

# Trade-Offs, Comparative Advantage, Market System

Topic 2

# Learning Objectives

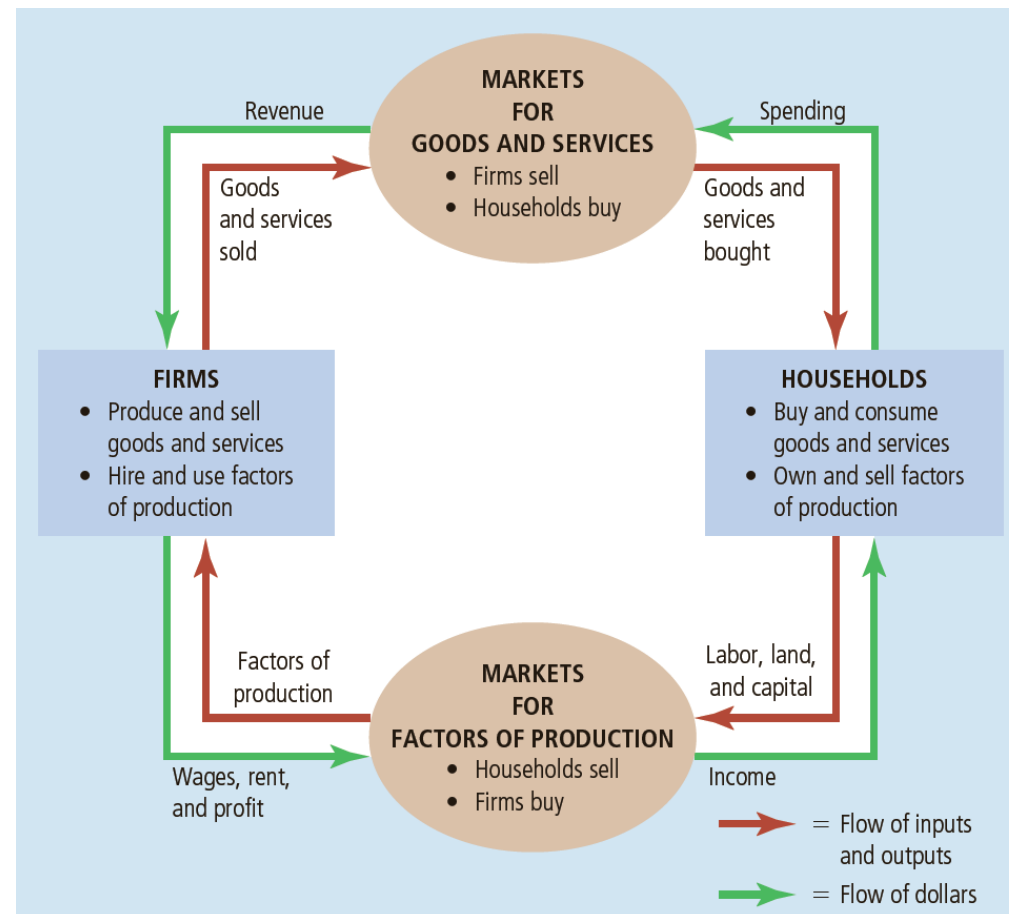
- Understand the concept of the production possibility frontier.
- Interpret slopes of the PPF as marginal costs.
- Understand the theory of comparative advantage.
- See why it is comparative, not absolute, cost advantage that matters for economic development.
- Explain how a market system works

# Production and Factors of Production

- Production
  - The process that transforms input (factors of production) into output (goods and services).
- Factors of production used to create different goods and services are broadly categorized as either:
  - Land/Natural Resources
  - Labor
  - Capital
  - Entrepreneurial Ability

# The Circular Flow of Income

- Depicts the interaction between households and firms.
- In other words, it illustrates the fundamental movements of resources between households and firms.



N.G.Mankiw (2016). Principles of Microeconomics. 8<sup>th</sup> Edition. CENGAGE Learning.

# The Gains from Free Markets

- The Free Market
  - Few government restrictions on how a good or service can be produced or sold or on how a factor of production can be employed.
  - Yet, governments must provide the legal environment, i.e. private property rights and enforcement of contracts, that allows markets to operate efficiently.
- The Market Mechanism or Smith's Invisible Hand of the Market
  - Key assumption: individuals act in a rational, self-interested way
  - Condition: prices must be flexible
  - Let the invisible hand of the market do its magic
- Role of the Entrepreneur in the Market System
  - Someone who operates a business, bringing together the factors of production to produce goods and services

# Scarcity, Trade-offs and Opportunity Cost

- Recall the economic problem:
  - What, How, and for whom to produce?
- Remember why societies must solve the economic problem:
  - **Scarcity** refers to a situation in which unlimited wants exceed the limited resources available to fulfill those wants.
  - Scarcity requires **trade-offs**, thus producing more of one good or service means producing less of another good or service.
  - **Opportunity Cost** is then the highest valued alternative that must be given up to engage in an activity.

# The Production Possibilities Frontier

- Scarcity imposes a constraint on society's use of productive resources.
- Thus, society faces tradeoffs regarding the level of production of different goods.
- The tradeoffs in production that confront a society can be illustrated by a Production Possibilities Frontier.
- Production Possibilities Frontier
  - a curve summarizing the limits of production that a society faces by illustrating the maximum amount of one good that can be produced for every possible level of production of another good given current resources and technology

# The Production Possibilities Frontier – Ctd.

- Assume an economy with 3 workers that only produces two goods, buns and sausages, so they can consume hot dogs. One worker can either produce 1 sausage or 2 buns.

