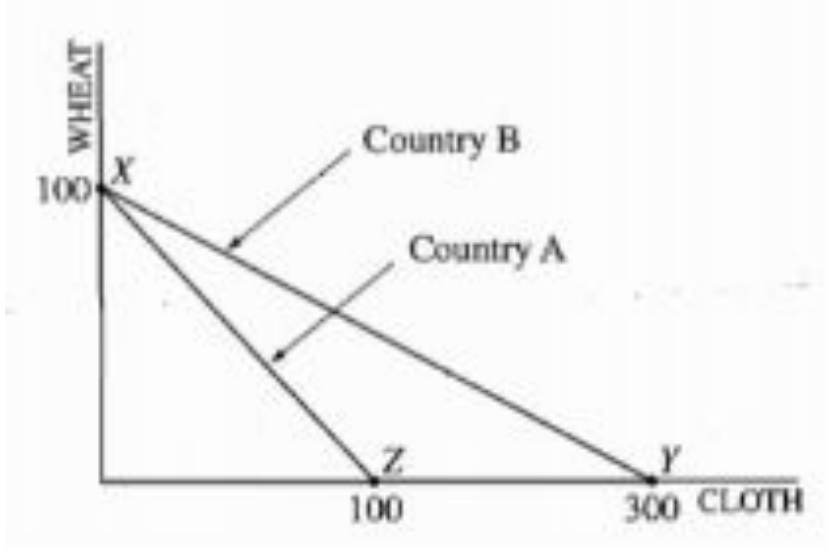
1B. Which country has a comparative advantage in the production of wheat and which has a comparative advantage in the production of cloth? Explain how you determined your answer.

1 - Country A has comparative advantage in wheat; Country B in cloth

1 - Shown opportunity costs; Country A gives up 1 cloth for 1 wheat; Country B gives up 3 cloth for 1 wheat; relatively more expensive for Country B to produce wheat

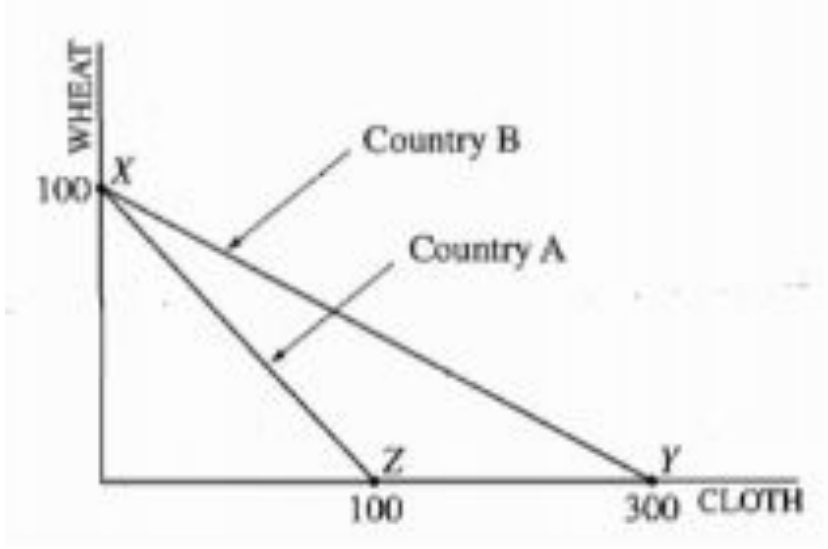


1c. With specialization and trade, which country will import wheat? Explain why.

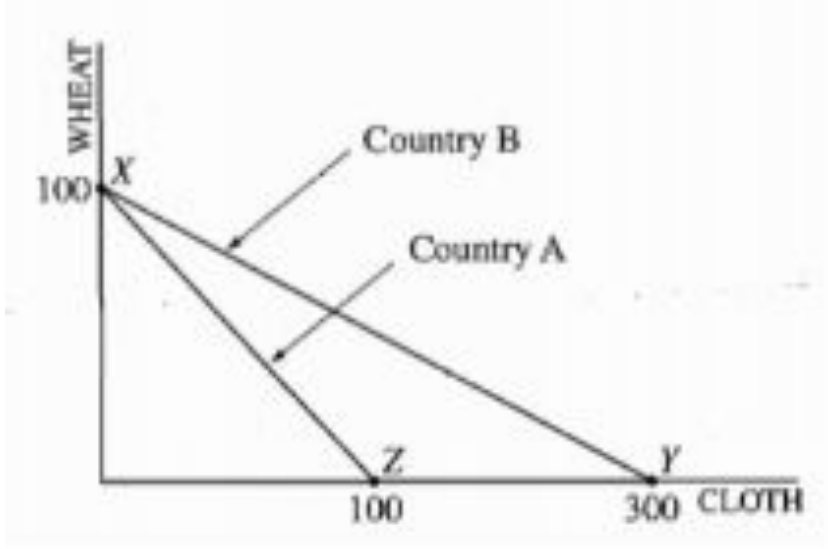


1c. With specialization and trade, which country will import wheat? Explain why.

