chapter:

2

>> Economic Models: Trade-offs and Trade

Krugman/Wells Economics

WHAT YOU WILL LEARN IN THIS CHAPTER

- Why models? Simplified representations of reality—play a crucial role in economics
- Two simple but important models:
  - production possibility frontier
  - circular-flow diagram
- The difference between positive economics and normative economics
- When economists agree and why they sometimes disagree

Models in Economics

- A **model** is a simplified representation of a real situation that is used to better understand real-life situations. Models can be:
  - Theoretical or
  - Empirical

- The **“other things equal” assumption** means that all other relevant factors remain unchanged.

- The „**counterfactual**“ describes an alternate reality that can (often) be illustrated by models. In economics, the counterfactual typically refers to the hypothetical state of the world in the absence of some policy measure that has been implemented.

Models in Economics

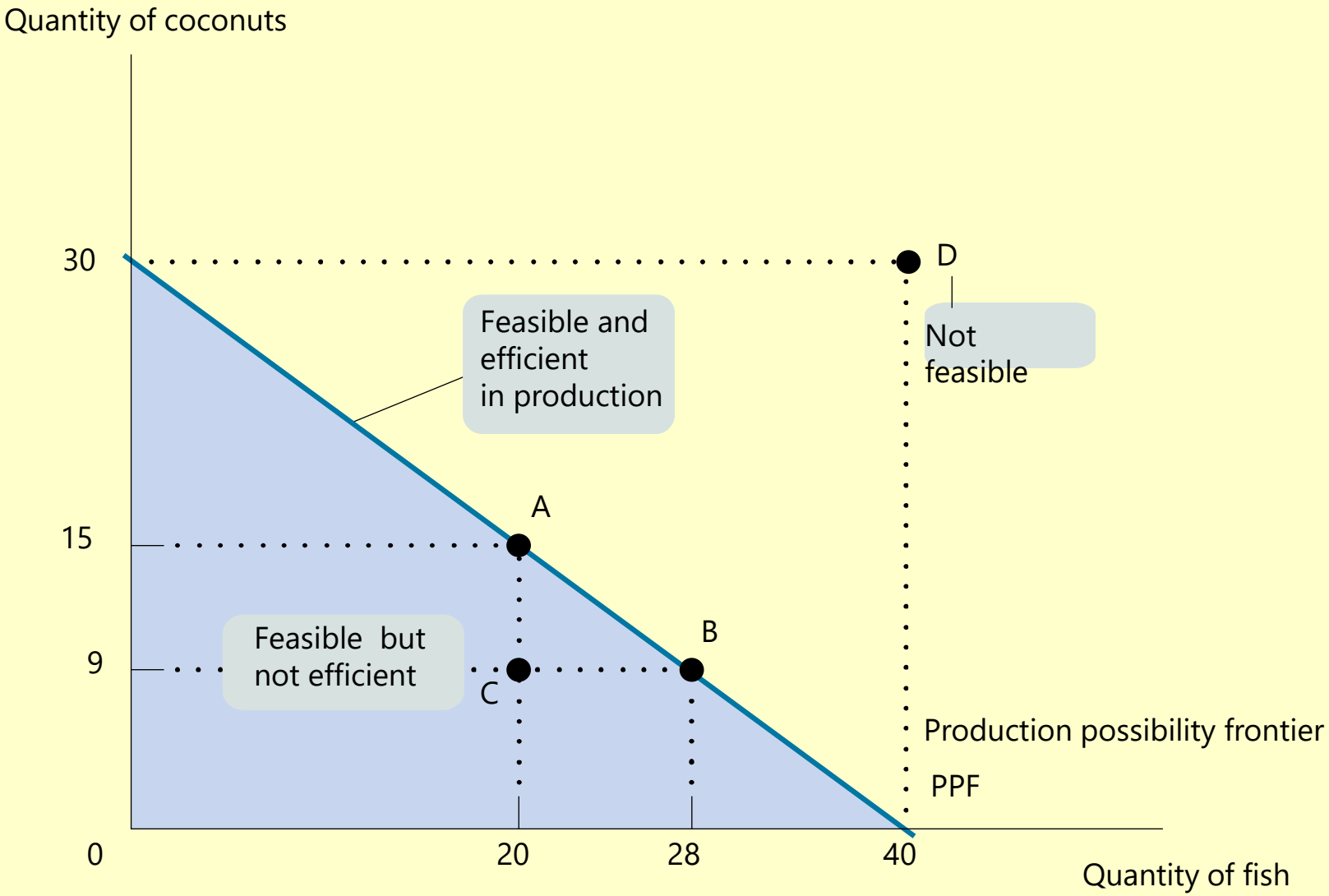
- The **counterfactual** is very closely related to the notion of causality.
- But was is meant by *causality*, as when we say A *causes* B?
- Consider the following example: You leave the house on a cold, rainy day and forget to wear a jacket. By the end of the day, you feel the first symptons of a nasty flu, which puts you in bed for the next few days. Did forgetting your jacket cause you to get sick?
- To answer this, you need to consider the counterfactual: What would the state of the world be had you not forgotten your jacket?