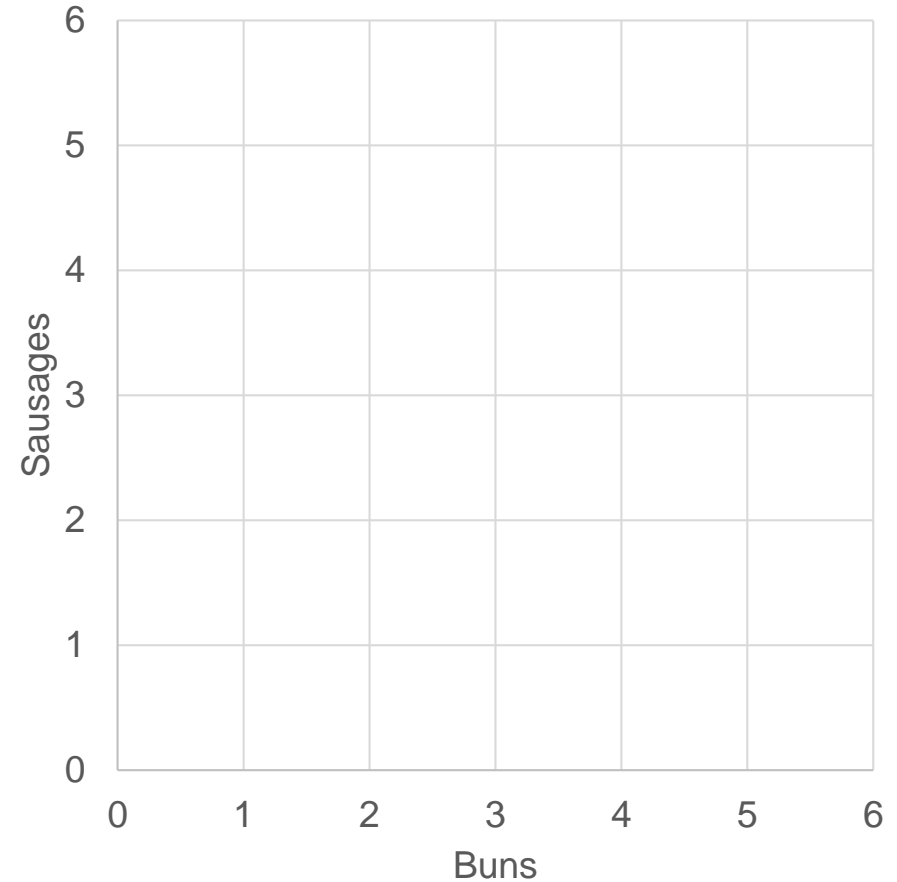
Allocation of Resources		Quantity Produced	
Sausages	Buns	Sausages	Buns



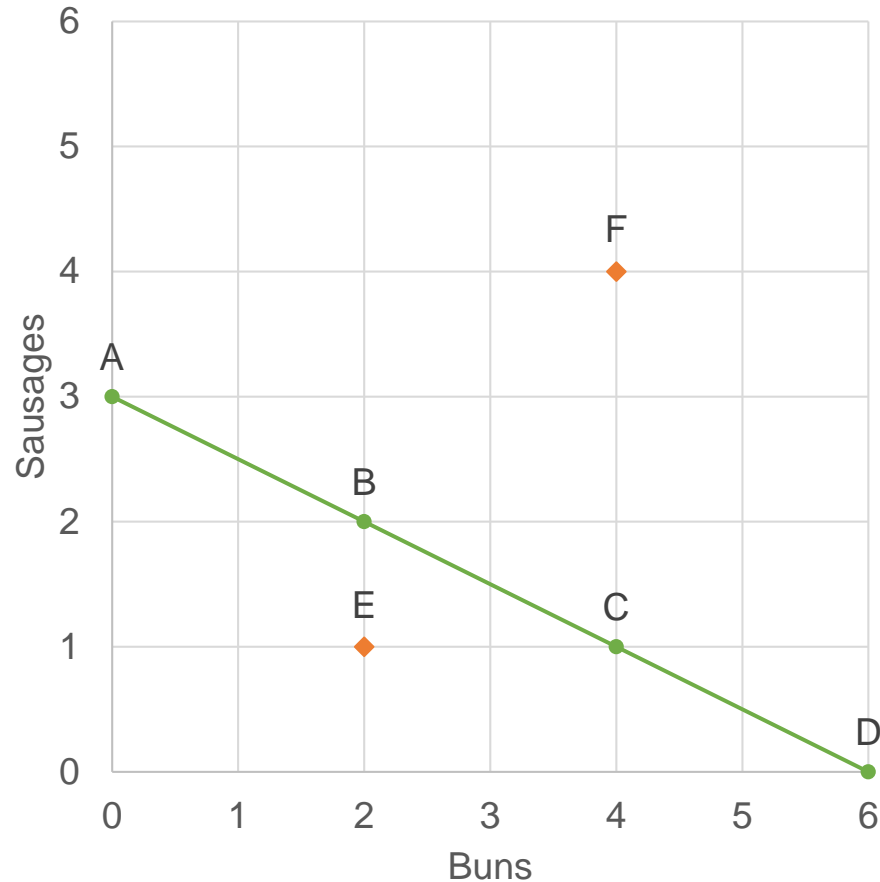
# The Production Possibilities Frontier – Ctd.

