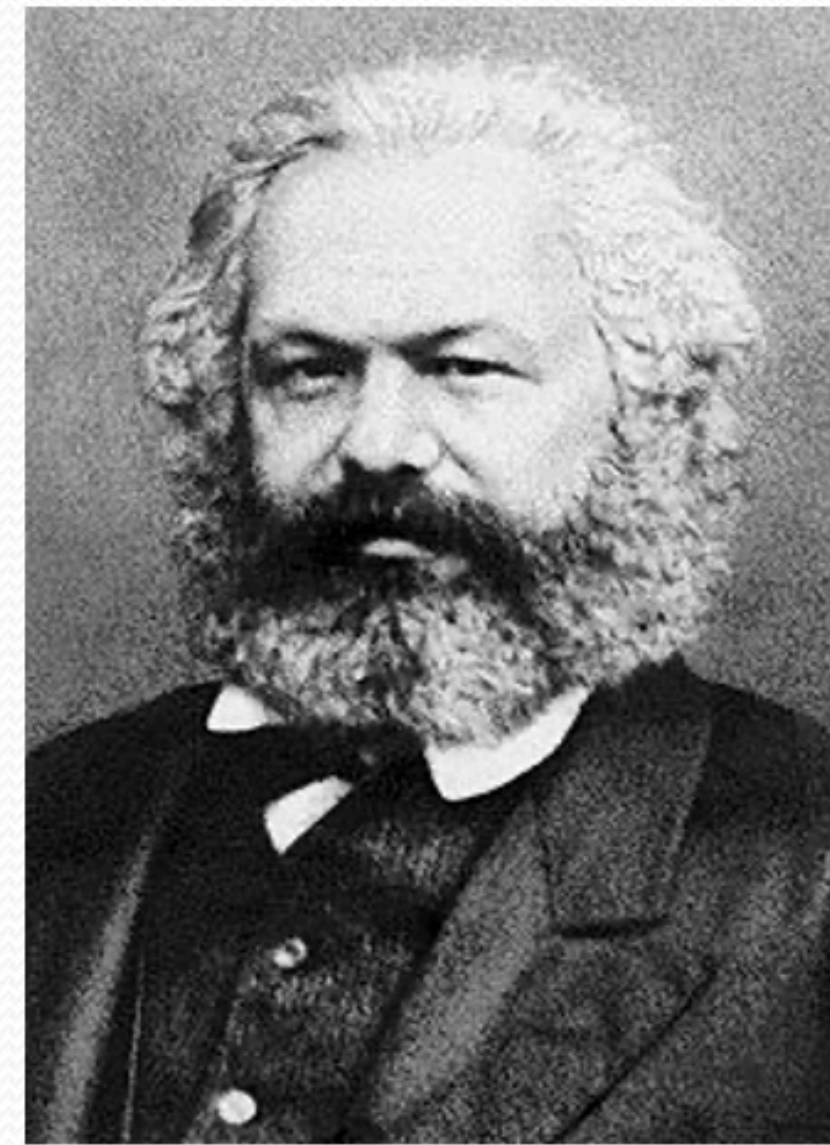
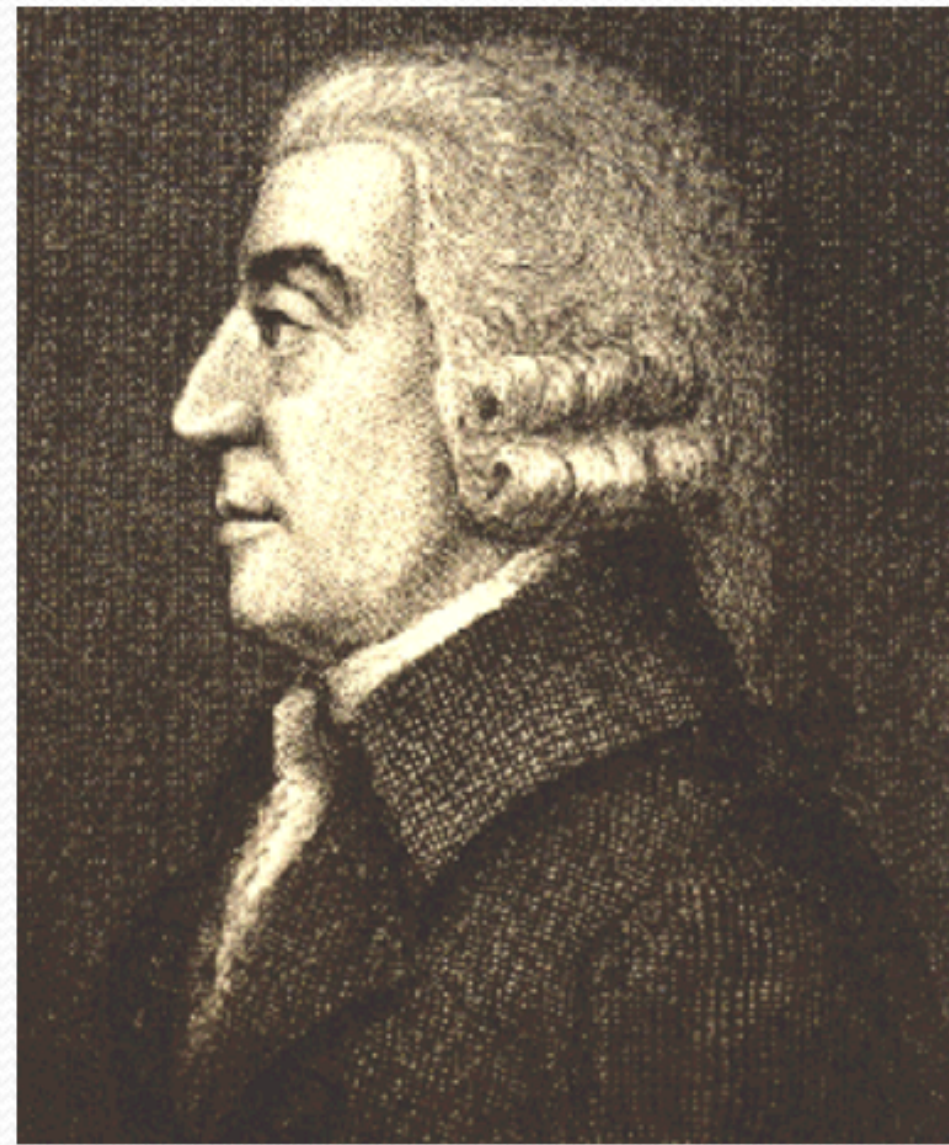


Gains from trade

**Trade creates value out of thin
air.**

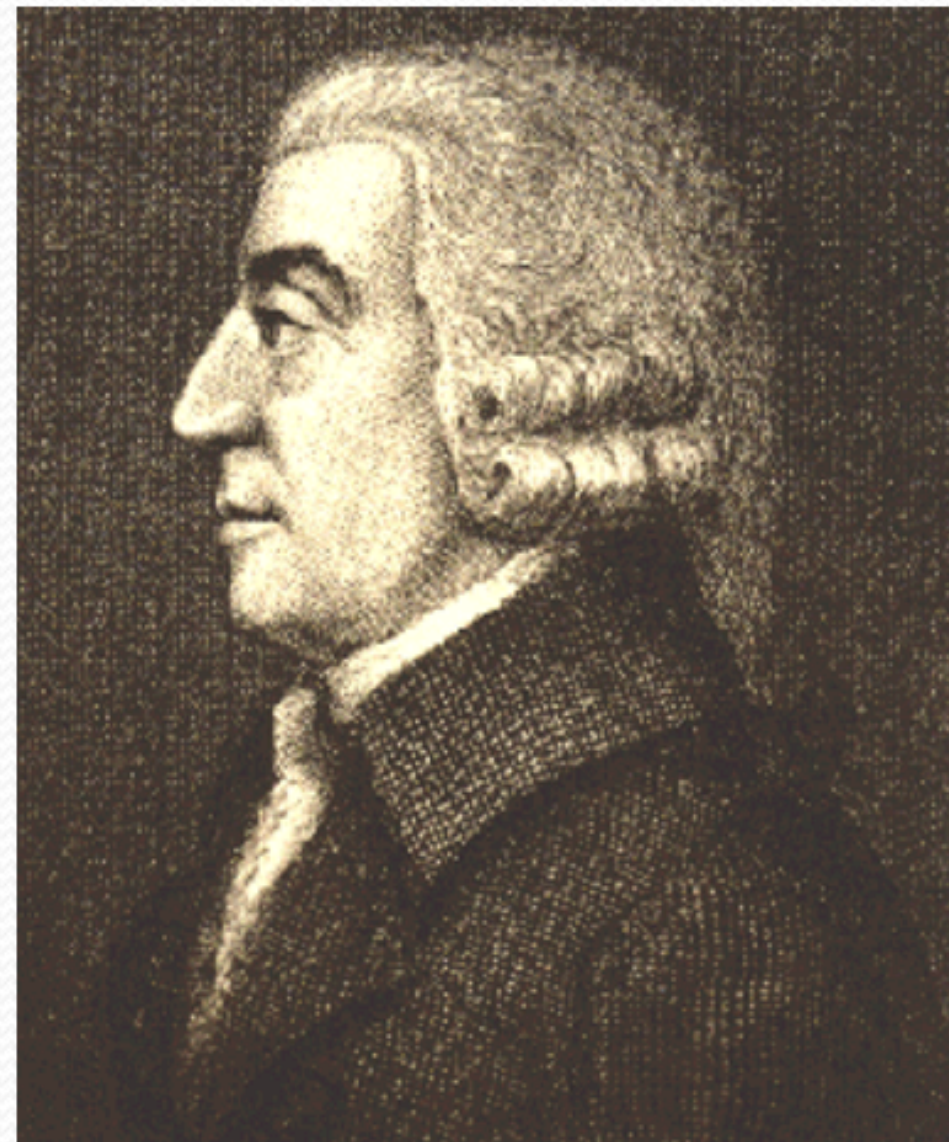
Value is subjective

- Classical economists of the 18th and 19th century held to a *labor theory of value*.



Value is subjective

- Classical economists of the 18th and 19th century held to a *labor theory of value*.



Water-Diamond Paradox: *“Nothing is more useful than water, but it will purchase scarce anything [...] A diamond, on the contrary, has scarce any value in use; but a great quantity of other goods may frequently be had in exchange for it.”*



Value is subjective

- Classical economists of the 18th and 19th century held to a *labor theory of value*.
- Clearly, scarcity has something to do with value.

Value is subjective

- Classical economists of the 18th and 19th century held to a *labor theory of value*.
- Clearly, scarcity has something to do with value.
- More importantly, it has to do with individuals' *valuation of goods on the margin*.

Value is subjective

- What's a glass of water worth?



Value is subjective

- What's a glass of water worth?
- It depends...



Value is subjective

- What's a glass of water worth?
- It depends on what the marginal unit available is being used for.
- **Law of diminishing utility:** each unit of a good that becomes available is put towards the most pressing (highest value) use; subsequent units that become available are put towards increasingly less pressing (lower-value) uses.



Value is subjective

- What's a glass of water worth?
- It depends on what the marginal unit available is being used for.
- **Law of diminishing utility:** each unit of a good that becomes available brings an individual higher *marginal utility* than will subsequent units of the good that become available, *all else equal*.



Value is subjective

Diminishing marginal utility implies positive time preference

- Individuals are “impatient.”
- They value having resources now at a premium relative to having them later.
- **Law of diminishing marginal utility:** each unit of **[time]** that becomes available is put towards the most pressing (highest-value) use; subsequent units that become available are put towards increasingly less pressing (lower-value) uses.

**Trade creates value out of thin
air.**

Trade creates value out of thin air.

- Value is subjective
- When individuals voluntarily exchange goods, those goods move from lower-value to higher-value uses.
- If there is no value to be created, then an exchange will not be made voluntarily!
-