Trade-offs: The Production Possibility Frontier

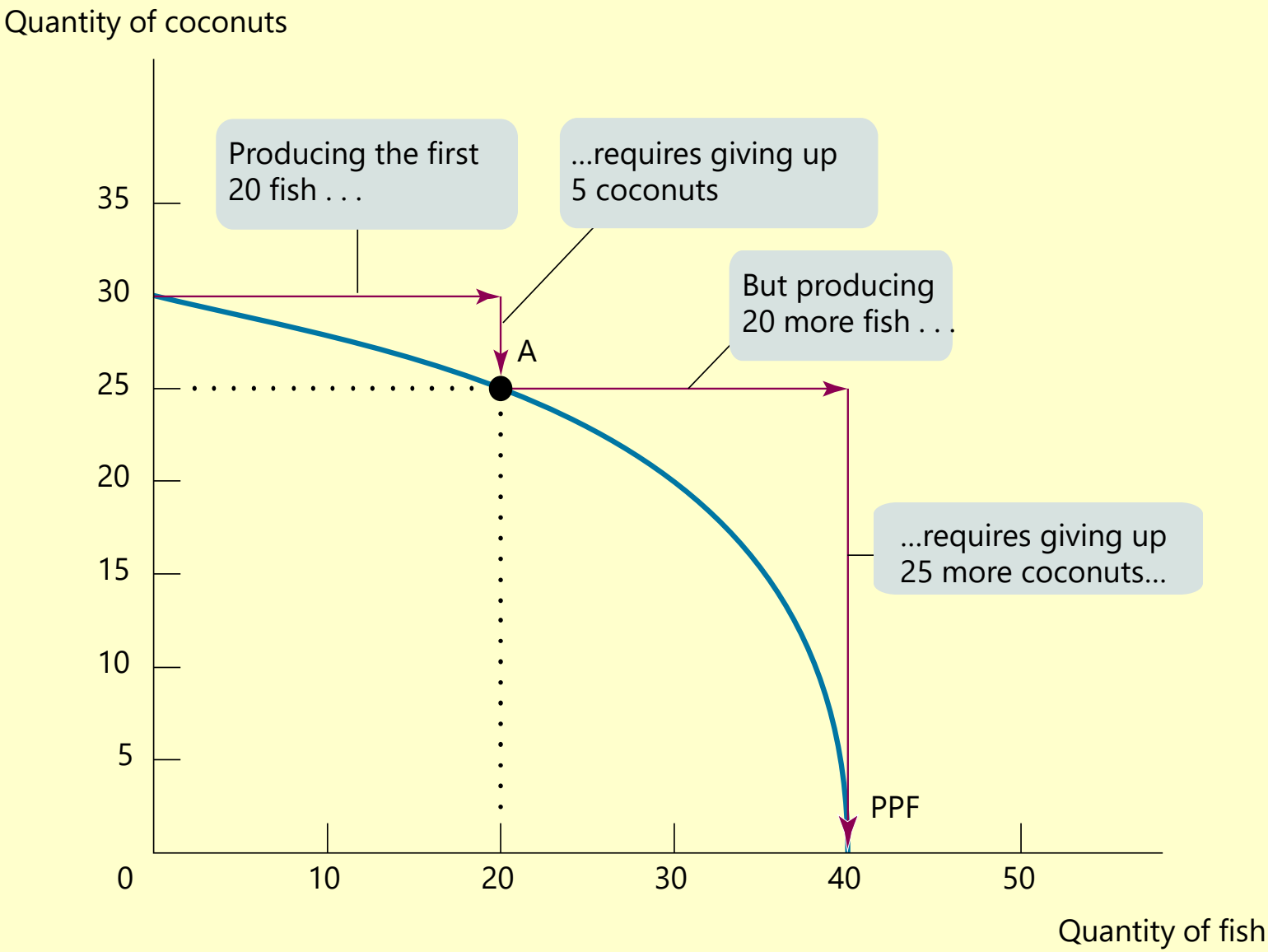
- The **production possibility frontier (PPF)** illustrates the trade-offs facing an economy that produces only two goods. It shows the maximum quantity of one good that can be produced for any given production of the other.