## Quantity Produced

Sausages	Buns
3	0
2	2
1	4
0	6

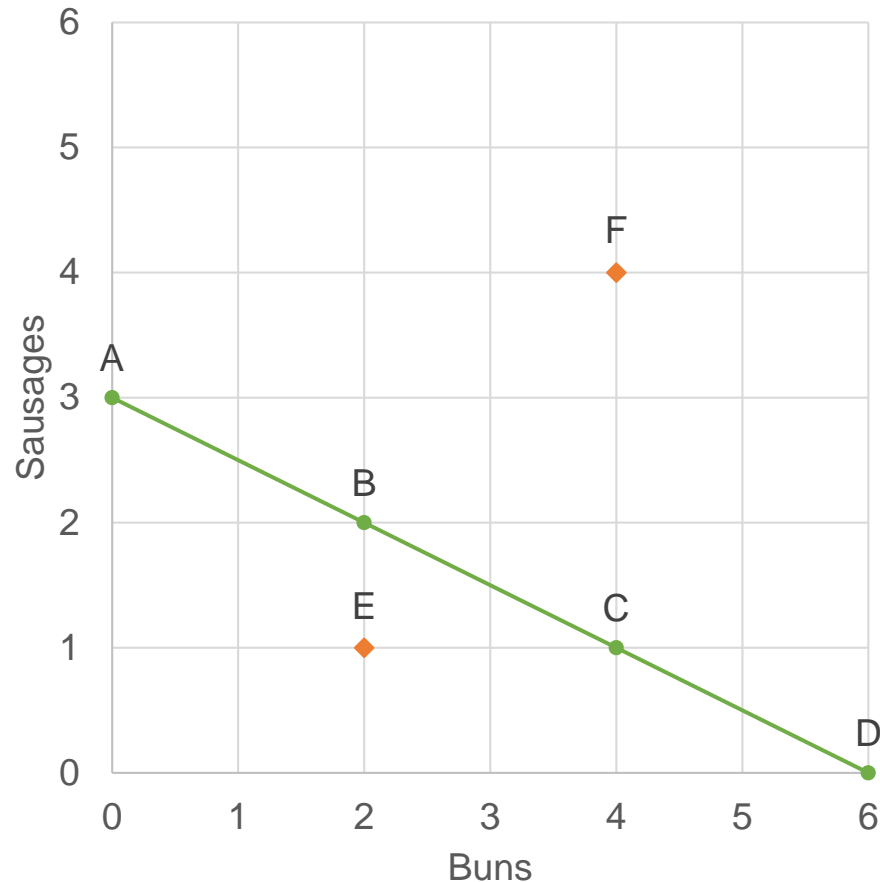


# The Production Possibilities Frontier – Ctd.



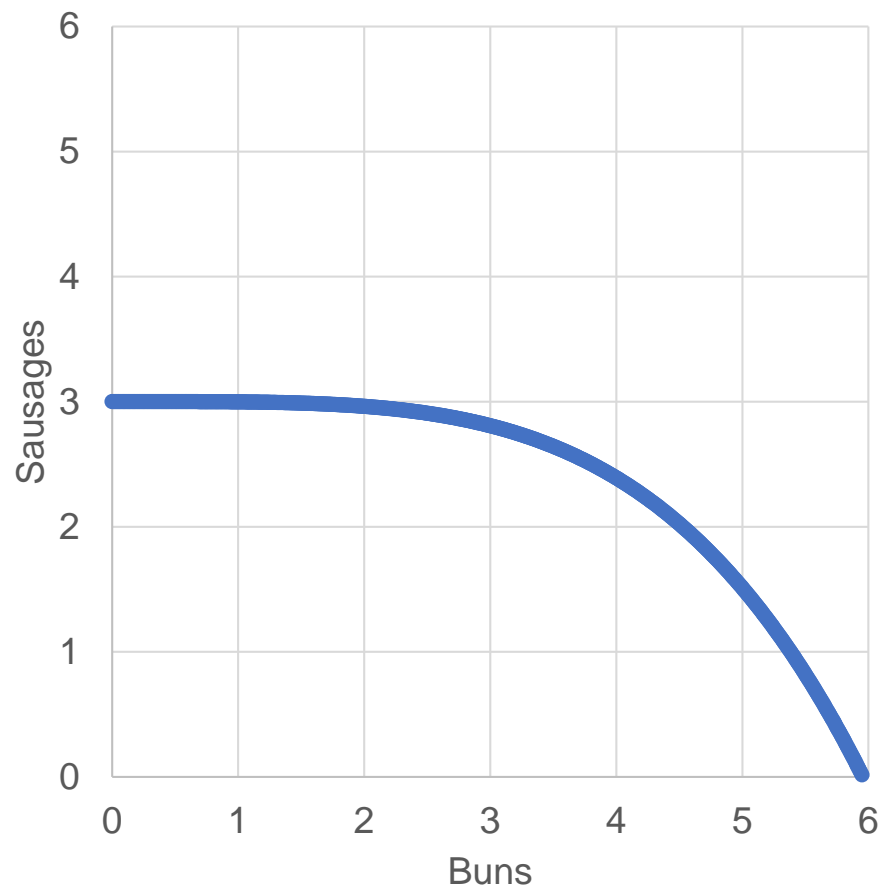
- What are the opportunity cost of producing one more bun?  
— \_\_\_\_\_forgone sausages
- What are the opportunity cost of producing one more sausage?  
— \_\_\_\_\_forgone buns