Comparative Advantage

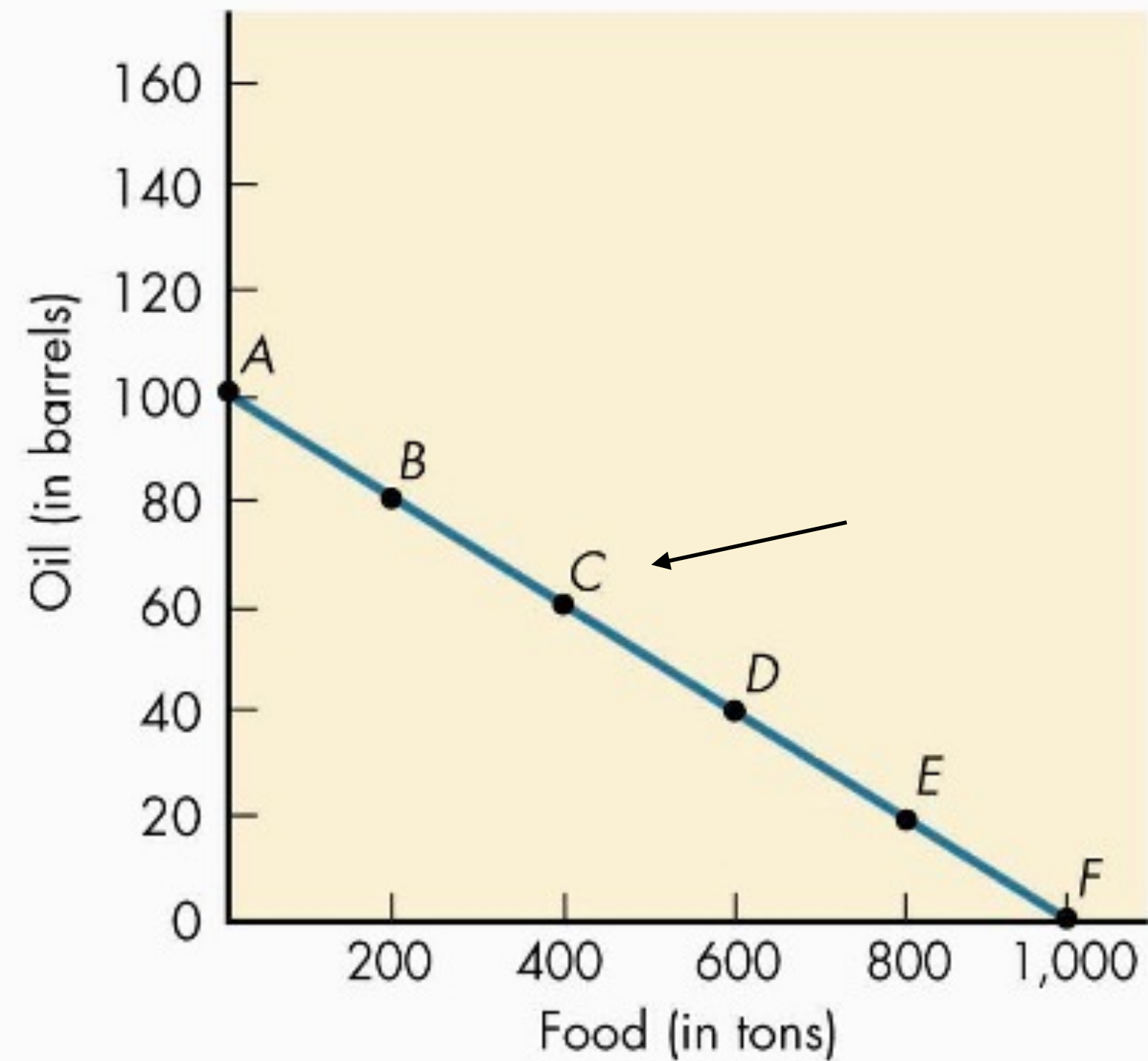
- By moving goods to more highly values uses, there are inherent gains from voluntary exchange (trade).
- There are also gains from trade when producers of goods focus on their *comparative advantages*.
- ***Comparative Advantage***: the ability of an individual, firm, or country to produce a good at a lower opportunity cost than others can.

Example

- Assume that the opportunity cost of producing 1 ton of food in Saudi Arabia is 10 barrels of oil ...
- ... And the opportunity cost of producing 1 ton of food is 1/10 of a barrel of oil in the US.
- Assume that presently Saudi Arabia produces 400 barrels of oil and 60 tons of food ...
- . . . and that the US produces 60 barrels of oil and 400 tons of food.

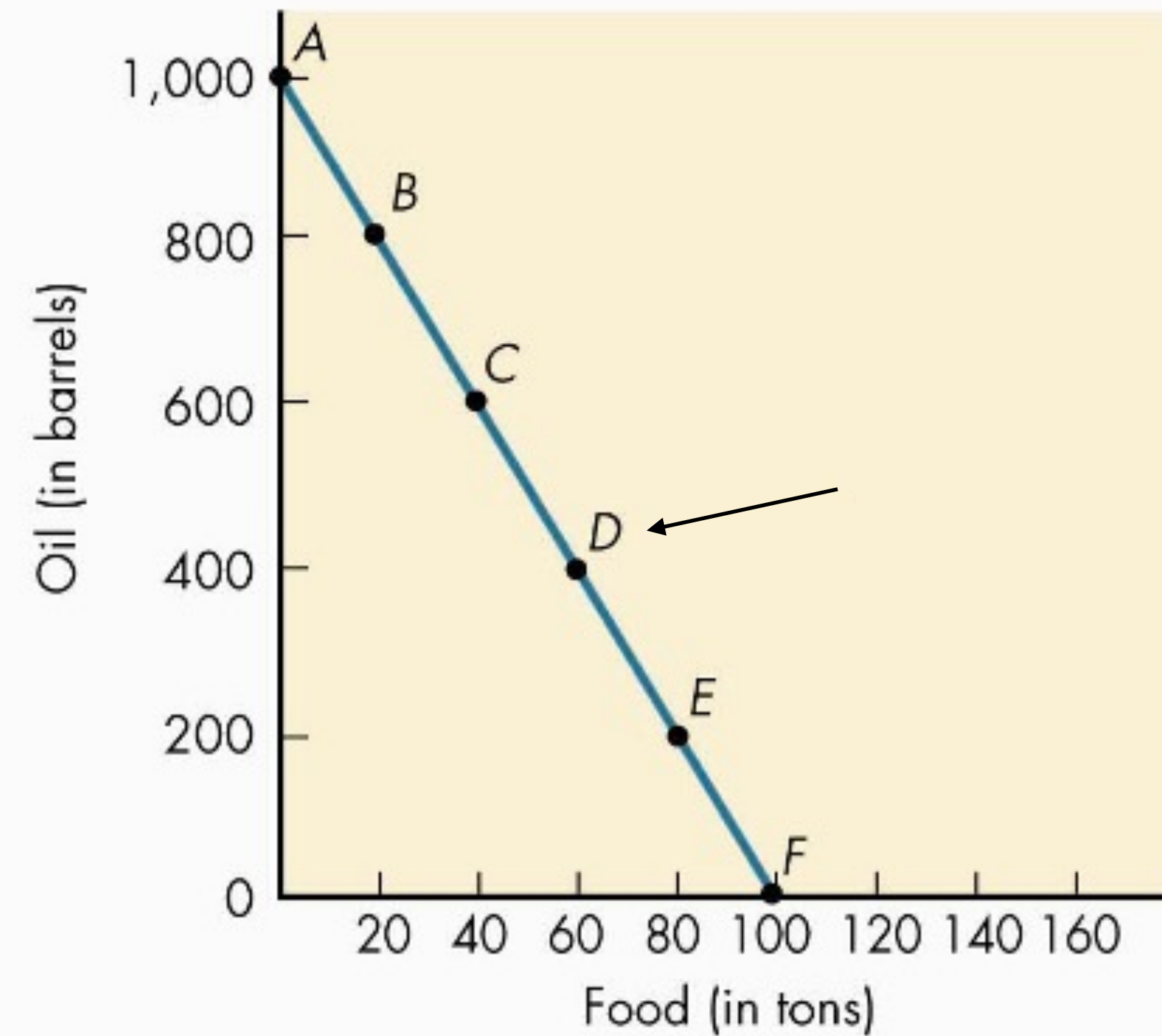
Example

United States' Production Possibility Table



(a) United States' Production Possibility Curve

Saudi Arabia's Production Possibility Table



(b) Saudi Arabia's Production Possibility Curve

Example

- Assume that the opportunity cost of producing 1 ton of food in Saudi Arabia is 10 barrels of oil ...
- ... And the opportunity cost of producing 1 ton of food is 1/10 of a barrel of oil in the US.
- We observe that **Saudi Arabia (the US)** has a **comparative advantage** in the production of **oil (food)**.

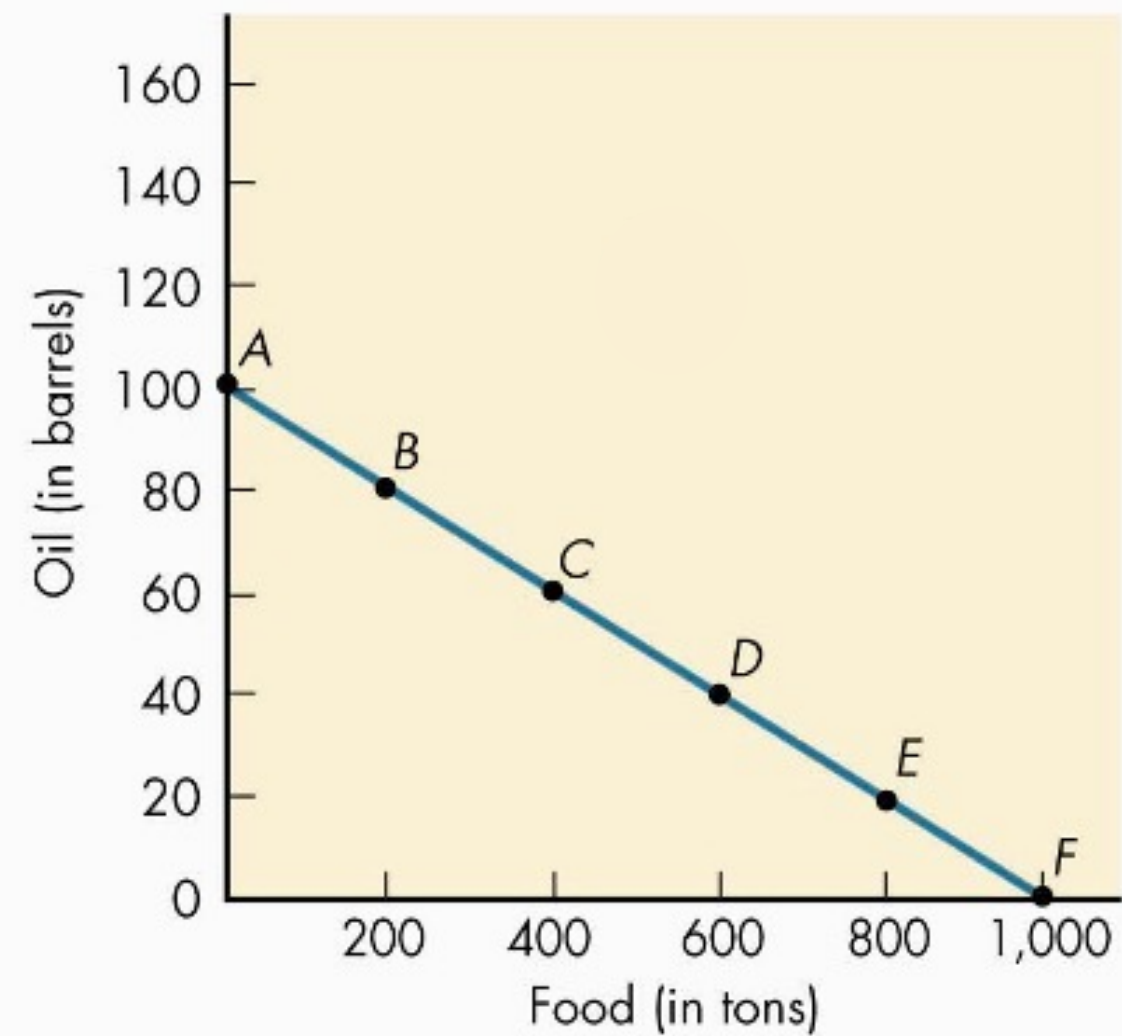
Example

- Assume that presently Saudi Arabia produces **400 barrels of oil** and 60 tons of food ...
- . . . and that the US produces 60 barrels of oil and **400 tons** of food.
- Each country's production is presently skewed towards the good for which they have a comparative advantage.

Example

Percentage of Resources Devoted to Oil	Oil Produced (barrels)	Food Produced (tons)	Row
100%	100	0	A
80	80	200	B
60	60	400	C
40	40	600	D
20	20	800	E
0	0	1,000	F

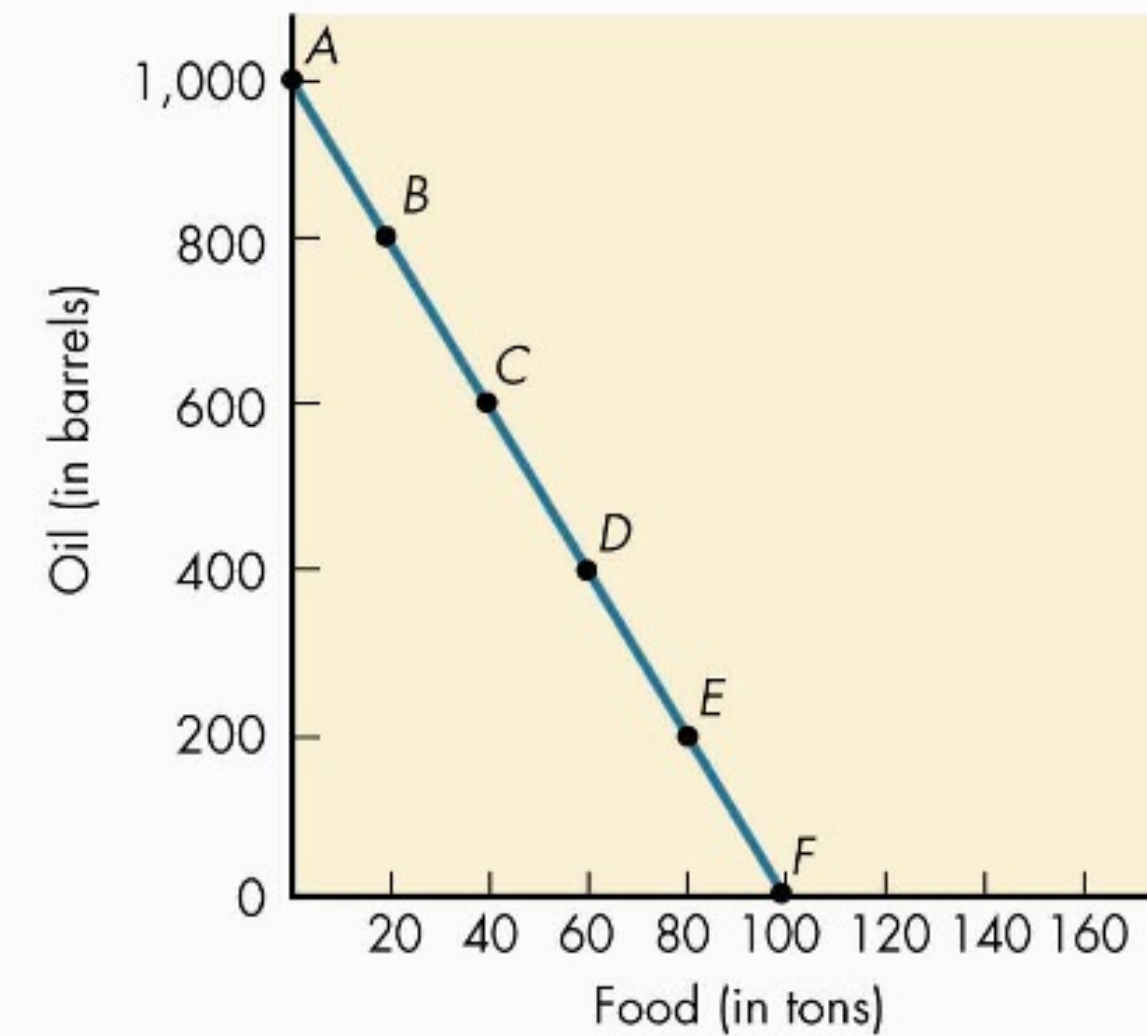
United States' Production Possibility Table