- The PPF improves our understanding of trade-offs by considering a simplified economy that produces only two goods by showing this trade-off graphically.

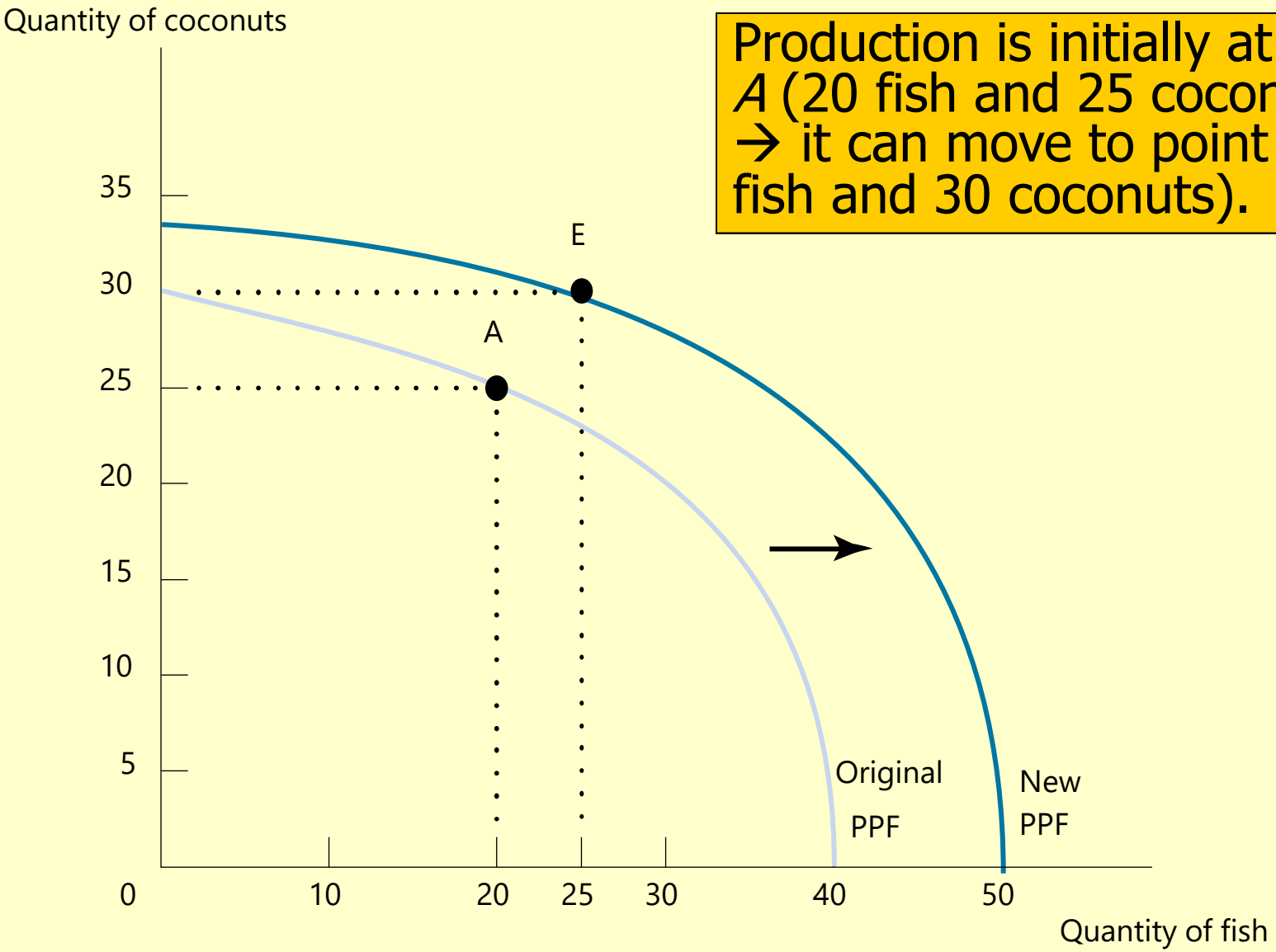
The Production Possibility Frontier