# The Production Possibilities Frontier – Ctd.



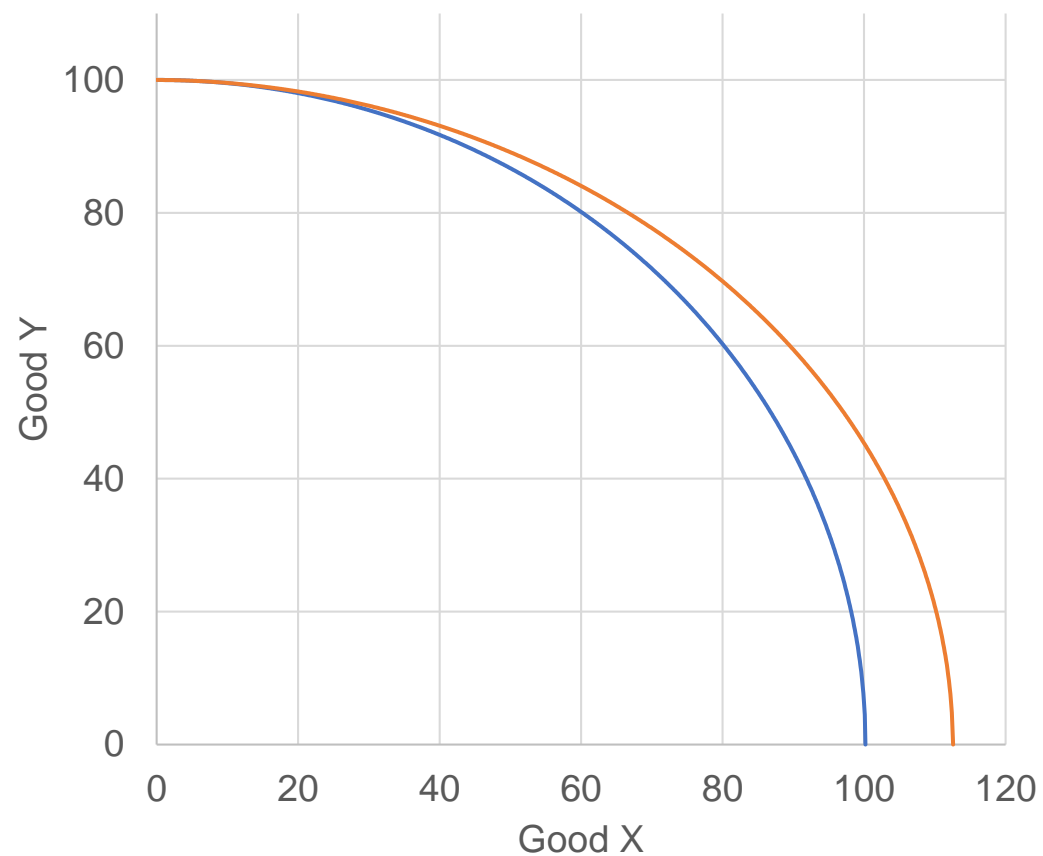
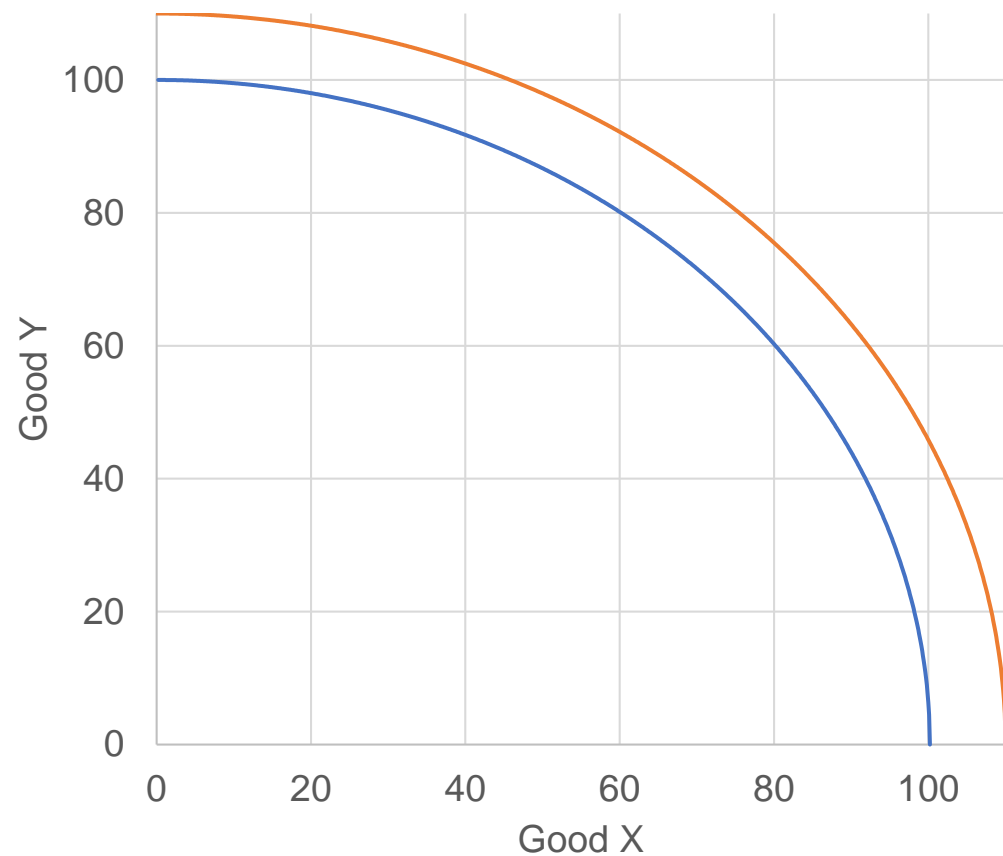
- A to D: production possibilities frontier showing its trade-off between producing buns and sausages.
- E: a combination that is inefficient because not all resources are used
- F: a combination that is unattainable with the current resources