(a) United States' Production Possibility Curve

Percentage of Resources Devoted to Oil	Oil Produced (barrels)	Food Produced (tons)	Row
100%	1,000	0	A
80	800	20	B
60	600	40	C
40	400	60	D
20	200	80	E
0	0	100	F

Saudi Arabia's Production Possibility Table

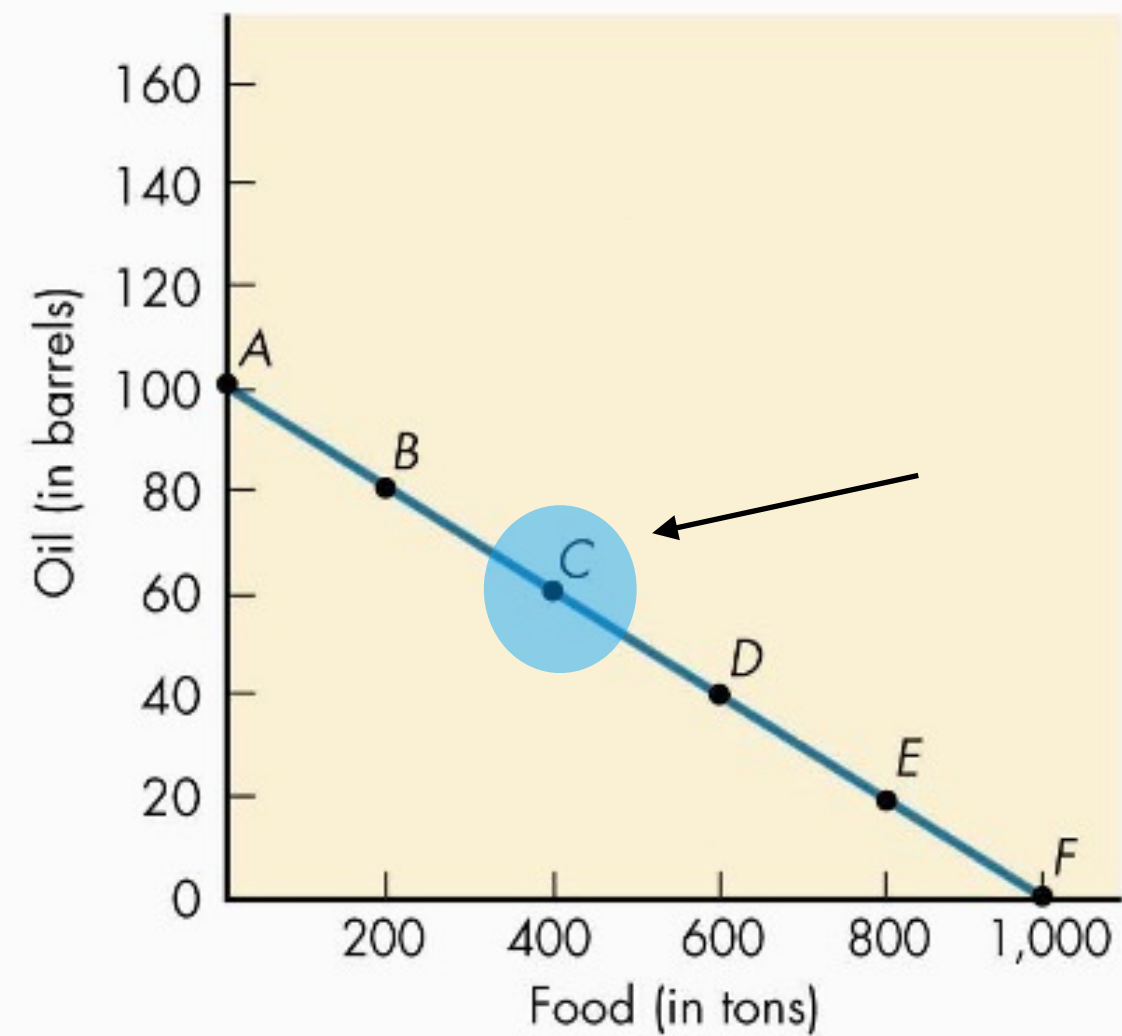


(b) Saudi Arabia's Production Possibility Curve

- Combined Production is 460 tons of food and 460 barrels of oil.

Percentage of Resources Devoted to Oil	Oil Produced (barrels)	Food Produced (tons)	Row
100%	100	0	A
80	80	200	B
60	60	400	C
40	40	600	D
20	20	800	E
0	0	1,000	F

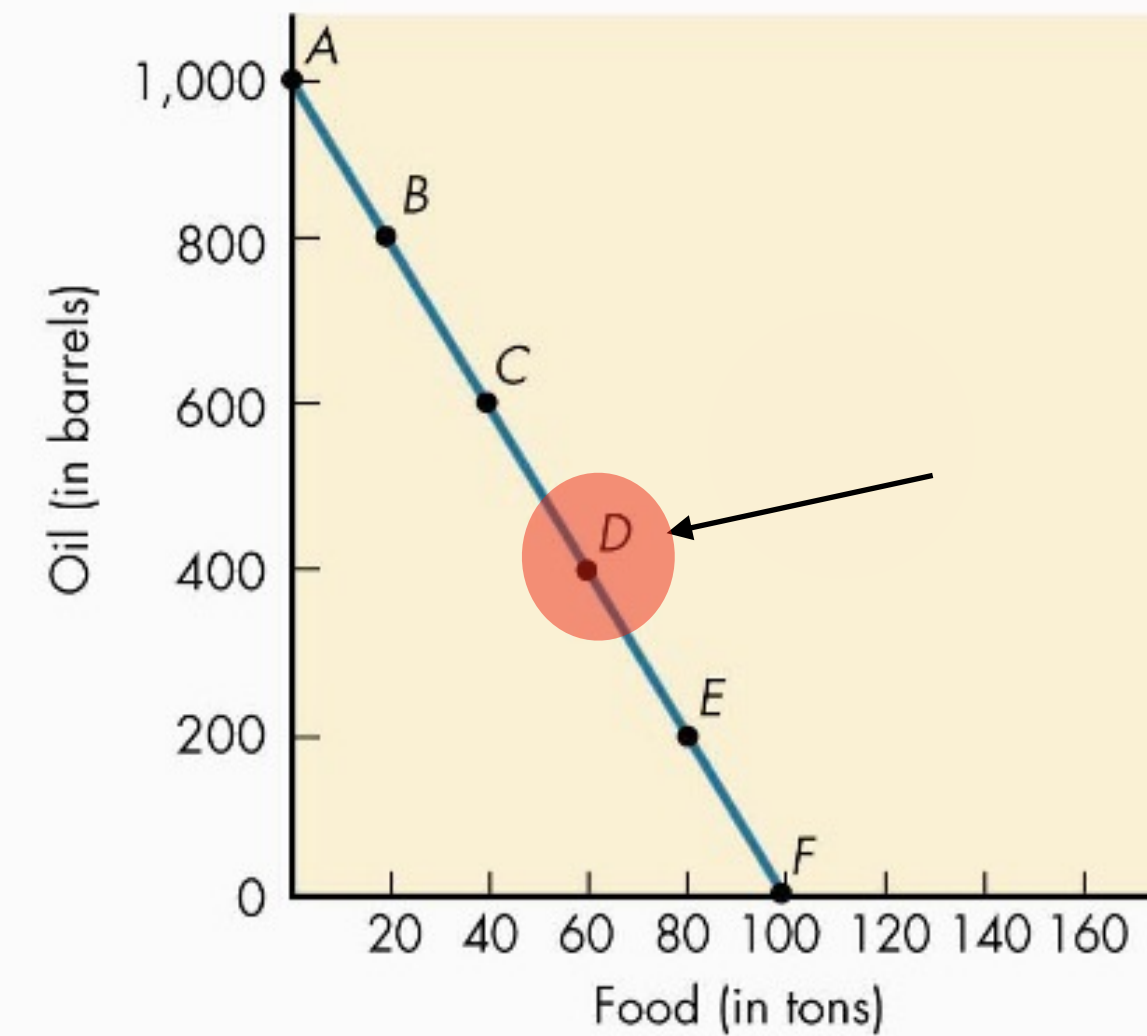
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Saudi Arabia's Production Possibility Table

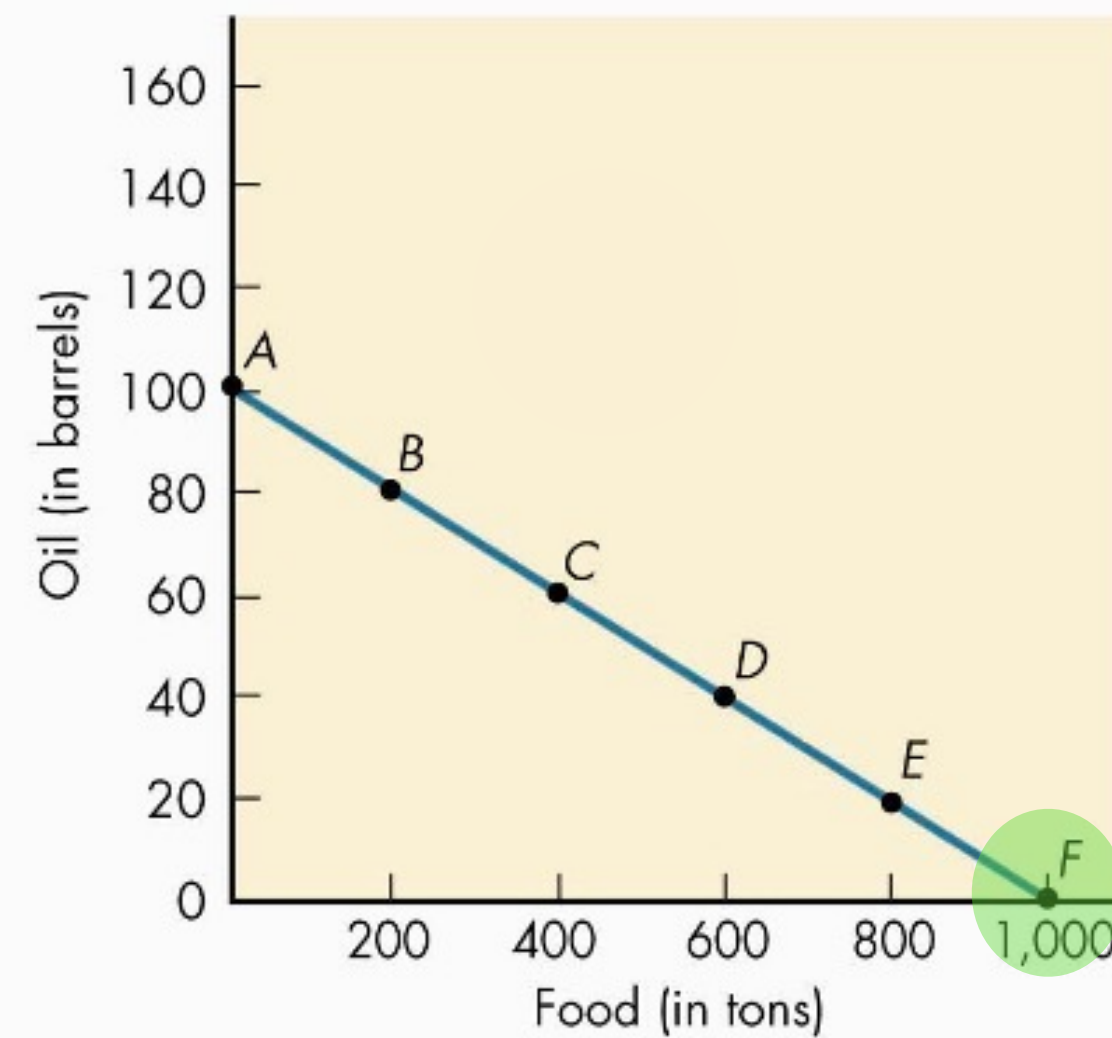


(b) Saudi Arabia's Production Possibility Curve

If both produce their comparative advantages, then they can produce 1,000 tons of food; 1,000 barrels of oil – *an increase in 540 units of each good.*

Percentage of Resources Devoted to Oil	Oil Produced (barrels)	Food Produced (tons)	Row
100%	100	0	A
80	80	200	B
60	60	400	C
40	40	600	D
20	20	800	E
0	0	1,000	F