Increasing Opportunity Cost



Economic Growth

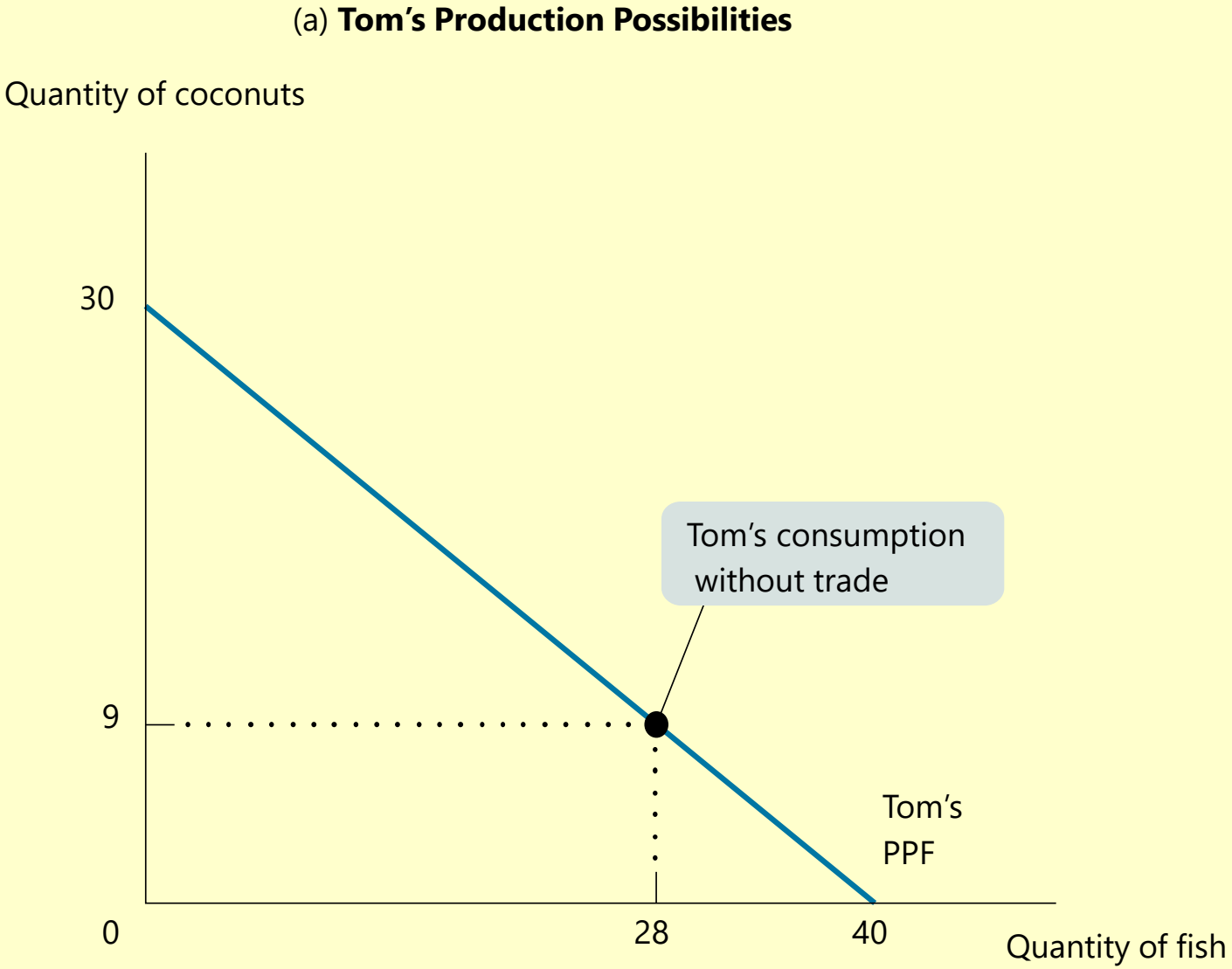


Production is initially at point *A* (20 fish and 25 coconuts), → it can move to point *E* (25 fish and 30 coconuts).