# Marginal Opportunity Cost



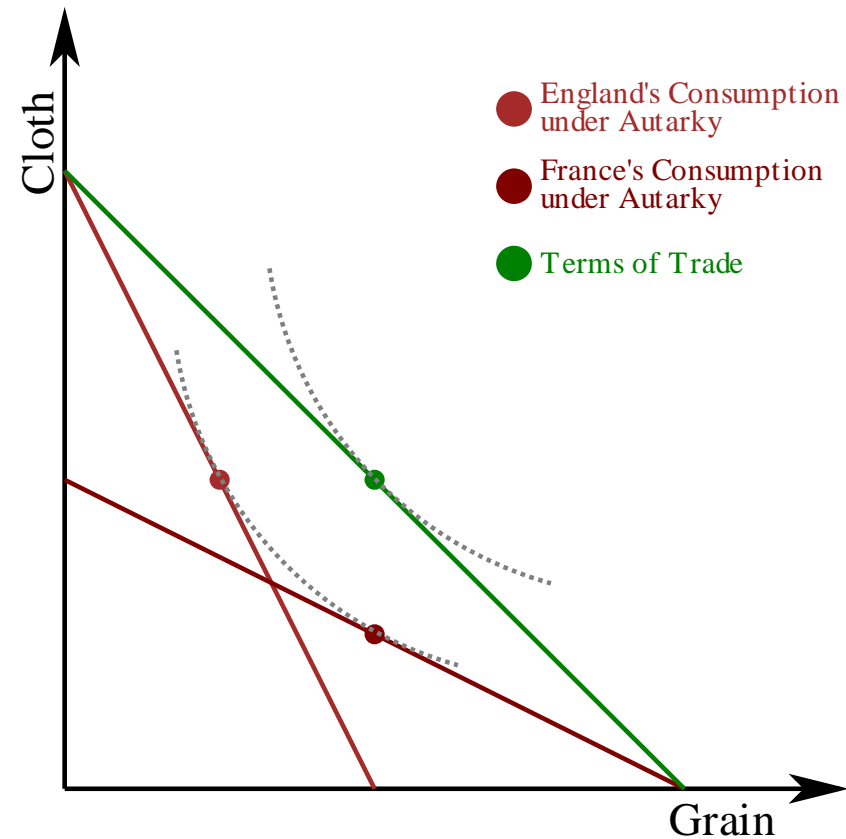
- As we move down the production possibilities frontier, we observe increasing marginal opportunity cost.
- The more resources already devoted to an activity, the smaller the payoff to devoting additional resources to that activity

# Economic Growth



# Ricardo's Theory of Comparative Advantage

- If countries participate in international trade, all benefit from gains from trade; thus, consuming more than they produce.
- Trade will still occur even if one country has an absolute advantage in all products.



# Theory of Comparative Advantage

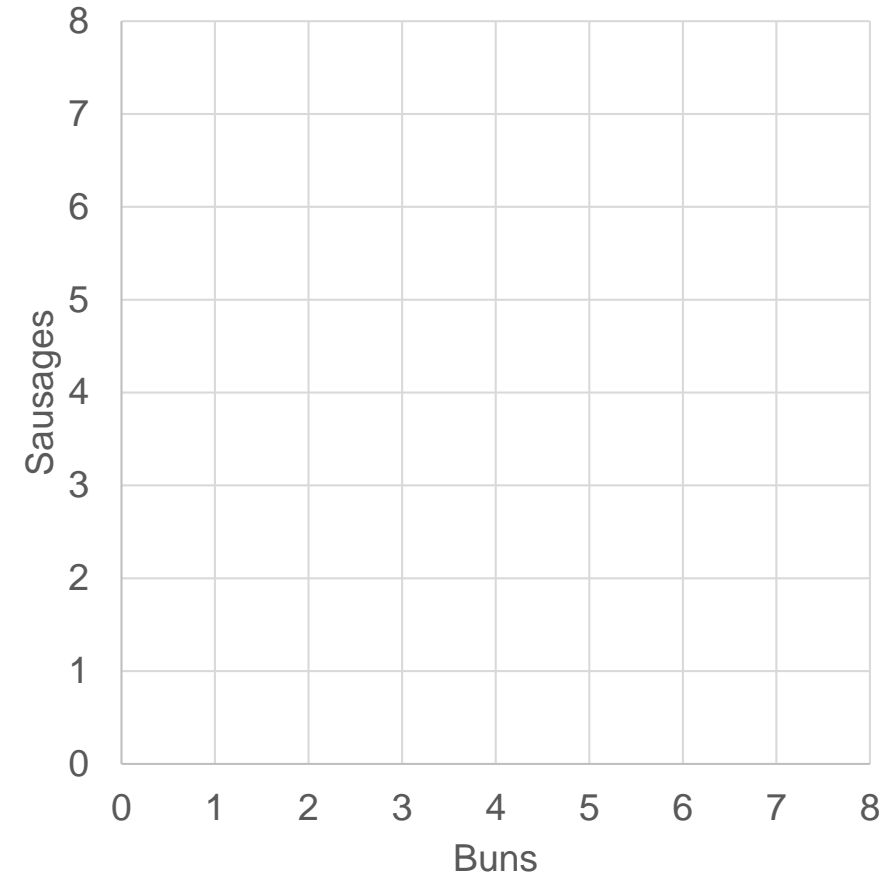
## Example

Assume the following:

- CAN
  - 3 workers
  - One worker can produce either one sausage or two buns
- USA
  - 8 workers
  - One worker can produce either one sausage or one bun
- Because both countries want to consume hot dogs, they always need to produce the same number of sausages and buns.
- Assume further that the USA and Canada agree to specialize and trade such that each country receives the autarky consumption levels of hot dogs plus half of the joint additional production of hot dogs.

