

## Models

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- \* A model is a simplified representation of a real situation that is used to better understand real-life situations.
- \* The “other things equal” assumption means that all other relevant factors remain unchanged.

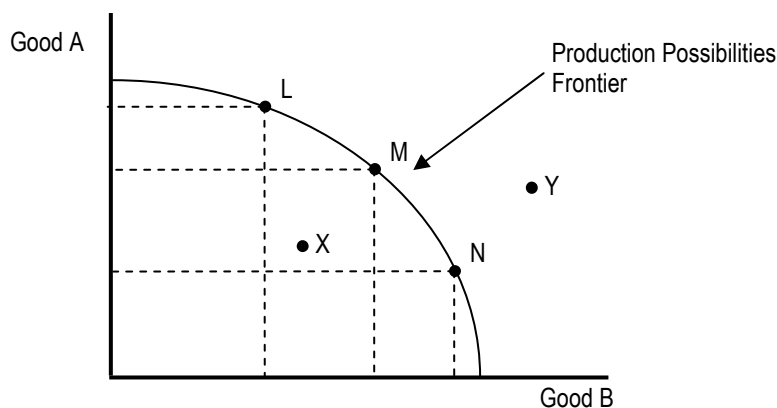
## Production Possibilities Frontier

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- \* The *production possibilities frontier* is a graph that shows the combinations of output that the economy can possibly produce given the available factors of production and the available production technology.
- \* Illustrates the problem of scarcity – wants will always exceed resources
- \* The bow-shaped curve is a number of maximum combinations of product A and product B that this hypothetical economy can produce in the short run.
- \* More A can be produced only with the sacrifice of good B.
- \* As a nation attempts to produce more of any good, it must accept giving up more and more and more of other goods.

### Assumptions of the Production Possibilities Curve

- \* Two goods are produced depicting choices and trade-offs for a nation.
- \* Full employment and full production are achieved allowing for maximum utilization of resources.
- \* Short-term time frame over which resources cannot be improved or increased. The output represented by the curve is limited



### The Law of Increasing Relative Cost

- \* As the output of good increases, the opportunity cost of producing additional units of this good increase
- \* In the conversion of production from A to B, the most convertible resources were shifted first. Once transferred they are consumed. The resources remaining may not be as convertible, and are therefore less productive in producing B. The yield of good B will be less. Less output per unit of input, increases the cost of producing good B. Hence, “increasing opportunity costs.”

### Reasons:

- \* The Law of Diminishing Returns – After some point, successive, equal-sized increases of a resource (factor), added to the fixed factors of other resources (factors), will result in smaller increases in output
- \* Diseconomies of Scale – Declining efficiencies of production; as output increases, average total cost/unit of production increases
- \* Factor Suitability – As economy increases production of a specific good, the available resources utilized become less suited for the production of that good

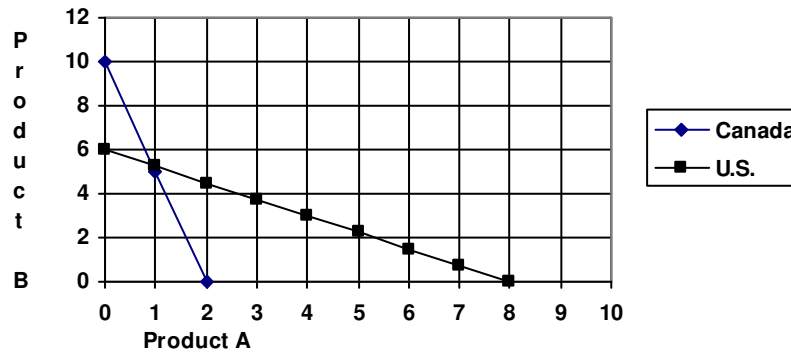
### Production Outside the PPC

- \* For a very limited time, a country can produce at a level outside of the PPC.
  - Results in overuse of resources and a potential future reduction in output as factories are closed for repairs, natural resources are exhausted and people recover from overwork
- \* A country can trade with another country to reach a point outside the PPC

## Absolute and Comparative Advantage

- \* Absolute Advantage: A person has an absolute advantage in the production of two goods if by using the same quantities of inputs, that person can produce more of both goods than another person. A country has an absolute advantage if its output per unit of inputs of all goods is larger than that of another country.
- \* Comparative Advantage: A person or country has a comparative advantage in an activity if that person or country can perform the activity at a lower opportunity cost than anyone else or any other country.

### Absolute Advantage Example

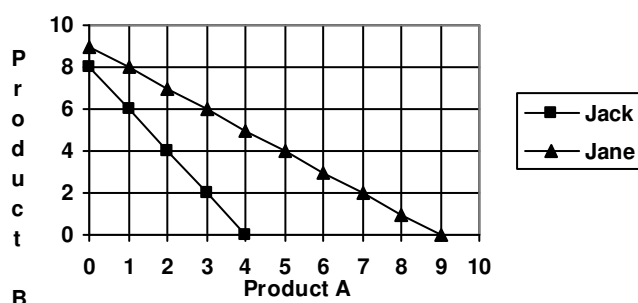


- \* Canada has an absolute advantage in producing Product B and the US has an absolute advantage in producing Product A
- \* Both countries will gain through trading. Canada will produce all B and the US will produce all A
- \* If Canada wants to produce one unit of Product A, it will cost 4 units of Product B. Therefore, Canada is willing to trade for less than 5 units of Product B for one unit of A.
- \* The cost to the US of producing one A is  $\frac{3}{4}$  of a B. Therefore, the US wants to receive more than  $\frac{3}{4}$  of B for each unit of A.
- \* Assume a ratio of 2Bs for 1A.
- \* Both countries are now at points outside their PPC. Both countries have gained from trade.

	To produce 1 product A	To produce 1 product B
Canada	5 B	$\frac{1}{5}$ A
U.S.	$\frac{3}{4}$ B	$\frac{4}{3}$ A

### Comparative Advantage Example

- \* Jane has an absolute advantage in producing both A and B.
- \* Jack will have a comparative advantage in producing either A or B. To find the advantage you must compare opportunity costs.
- \* Both parties can still gain from trade.
- \* Jack has a comparative advantage in producing B as his opportunity cost is lower.
- \* Jack should produce all Bs, Jane should produce all As and they will trade.
- \* The trading ratio for 1B should be between  $\frac{1}{2}$  A and 1 A. As if it is over 1A, Jane would be better off making the B herself and if it is less than  $\frac{1}{2}$  there is no benefit to trading for Jack.
- \* Say  $\frac{3}{4}$  A for 1 B, in whole numbers 3 A for 4 B.



	To produce 1 product A	To produce 1 product B
Jane	1 B	1 A
Jack	2 B	$\frac{1}{2}$ A