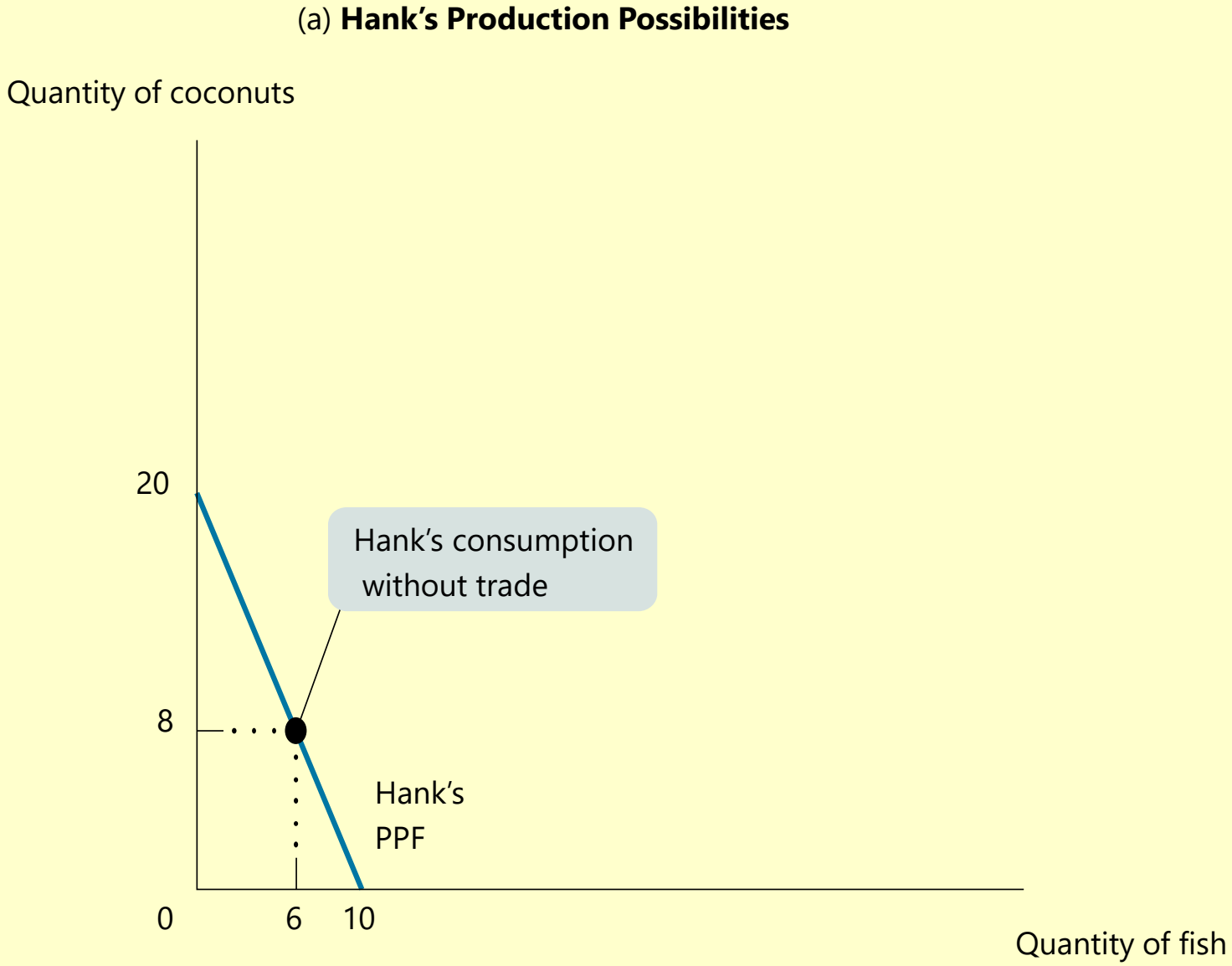
Thought experiment on globalization

- Imagine a world with two countries, an industrialized country and a developing country, both of which produce two products, cars and cheese.
- The industrialized country produces 50000 cars a year, and 10000 tons of cheese. The developing country produces 20000 cars and 9000 tons of cheese.
- Question: Can an economic case be made for these countries to engage