# Allocation of Resources, Output, and PPF

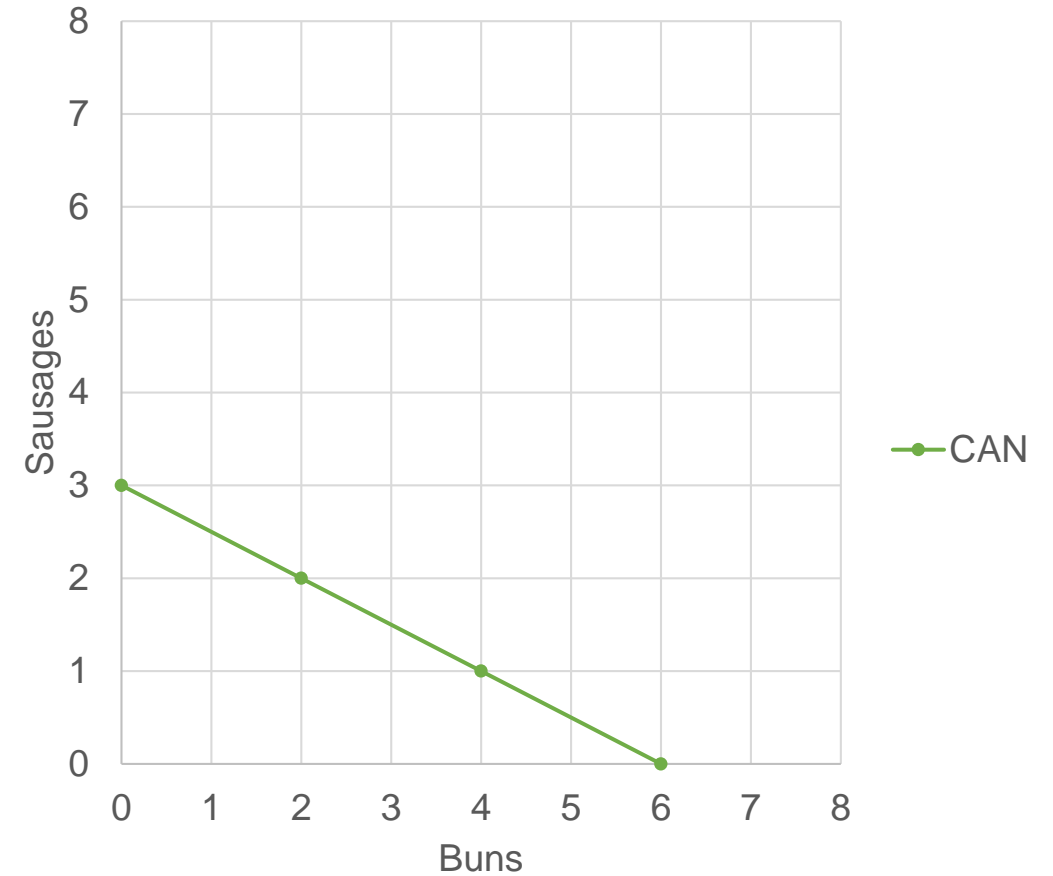
Allocation of Resources Canada		Quantity Produced Canada	
Sausages	Buns	Sausages	Buns



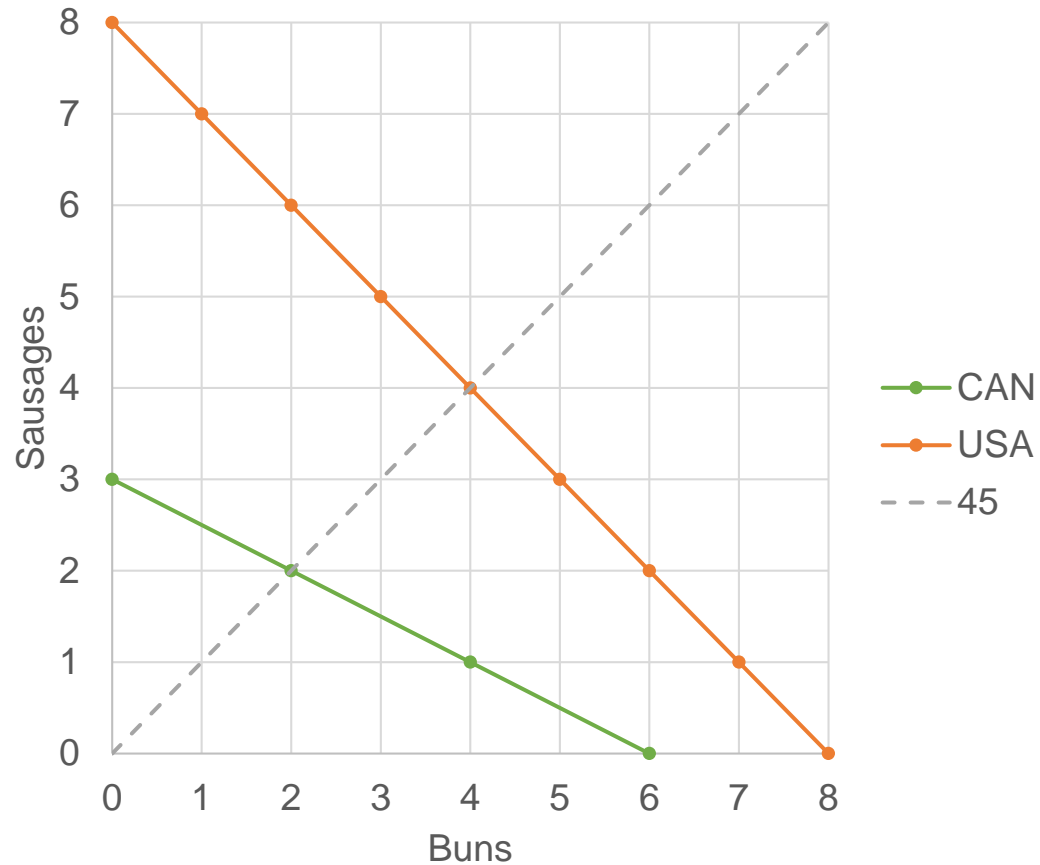


# Allocation of Resources, Output, and PPF

Allocation of Resources USA		Quantity Produced USA	
Sausages	Buns	Sausages	Buns



# Production and Consumption under Autarky



- Remember: both countries want to consume hot dogs.