1 - Country B will import wheat because it has comparative advantage in cloth (and will specialize in cloth production, getting its wheat more cheaply via trade) Key point is comparative advantage



1d. Assume that the two countries trade, and that one bushel of wheat is exchanged for two yards of cloth. Explain why the country that imports wheat will gain from trade.



1d. Assume that the two countries trade, and that one bushel of wheat is exchanged for two yards of cloth. Explain why the country that imports wheat will gain from trade.

1 - For country B, via trade a unit of wheat only costs 2 units of cloth, while by domestic production a unit of wheat would cost 3 units of cloth. Also, the student may explain that trade increases B's consumption possibilities by making it possibly to consumer more of both goods

ANY QUESTIONS?

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Invest In Girls

National Economics Challenge
a CEE program

CEE

NEC

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You may have what it takes to compete in the Nation's only high school economics competition!

The National Economics Challenge (NEC) is the country's only economics competition of its kind for high school students. It tests micro and macroeconomic principles as well as knowledge of the world economy.

This motivating and fun team learning experience begins with competitions at the state level. The winning team from each state moves on to the National Semi-Finals. The top teams in the semi-finals will advance and receive an **all-expense paid trip (excluding travel) to compete in the National Finals in New York City** this spring.

CASH PRIZES

For each team member in National Finals:
1st place: $1,000
2nd place: $500
3rd place: $250
4th place: $125

Why Play?

- Fun team learning experience
- Great for your college application
- No other challenge like this!

HOW IT WORKS: STEP-BY-STEP

1 Register your teams online: NationalEconomicsChallenge.org — SIGN UP

2 Compete in your local State Competition

3 Semi-Finals National Challenge 45 question online quiz

4 Finals National Challenge Critical thinking round & quiz bowl in NYC

TWO DIVISIONS BASED ON EXPERIENCE LEVEL

David Ricardo Division: For first-time competitors who have taken no more than one economics course.

Adam Smith Division: For returning competitors, AP, International Baccalaureate, and honors students.

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NationalEconomicsChallenge.org

National Personal Finance Challenge
a CEE program

THE NATION'S PREMIER HIGH SCHOOL COMPETITION

The National Personal Finance Challenge is a competition that provides high school students with an exciting and motivating opportunity to build, apply, and demonstrate their knowledge of money management.

Through online exams and a personal finance simulation, teams showcase their expertise in **earning income, buying goods and services, saving, using credit, investing, as well as protecting and insuring.**

Teams of 3-4 students, with one teacher/coach, can qualify to represent their state at the National Personal Finance Challenge by winning their local competition.

HOW IT WORKS: STEP-BY-STEP

1 **Register your teams online:** personalfinance challenge.org — SIGN UP

2 **Compete in your local State Competition**

3 **Finals National Challenge** Team case study in Cleveland, Ohio

CASH PRIZES

Top teams in National Finals receive a cash prize for each student team member and an all expense paid trip (excluding travel) to Cleveland, Ohio.
1st place: $2,000 | 2nd place: $1,000 | 3rd place: $500 | 4th place: $250

REGISTER TODAY FOR YOUR LOCAL COMPETITION!
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FinEd50 is a coalition of non-profit organizations, researchers, corporate partners, and professional organizations that believes that personal finance education is a crucial tool to helping people better navigate their financial lives, make informed decisions regarding their life choices, and take more control over their own futures.

FinEd50: Financial Education for American

Currently, only 24 states require personal finance education courses in the United States. Research indicates that a quality financial education leads to improved future credit scores, declines in payday lending, student loan payment increases, student borrowing shifting to lower cost options, and overall financial well-being!

Recognizing that education is the realm of state and local leadership, FinEd50 is dedicated to achieving:

State Level Action: State-level action that guarantees equitable access for every student to a robust, high-quality personal finance course;

National Standards: Courses and educational materials that address the content outlined in National Standards for Personal Financial Education and are culturally relevant and respo to students' lived experiences;

Innovative Funding: Innovative funding mechanisms and professional development place to support and develop a corps of high-quality teachers with access to n professional development opportunities to teach personal finance; a

Measurement: A mechanism for measuring access to courses on personal fi equitable reach of state requirements.

Learn more about FinEd50:

Advocacy

CEE Affiliates

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