in trade with each other, or would it be just as well for them to remain autarkic?
- We'll think this through using another example of 2 castaways on an island.

Production Possibilities for Two Castaways



Production Possibilities for Two Castaways



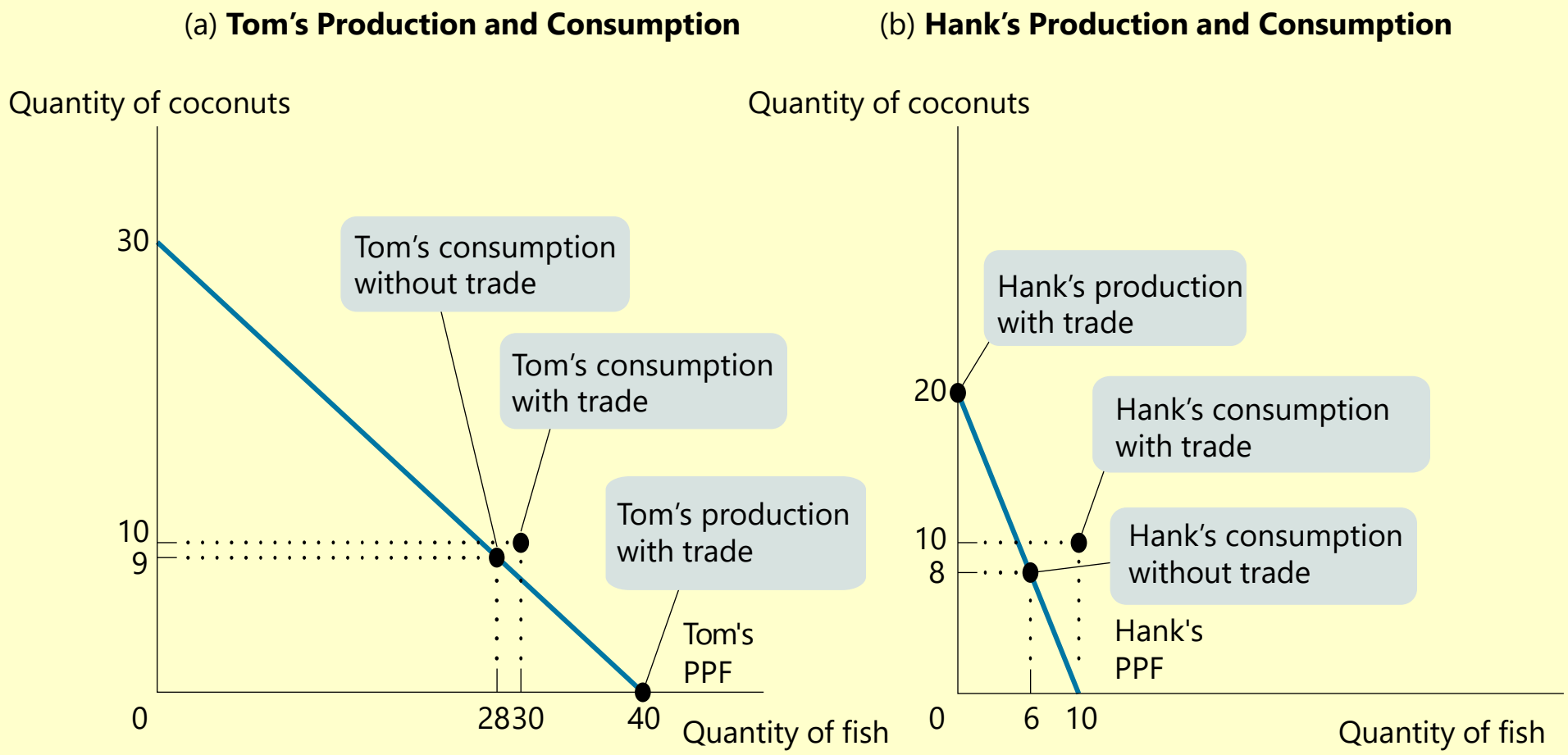
Tom and Hank's Opportunity Costs

	Tom's Opportunity Cost	Hank's Opportunity Cost
One fish	3/4 coconut	2 coconuts
One coconut	4/3 fish	1/2 fish