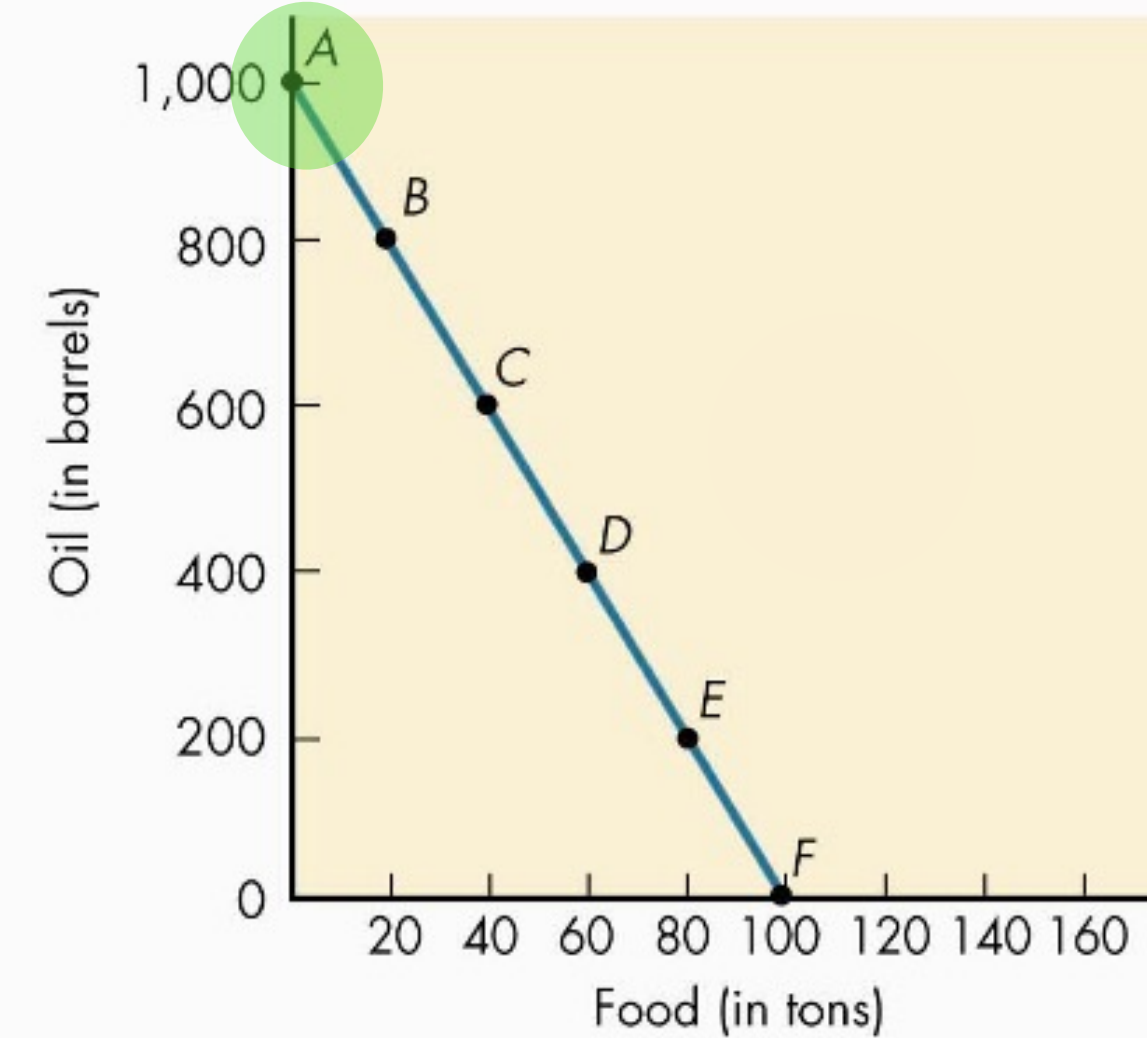
United States' Production Possibility Table



(a) United States' Production Possibility Curve

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100%	1,000	0	A
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0	0	100	F

Saudi Arabia's Production Possibility Table



(b) Saudi Arabia's Production Possibility Curve

⚠️ TRADE OFFER ⚠️

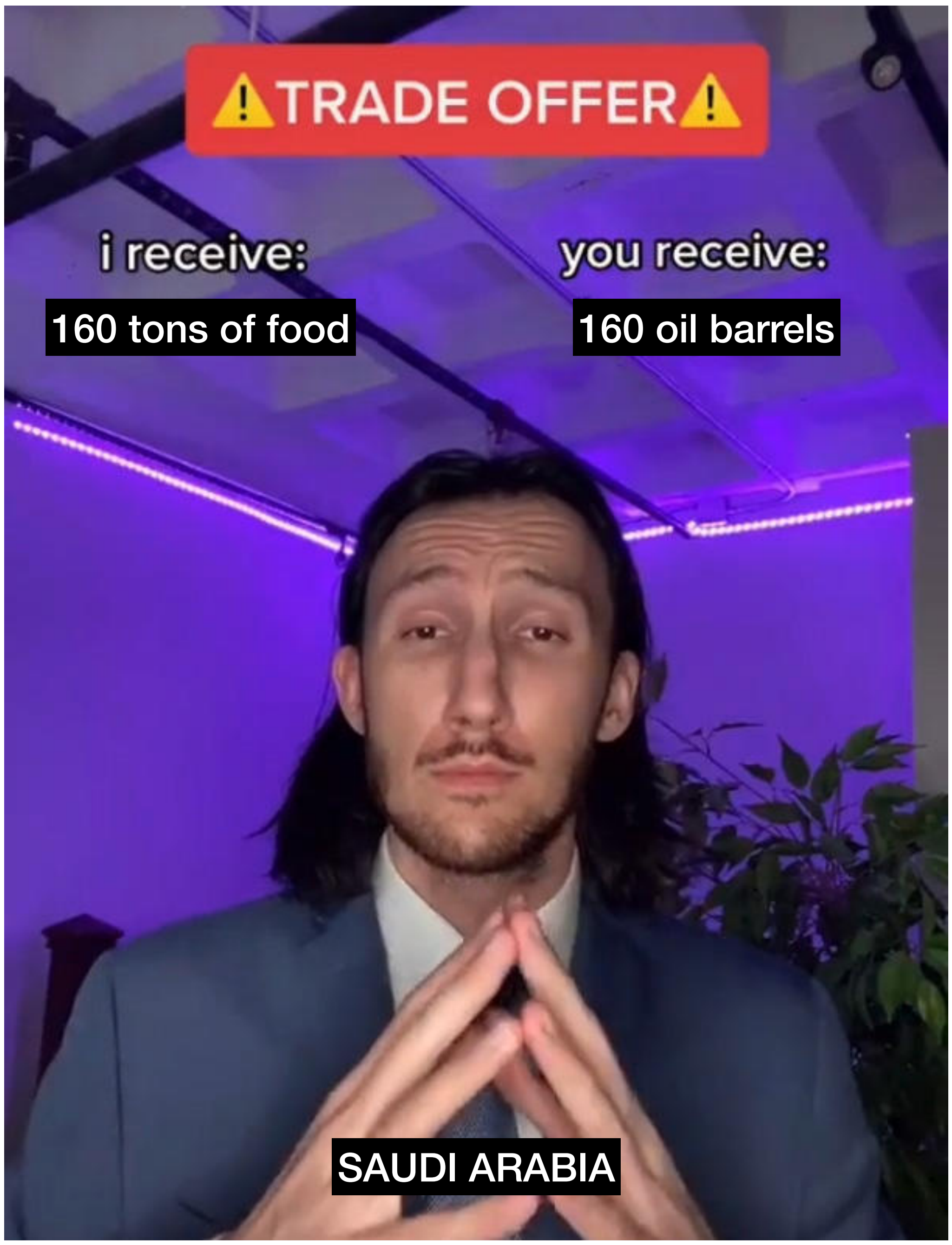
i receive:

160 tons of food

you receive:

160 oil barrels

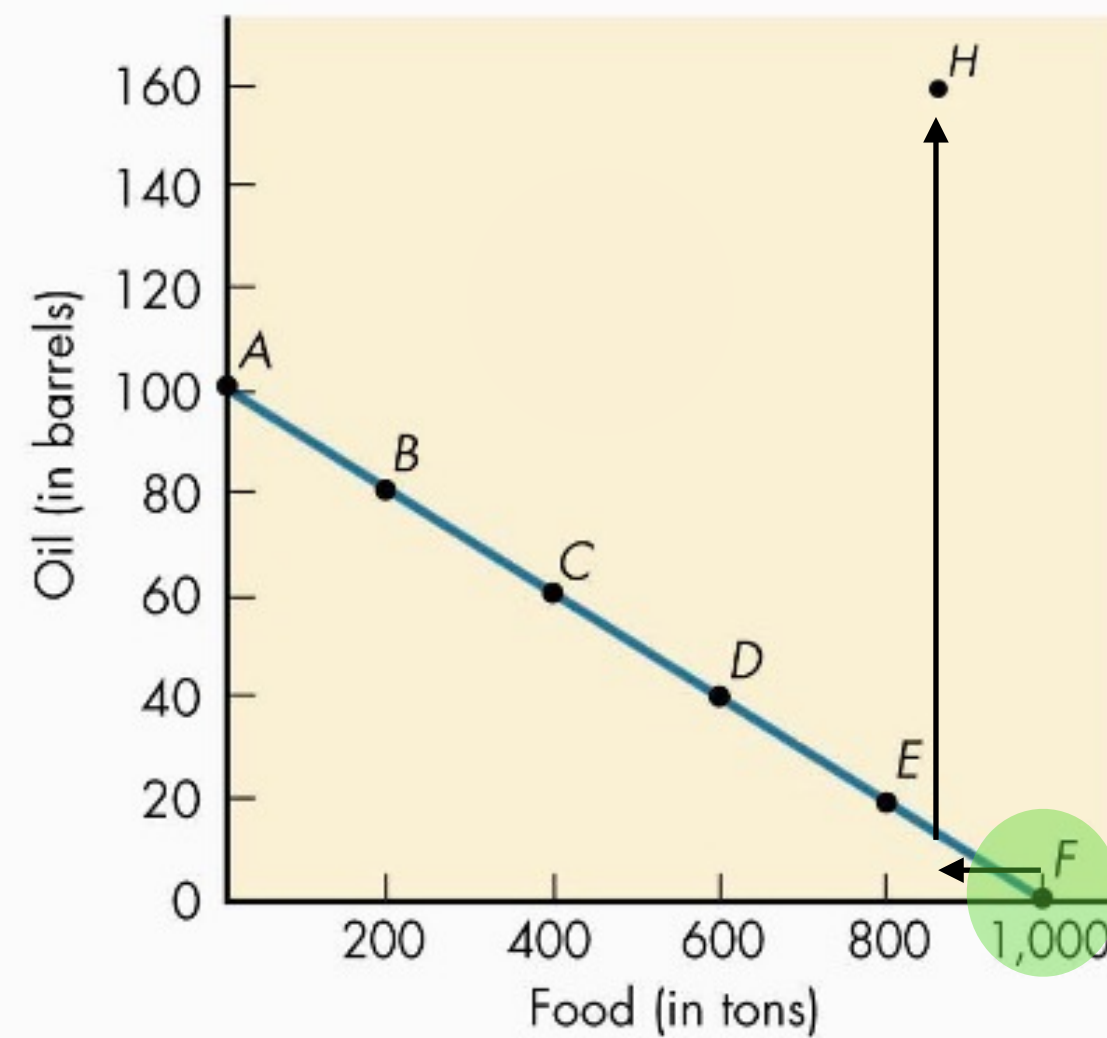
SAUDI ARABIA



Then they can trade and *both* be better off: e.g., US can have 840 tons of food and 160 barrels of oil; Saudi Arabia can have 160 tons of food and 840 barrels of oil.

Percentage of Resources Devoted to Oil	Oil Produced (barrels)	Food Produced (tons)	Row
100%	100	0	A
80	80	200	B
60	60	400	C
40	40	600	D
20	20	800	E
0	0	1,000	F

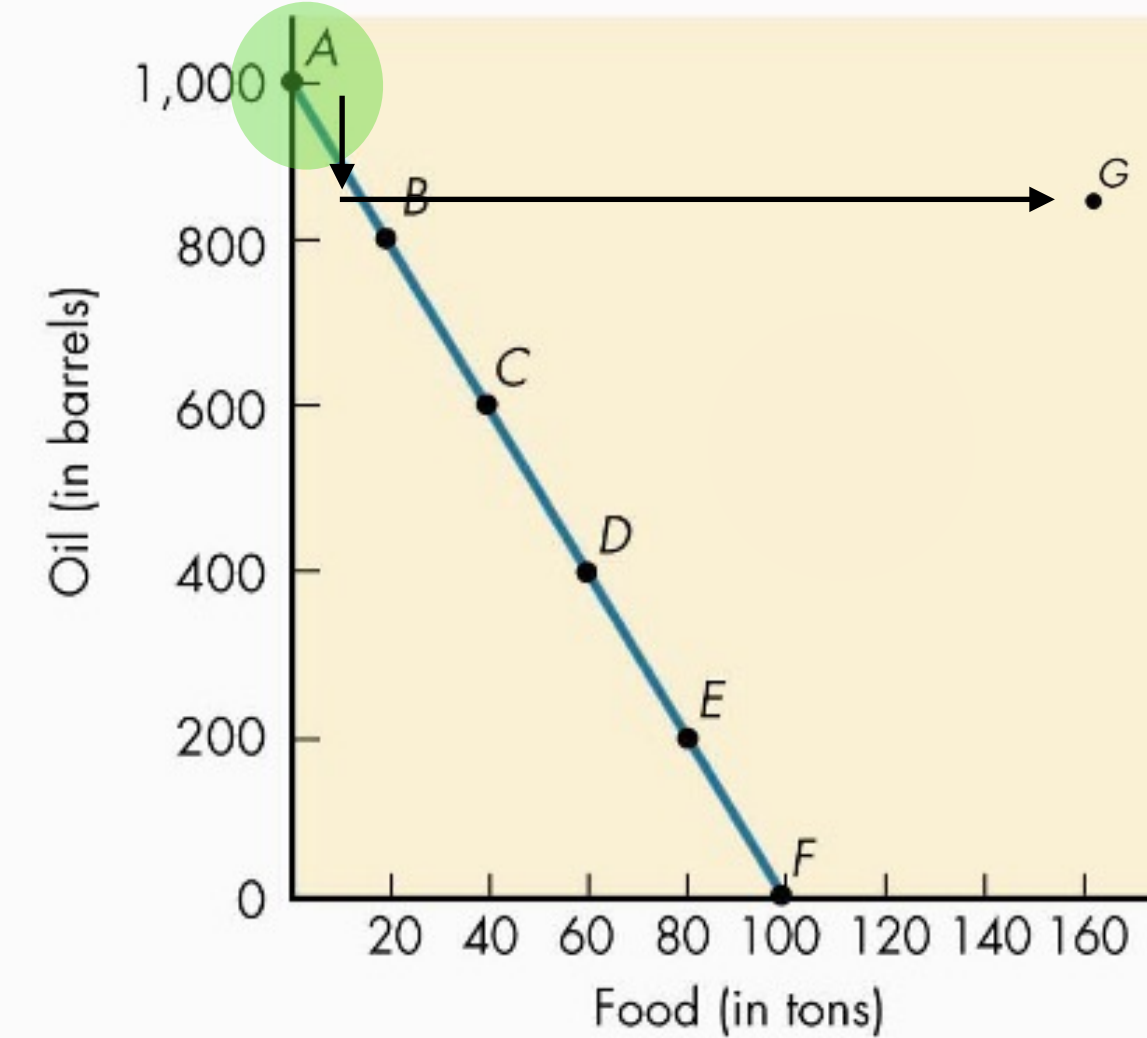
United States' Production Possibility Table