Autarky		
	Sausages	Buns
CAN		
USA		
Total		

# Absolute vs. Comparative Advantage

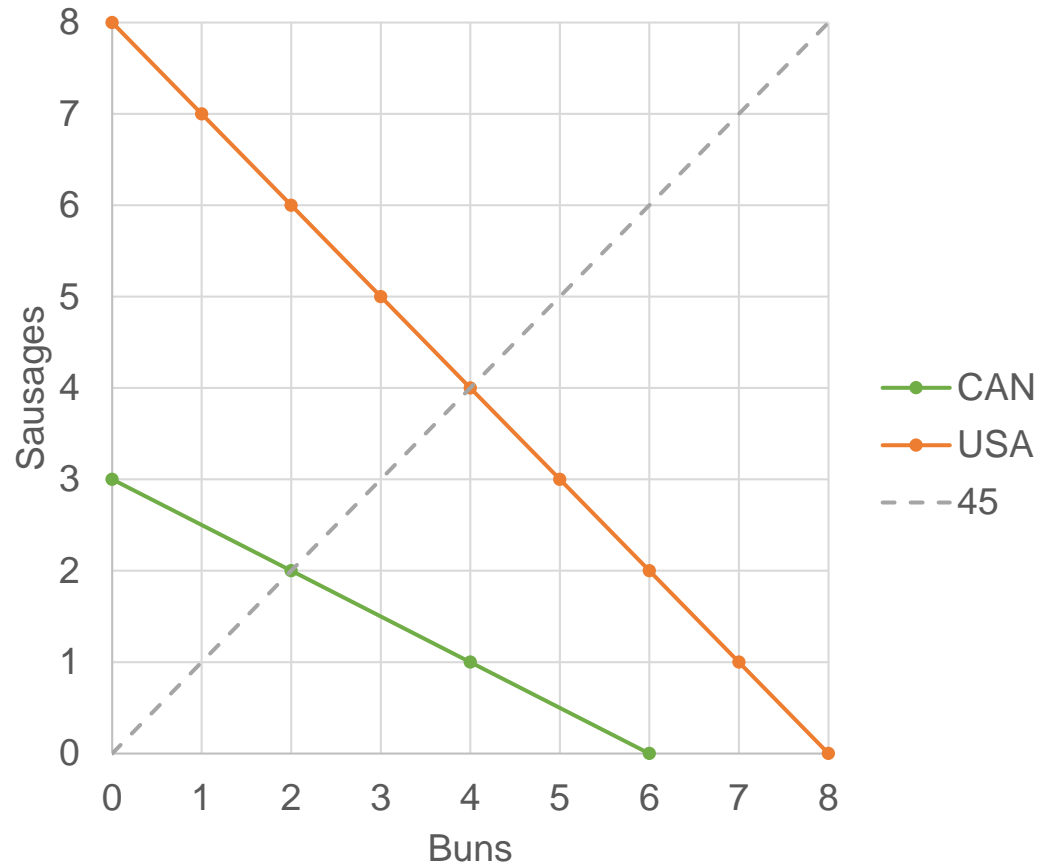
- Absolute Advantage

- The ability of an individual, firm, or a country to produce more of a good or service than competitors, maximizing the amount of resources available.
- Which country has the absolute advantage in our example?

- Comparative Advantage

- The ability of an individual, firm, or a country, to produce a good or service at a lower opportunity cost than competitors.
- Which country has the comparative advantage in our example?

# Identifying the Comparative Cost Advantage

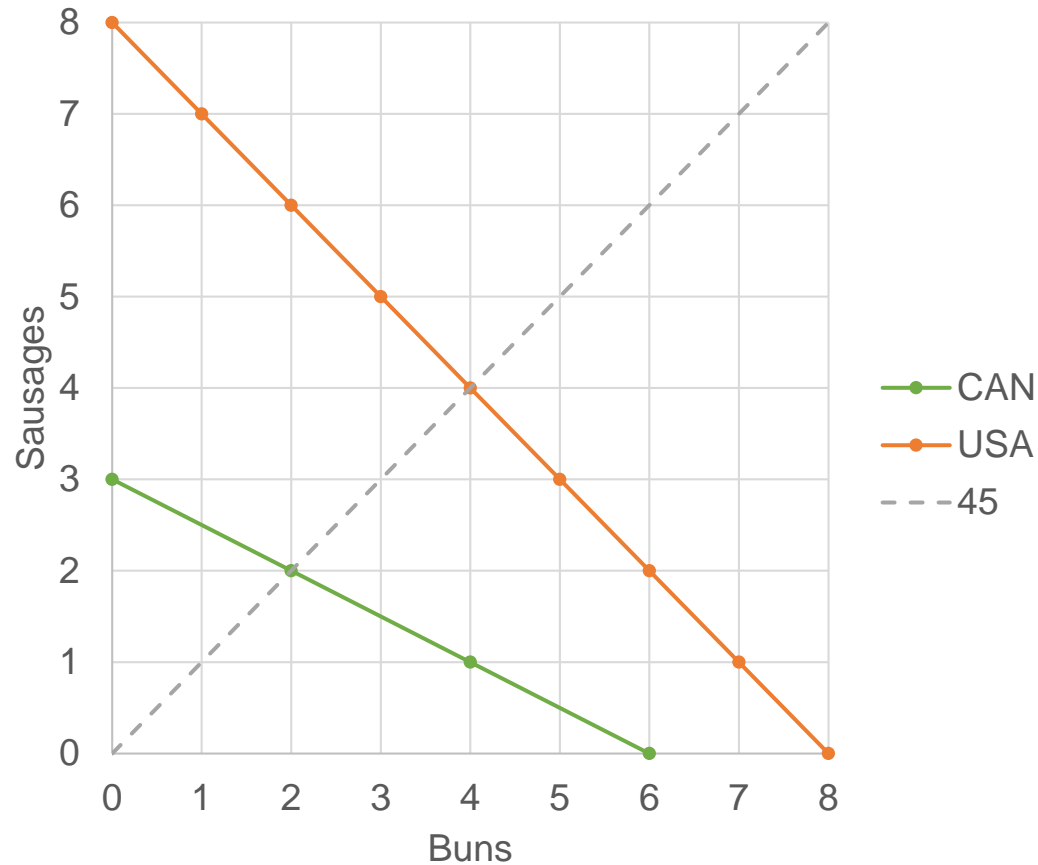


- How many sausages do you have to forgo in order to produce one extra bun?
- How many buns do you have to forgo in order to produce one extra sausage?