Specialize and Trade

- Both castaways are better off when they each specialize in what they are good at and trade.
- It's a good idea for Tom to catch the fish for both of them, because his opportunity cost of a fish in terms of coconuts not gathered is only 3/4 of a coconut, versus 2 coconuts for Hank.
- Correspondingly, it's a good idea for Hank to gather coconuts for the both of them.

Comparative Advantage and Gains from Trade



How the Castaways Gain from Trade

How the Castaways Gain from Trade

		Without Trade		With Trade		Gains from Trade
		Production	Consumption	Production	Consumption	
Tom	Fish	28	28	40	30	+2
	Coconuts	9	9	0	10	+1
Hank	Fish	6	6	0	10	+4
	Coconuts	8	8	20	10	+2

Both Tom and Hank experience gains from trade:

- Tom's consumption of fish increases by two, and his consumption of coconuts increases by one.
- Hank's consumption of fish increases by four, and his consumption of coconuts increases by two.

Comparative vs. Absolute Advantage

- An individual has a **comparative advantage** in producing a good or service if the opportunity cost of producing the good is lower for that individual than for other people.

- An individual has an **absolute advantage** in an activity if he or she can do it better than other people. Having an absolute advantage is not the same thing as having a comparative advantage.

Comparative advantage

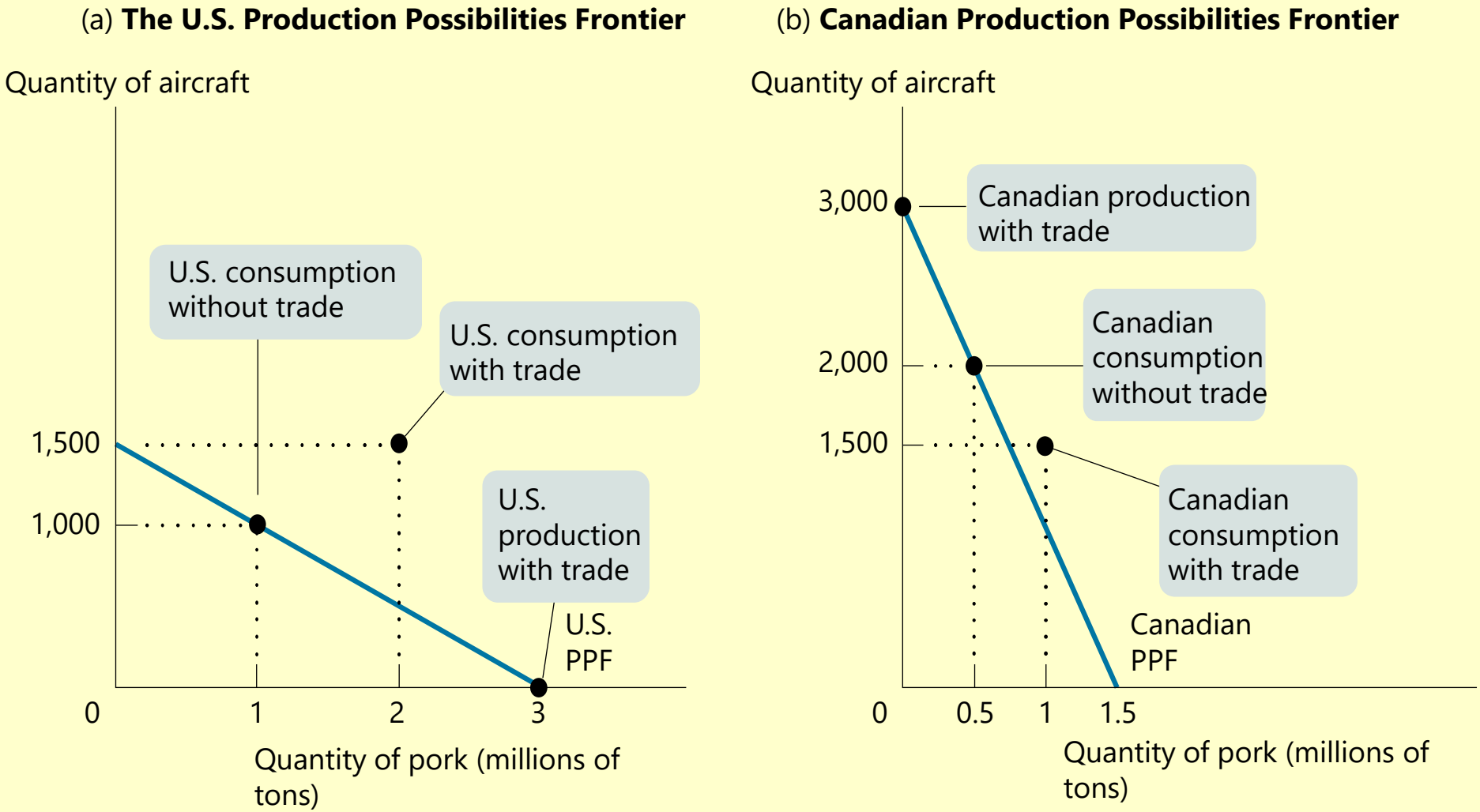
The theory of comparative advantage was formulated in 1817 by the economist David Ricardo to explain trade among countries.