(a) United States' Production Possibility Curve

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100%	1,000	0	A
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Saudi Arabia's Production Possibility Table



(b) Saudi Arabia's Production Possibility Curve

Comparative vs. Absolute Advantage

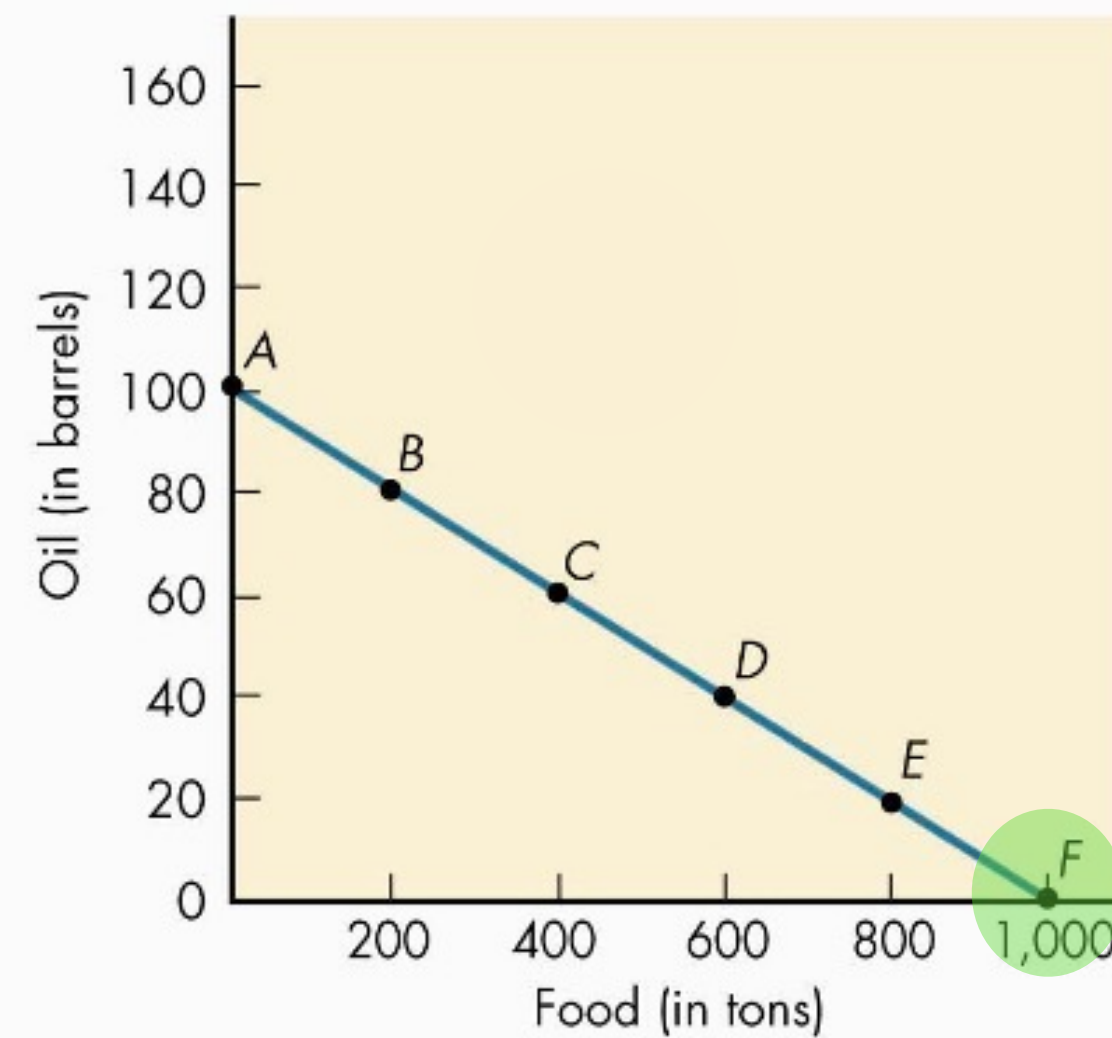
- Note that the US not only has a comparative advantage in food production, but also an **absolute advantage**.
- Likewise, Saudi Arabia has an absolute advantage in oil production.
- **Absolute advantage:** the ability of an individual, firm, or country, to produce more of a particular good than others can using the same inputs.

The US can produce *absolutely* more food than Saudi Arabia.

Saudi Arabia can produce *absolutely* more oil than the US.

Percentage of Resources Devoted to Oil	Oil Produced (barrels)	Food Produced (tons)	Row
100%	100	0	A
80	80	200	B
60	60	400	C
40	40	600	D
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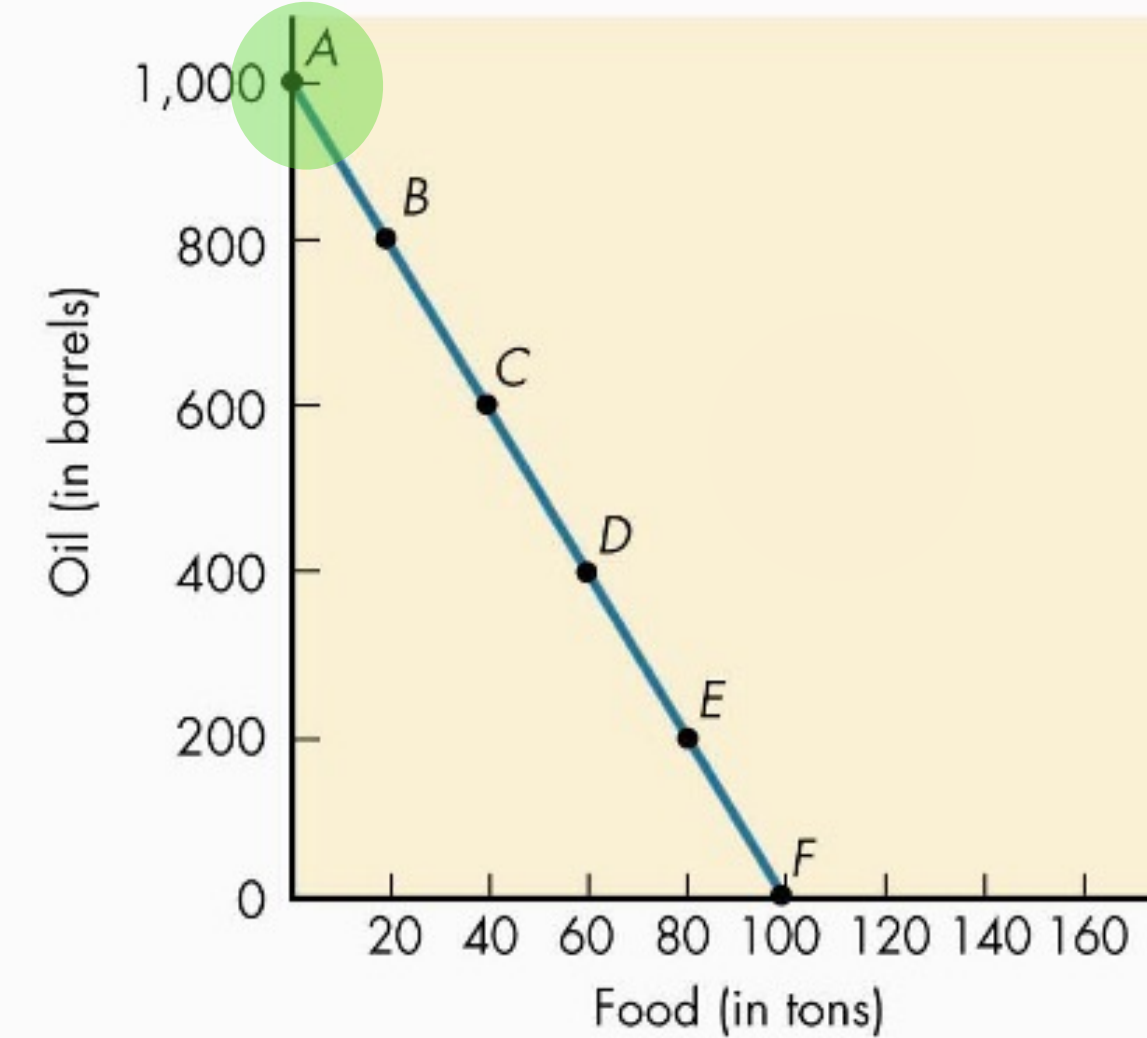
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Saudi Arabia's Production Possibility Table