## Opportunity Cost

	CAN	USA
+1 bun		
+1 sausage		

# Identifying the Comparative Cost Advantage



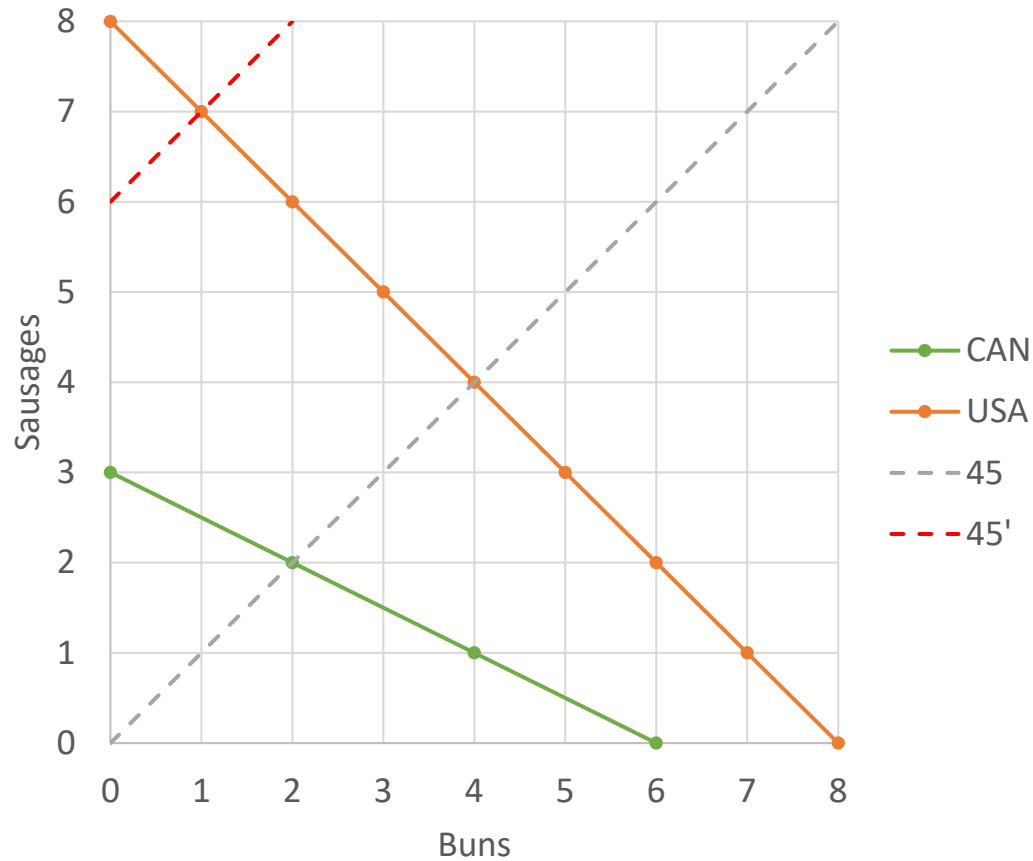
Opportunity Cost		
	CAN	USA
+1 bun	- 1/2 sausage	- 1 sausage
+1 sausage	- 2 buns	- 1 bun

- Since Canada can produce buns comparatively cheaper, Canada has a comparative cost advantage in producing buns.
- Since USA can produce sausages comparatively cheaper, the USA has a comparative cost advantage in producing sausages

# Production under Specialization

- Assume that the USA and Canada agree to specialize and trade such that each country receives the autarky consumption levels of hot dogs plus half of the joint additional production of hot dogs.
- Canada specializes in producing buns, the USA specializes in producing sausages.

# Production under Specialization



## Production under Specialization

	Sausages	Buns
CAN		
USA		
Total		

# Consumption after Trade

- How much is excess production? Sausages: \_\_\_\_\_ Buns: \_\_\_\_\_

	Production + Consumption under Autarky		Production under Specialization		Consumption after Trade	
	Sausage	Bun	Sausage	Bun	Sausage	Bun
CAN	2	2	0	6		
USA	4	4	7	1		
Total	6	6	7	7		

- Thus, CAN trades \_\_\_\_\_.
- Or, USA trades \_\_\_\_\_.



# Ricardo's Theory of Comparative Advantage

- The theory of comparative advantage is one of the most fundamental theories in economics.
- It shows that trade is not a zero-sum, but positive sum game.
- Understanding the theory of comparative advantage requires understanding the concepts of a production possibility frontier, marginal opportunity costs, comparative cost advantage, specialization, and trade.
- The theory of comparative advantage is not only an economic theory, but also a peacebuilding theory.
- Why would countries who can increase their consumption levels through trade go to war with each other?

# Summary

- The **circular flow diagram** illustrates the fundamental movements of resources between households and firms through markets.
- The **free market** requires a legal framework to work efficiently.
- The **PPF** illustrates the maximum amount of one good that can be produced for every possible level of production of another good.
- The **Theory of Comparative Advantage** shows that if countries participate in international trade, all benefit from gains from trade.