David Ricardo

Tom vs. Hank – Absolute vs. Comparative

- Tom has an **absolute advantage** in both activities: he can produce more output with a given amount of input (in this case, his time) than Hank.
- But we've just seen that Tom can indeed benefit from a deal with Hank because *comparative*, not *absolute*, advantage is the basis for mutual gain.
- So Hank, despite his absolute disadvantage, even in coconuts, has a comparative advantage in coconut gathering.
- Meanwhile Tom, who can use his time better by catching fish, has a comparative *dis*advantage in coconut-gathering.

Comparative Advantage and International Trade



Comparative Advantage and International Trade

- Just like the example of Tom and Hank, the U.S. and Canada can both achieve mutual gains from trade.

- If the U.S. concentrates on producing *pork* and ships some of its output to Canada, while Canada concentrates on *aircraft* and ships some of its output to the U.S., both countries can consume more than if they insisted on being self-sufficient.

Using Models

- **Positive economics** is the branch of economic analysis that describes the way the economy actually works.

- **Normative economics** makes prescriptions about the way the economy *should* work.

- A **forecast** is a simple prediction of the future.
  - Economists are generally great at explaining events after the fact, but less good at anticipating their occurence.

Using Models

- Economists can determine correct answers for positive questions, but typically not for normative questions, which involve value judgments.
- The exceptions are when policies designed to achieve a certain prescription can be clearly ranked in terms of efficiency.
- It is important to understand that economists don’t use complex models to show their cleverness, but rather because they are not clever enough to analyze the real world as it is.

When and Why Economists Disagree

There are two main reasons economists disagree:

- Which simplifications to make in a model
- Values

When Economists Agree

Proposition (and percentage of economists who agree)

1. A ceiling on rents reduces the quantity and quality of housing available. (93%)
2. Tariffs and import quotas usually reduce general economic welfare. (93%)
3. Flexible and floating exchange rates offer an effective international monetary arrangement. (90%)
4. Fiscal policy (e.g., tax cut and/or government expenditure increase) has a significant stimulative impact on a less than fully employed economy. (90%)
5. If the federal budget is to be balanced, it should be done over the business cycle rather than yearly. (85%)
6. Cash payments increase the welfare of recipients to a greater degree than do transfers-in-kind of equal cash value. (84%)
7. A large federal budget deficit has an adverse effect on the economy. (83%)
8. A minimum wage increases unemployment among young and unskilled workers. (79%)
9. The government should restructure the welfare system along the lines of a "negative income tax." (79%)
10. Effluent taxes and marketable pollution permits represent a better approach to pollution control than imposition of pollution ceilings. (78%)