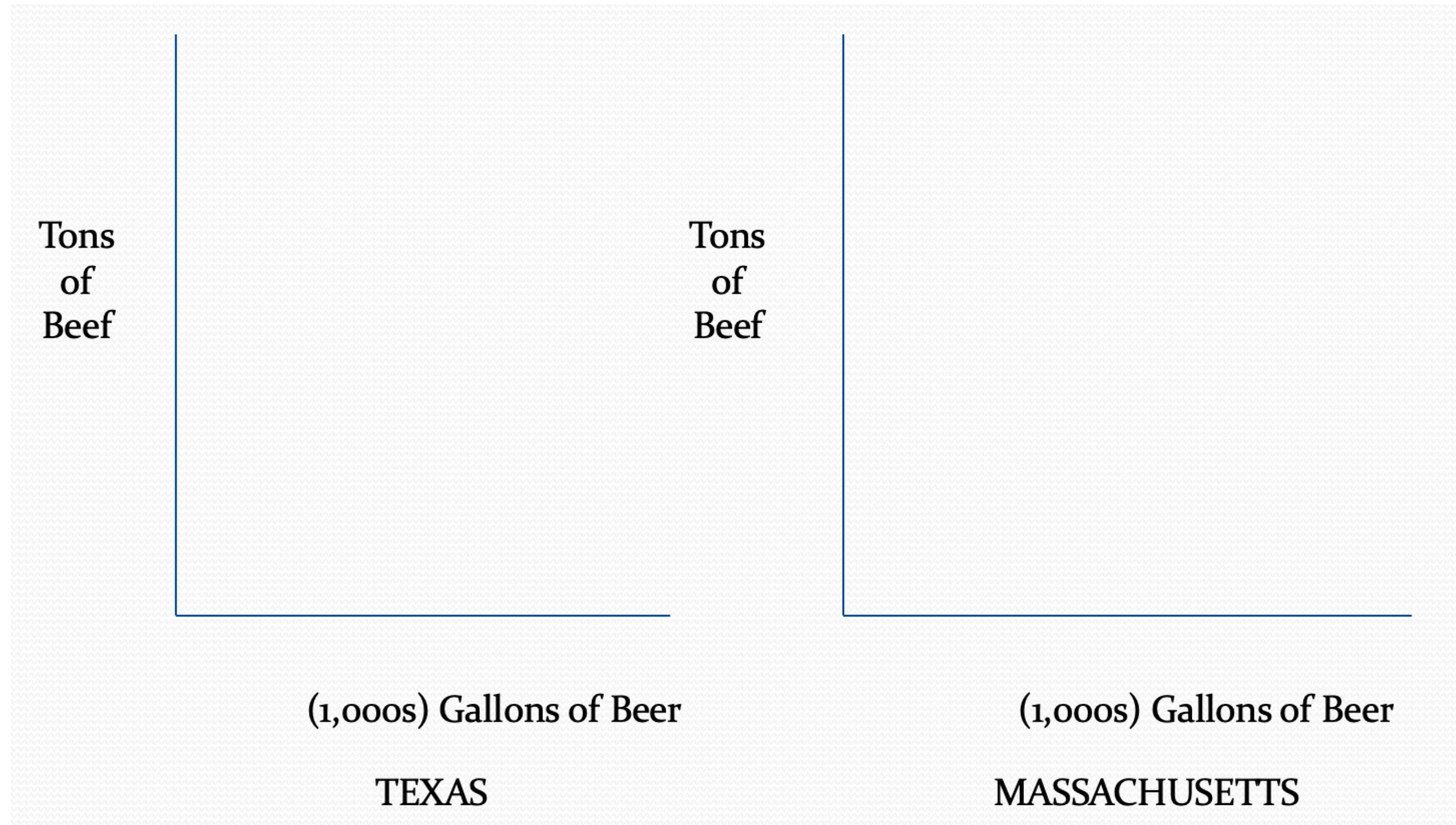


(b) Saudi Arabia's Production Possibility Curve

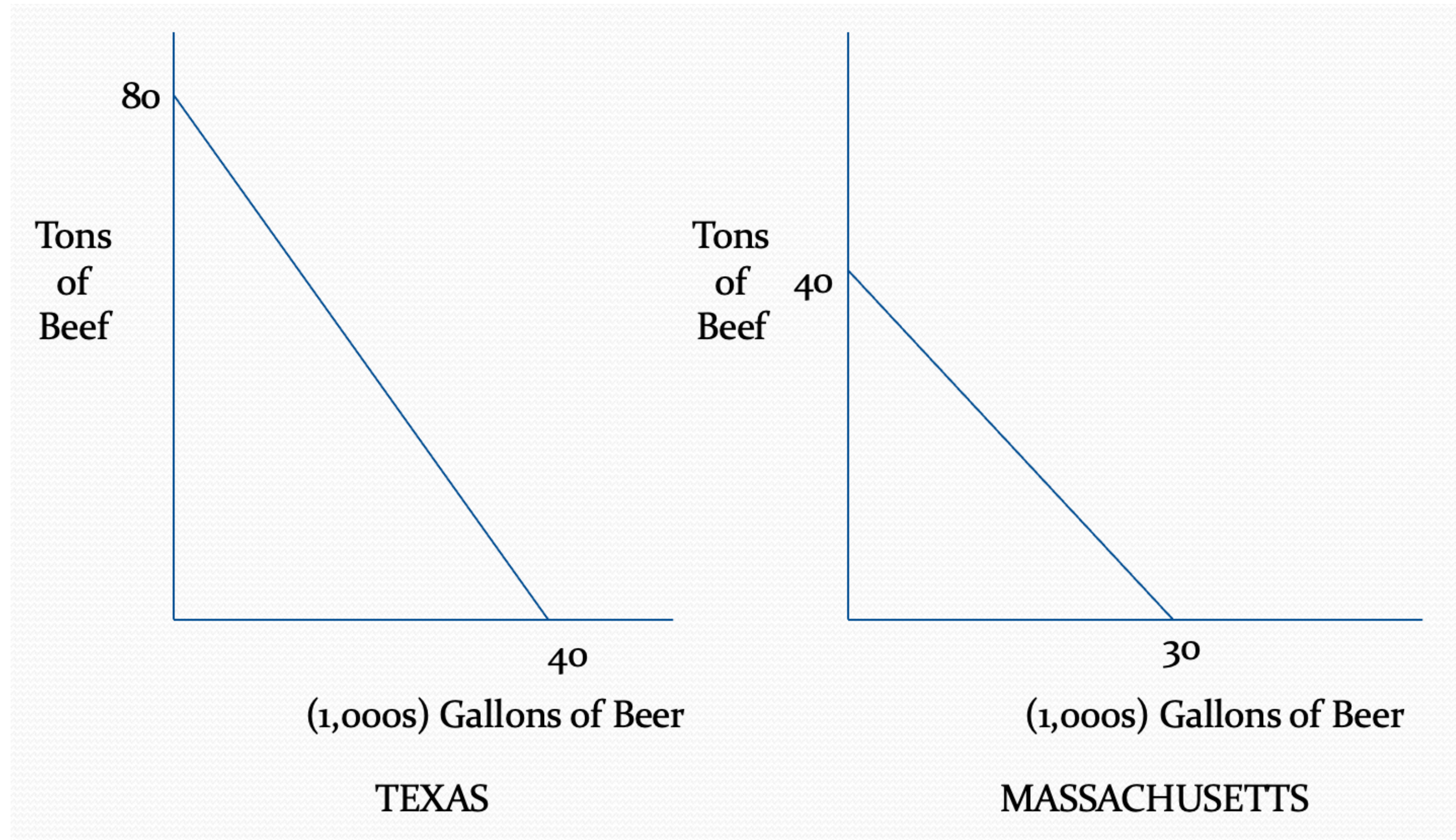
Comparative vs. Absolute Advantage

- In this case, each country has an absolute advantage in each good, but sometimes a country might have an absolute advantage in many goods, would it be efficient if they traded with other countries then?

Example: Texas and Massachusetts

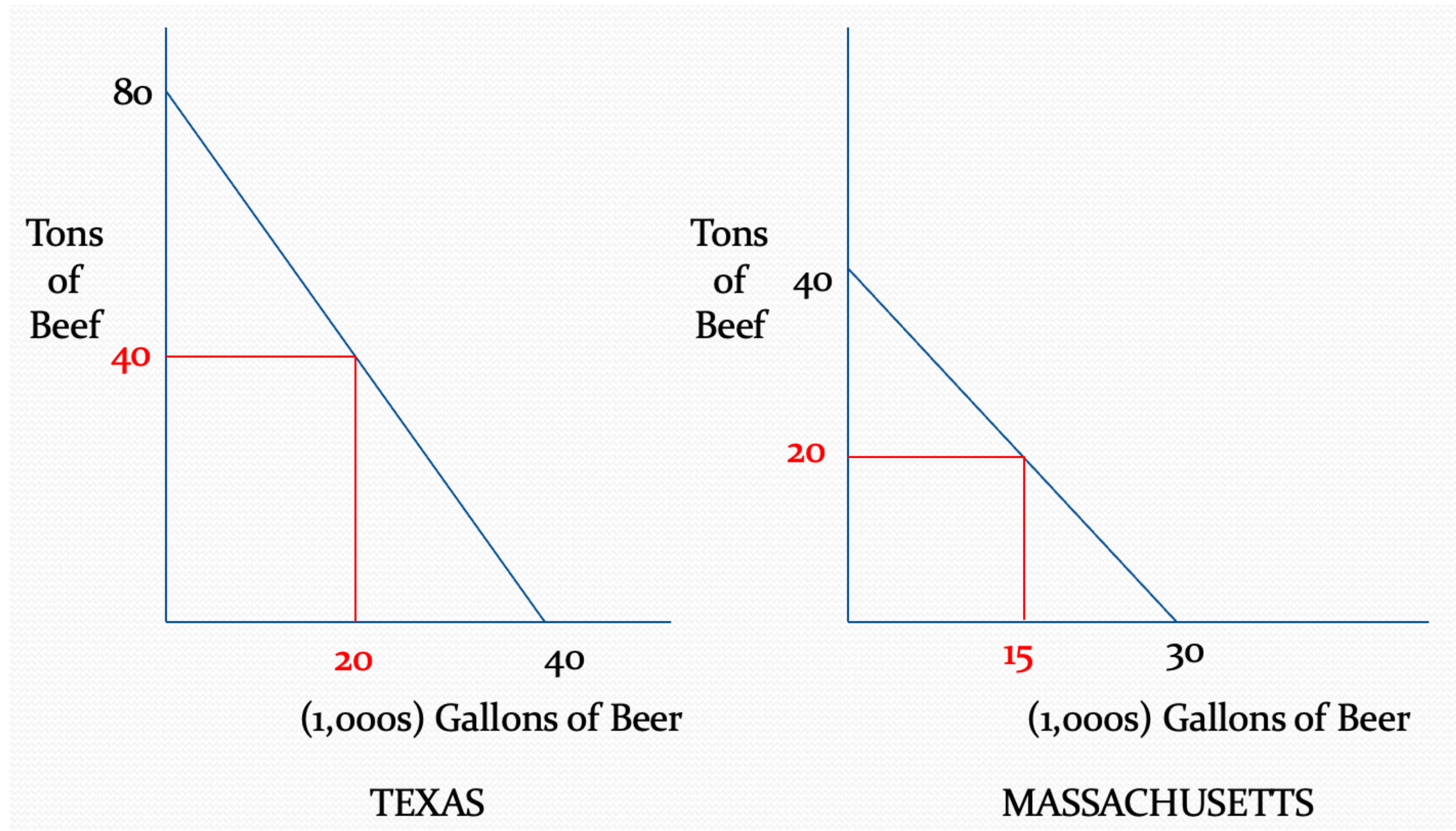


Example: Texas and Massachusetts



Example: Texas and Massachusetts

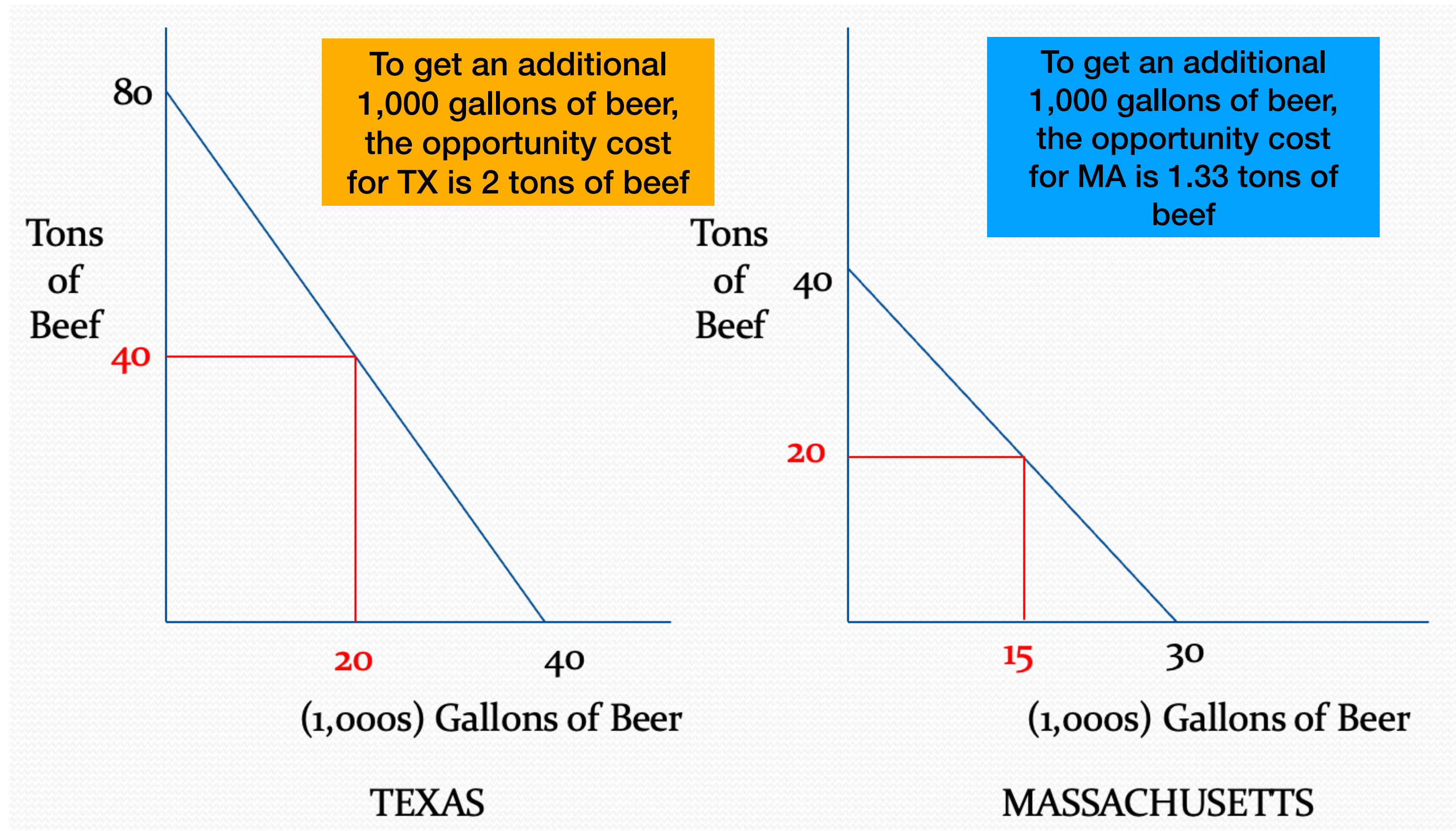
TX has an absolute advantage in both beef and beer production.
MA has a comparative advantage in beer production.



60 tons of beef and 35k gallons of beer

Example: Texas and Massachusetts

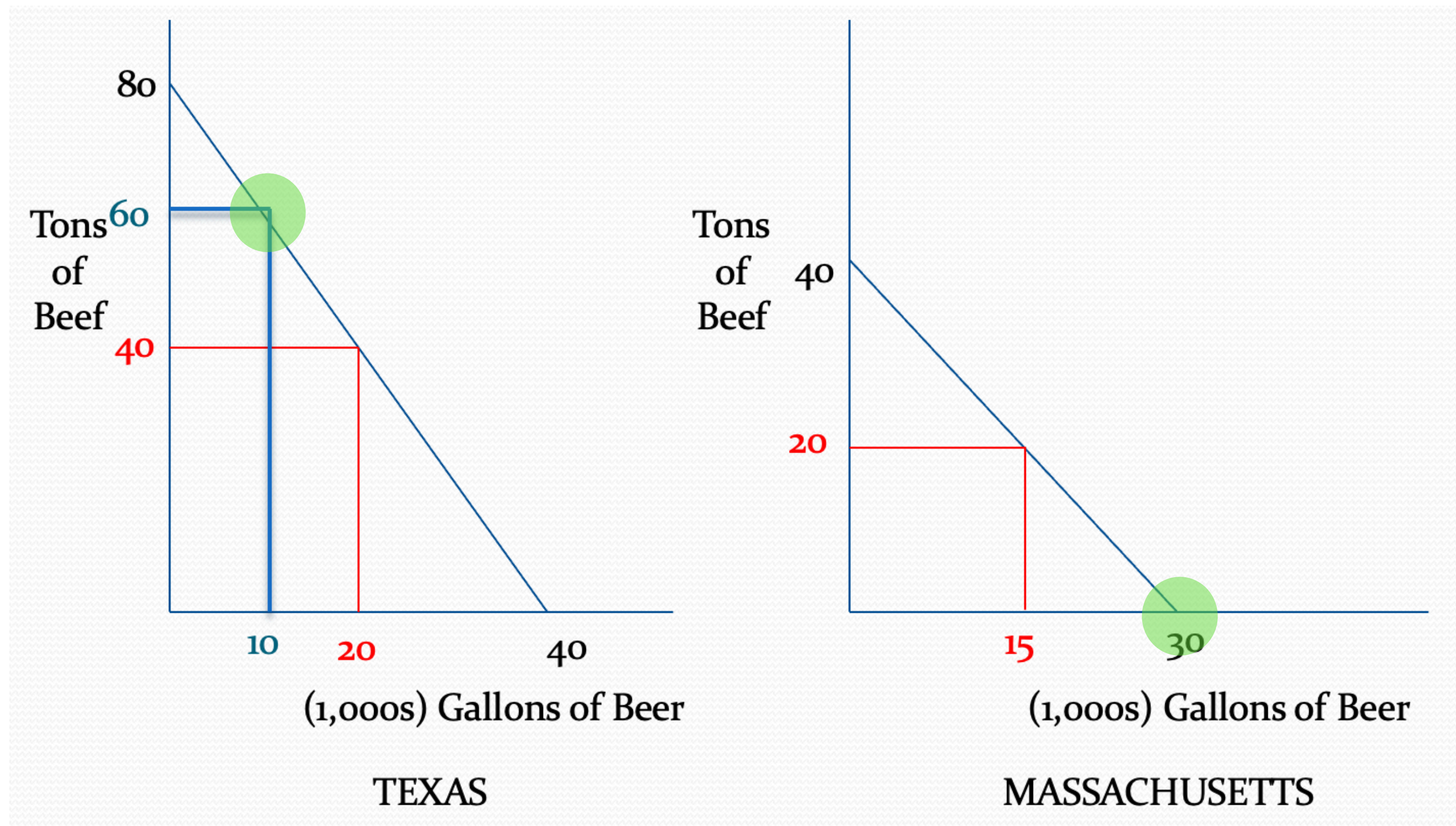
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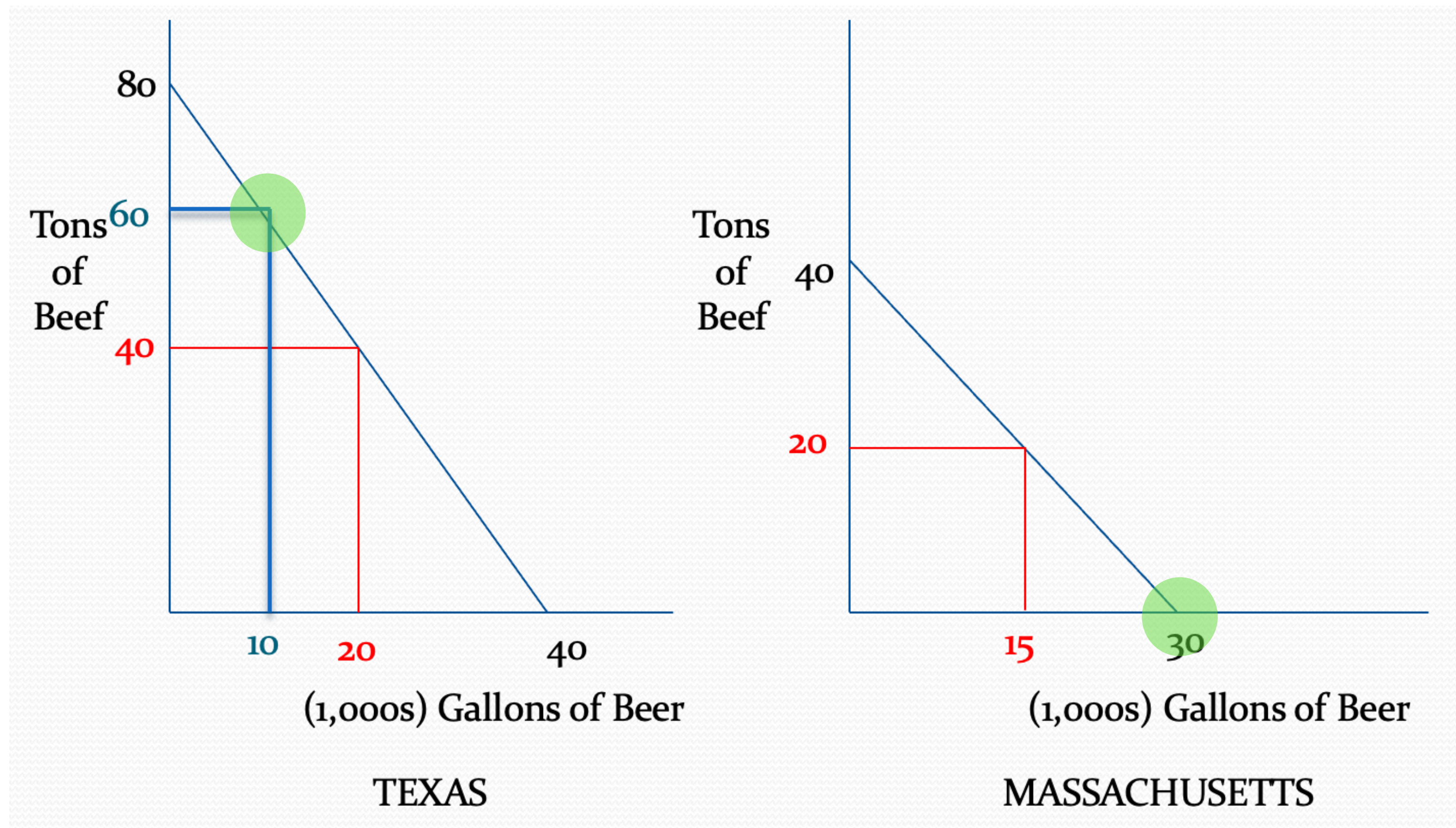
Example: Texas and Massachusetts

But, again, both states can be better off if they specialize in producing their comparative advantage.



Example: Texas and Massachusetts

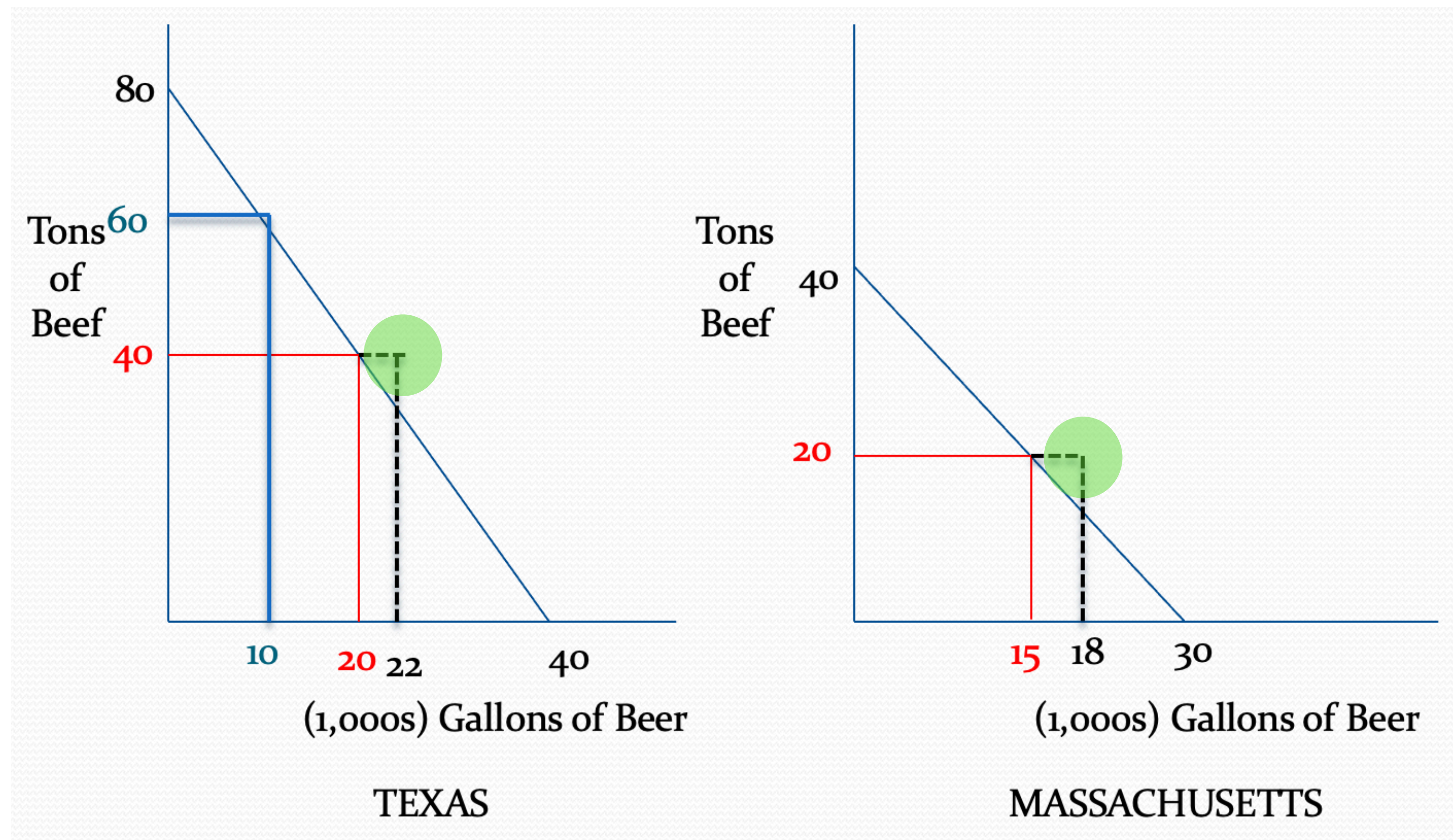
But, again, both states can be better off if they specialize in producing their comparative advantage.



60 tons of beef and 40k gallons of beer.

Example: Texas and Massachusetts

But, again, both states can be better off if they specialize in producing their comparative advantage.



Trade 20 tons of beef for 12k gallons of beer.

**YOU KNOW ABOUT COMPARATIVE
ADVANTAGE...**

**YET YOU STILL COMPLAIN ABOUT FREE
TRADE!**

memegenerator.net

You aced comparative advantage,
yet you still complain about free
trade



A man with blue eyes and a slight smile is shown from the chest up, wearing a dark jacket and a brown scarf. He is positioned inside a hot air balloon basket with a colorful pattern of yellow, orange, and red segments. The background is a clear blue sky. A speech bubble is overlaid on the image, containing the text "Comparative advantage".

Comparative advantage

I'm the upgrade.

Why is free trade unpopular?



Lose their jobs.
Can't feed their children.
Protest vehemently.

Saves \$500 on a Prius.
(So did 300,000 other people like him
in 2016)
Maybe notices; maybe doesn't.
Forgets all about it when he sees the
protests of those to the left.

Why is free trade unpopular?




If I'm a politician, I have every incentive to *concentrate the benefits* on my district and voting class.

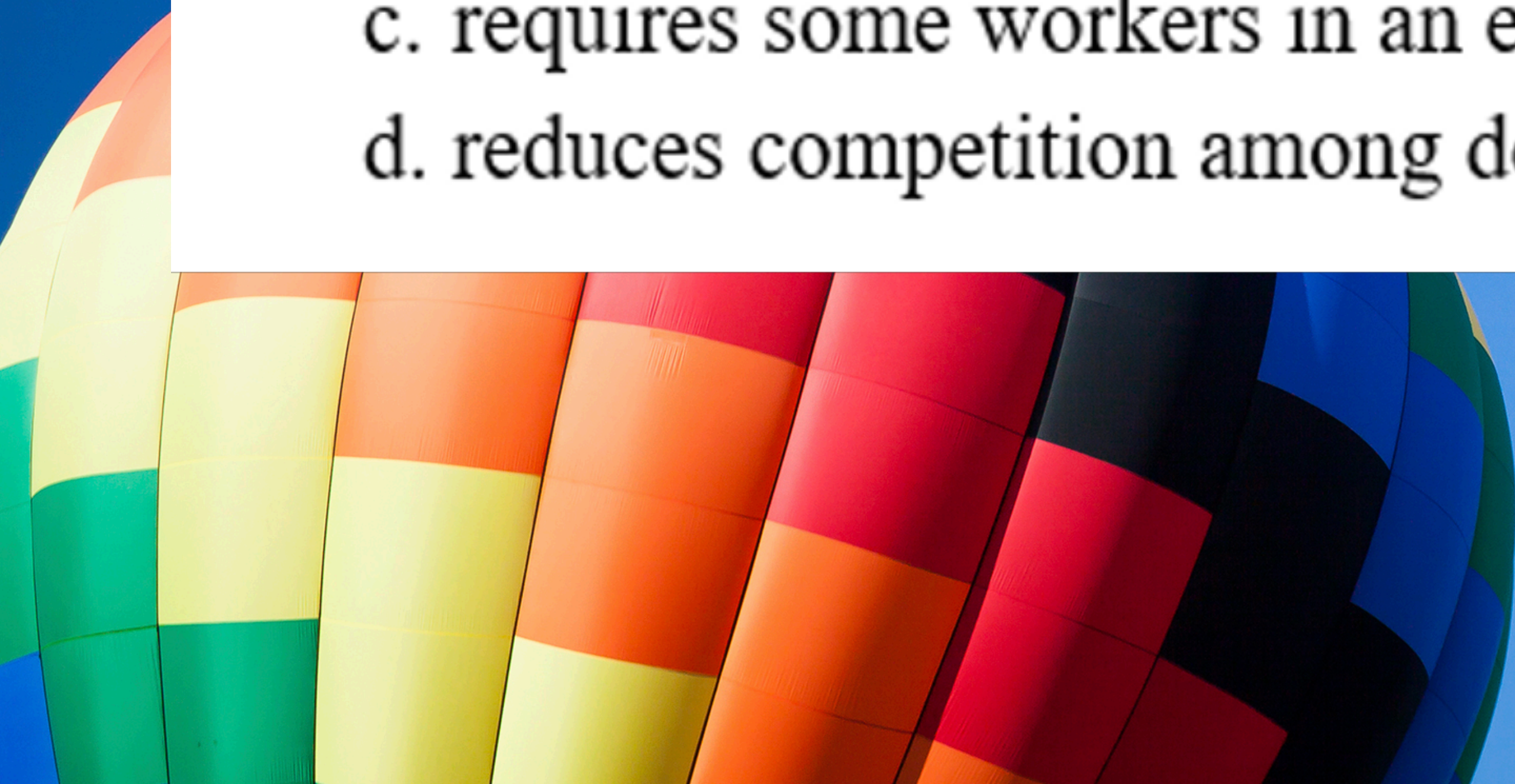

The costs will be widely dispersed in the population.

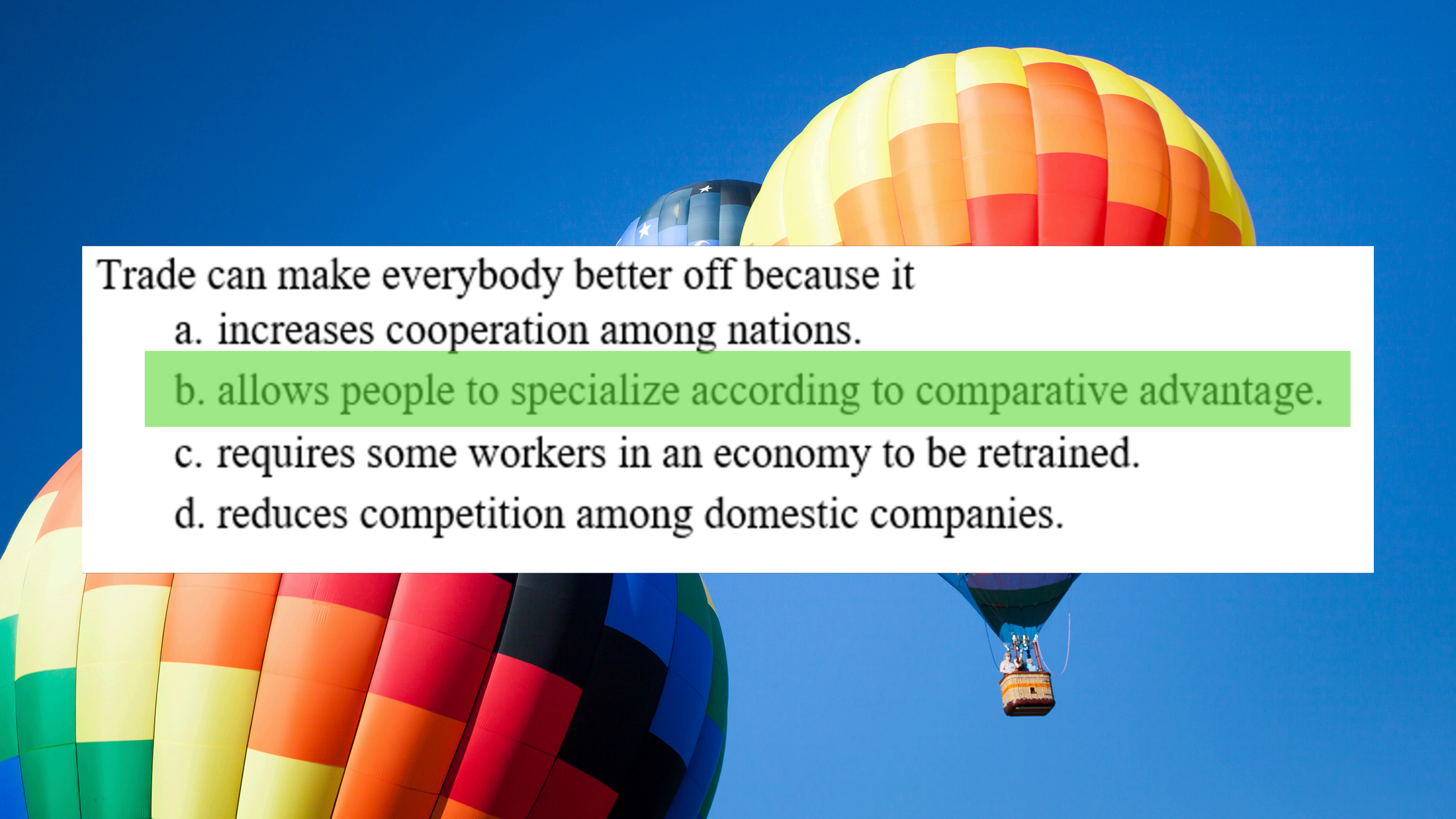
Why is free trade unpopular?

- While there are undoubtedly overall (or net) gains from trade,
 - The (small) costs will often be highly concentrated,
 - While the (larger benefits) will be highly dispersed.



Trade can make everybody better off because it

- a. increases cooperation among nations.
 - b. allows people to specialize according to comparative advantage.
 - c. requires some workers in an economy to be retrained.
 - d. reduces competition among domestic companies.
- 
- 



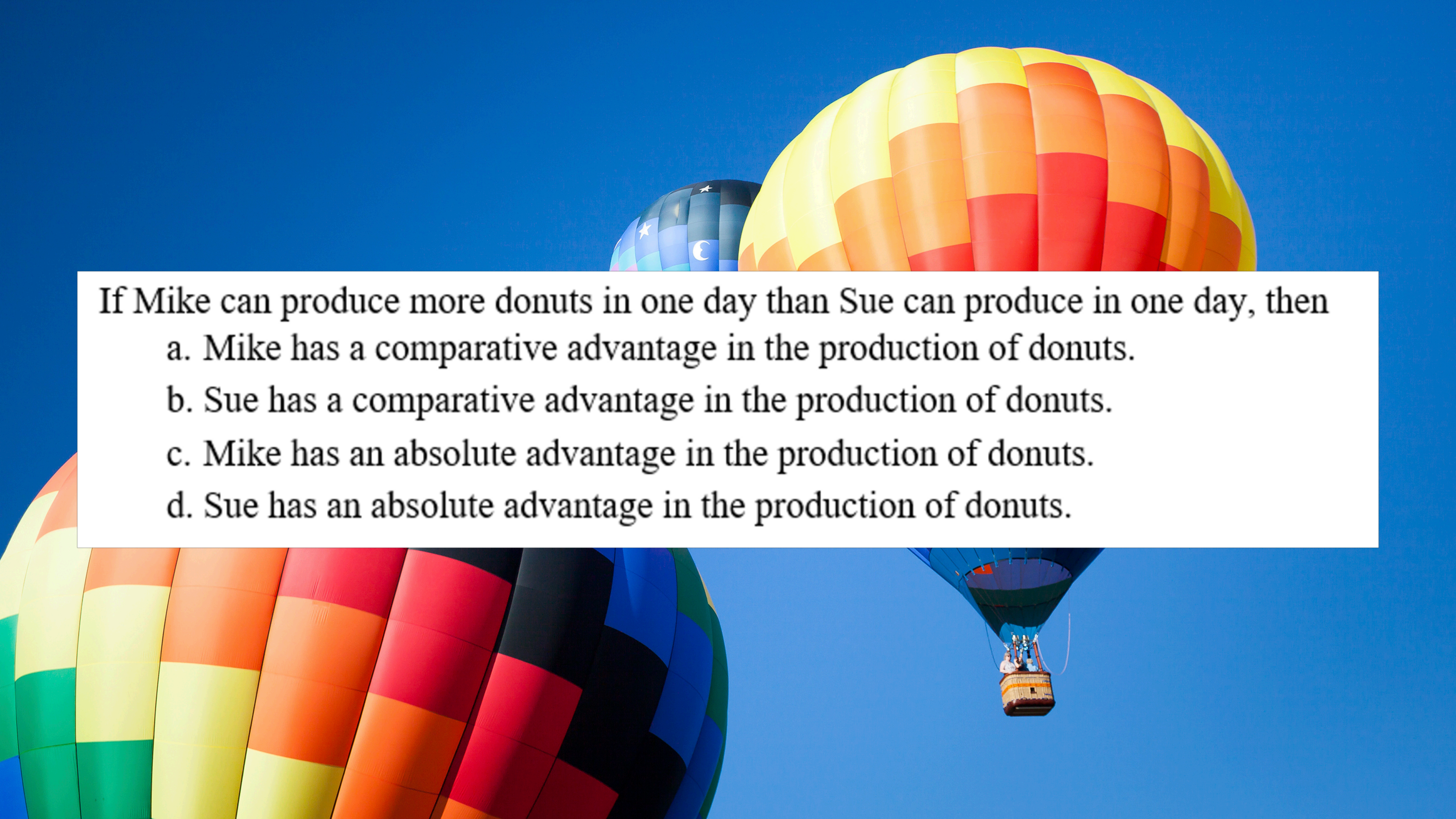
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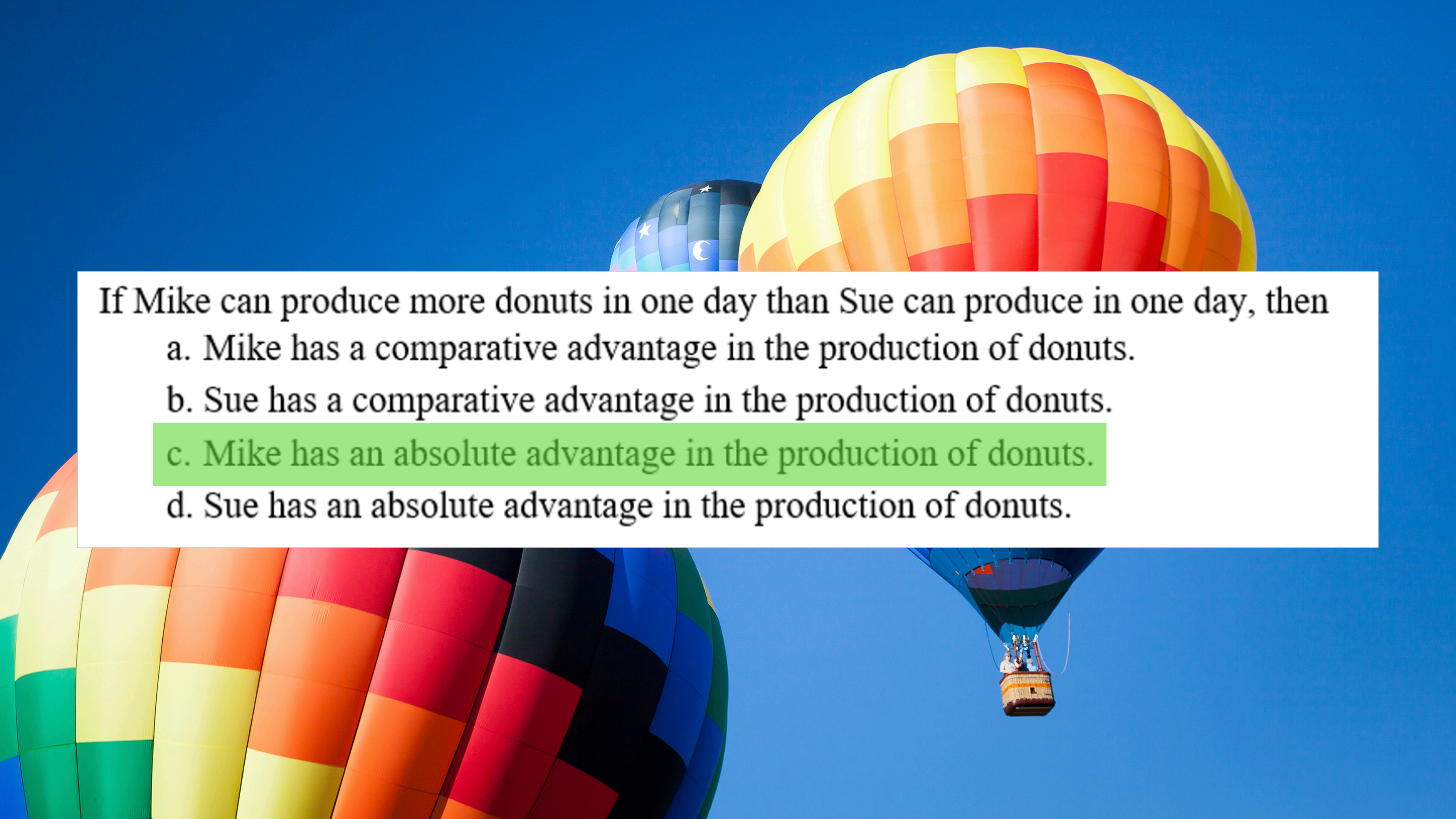
c. requires some workers in an economy to be retrained.

d. reduces competition among domestic companies.



If Mike can produce more donuts in one day than Sue can produce in one day, then

- Mike has a comparative advantage in the production of donuts.
- Sue has a comparative advantage in the production of donuts.
- Mike has an absolute advantage in the production of donuts.
- Sue has an absolute advantage in the production of donuts.



If Mike can produce more donuts in one day than Sue can produce in one day, then

- a. Mike has a comparative advantage in the production of donuts.
- b. Sue has a comparative advantage in the production of donuts.
- c. Mike has an absolute advantage in the production of donuts.
- d. Sue has an absolute advantage in the production of donuts.

**End of class.
Thanks for your attention!**