

Thinking Like an Economist

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- Every field of study has its own terminology
 - Mathematics
 - integrals ❖ axioms ❖ vector spaces
 - Engineering
 - ❖ Cognitive Radio Networks
 - ❖ Signal processing
 - ❖ Thermodynamics
 - ❖ Graph theory
 - ❖ Neural networks
 - Economics
 - ❖ supply ❖ opportunity cost ❖ elasticity ❖ consumer surplus ❖ demand ❖ comparative advantage ❖ deadweight loss
 - ❖ Inflation ❖ Government deficits ❖ Stock prices ❖ Petrol prices

The Economist as Scientist

- Economics try to address their subject with a scientist's objectivity
 - A Physicist approaches the study of **matter**
 - A Biologist approaches the study of **life**
 - **An Economist approach the study of the economy**
- ✓ After all, economists don't work with test tubes or telescopes
- ✓ But, the **economists** approach to study the **nation's economy** is all about the **scientific method**

The Science of Economic Analysis

- Economists use scientific analysis to develop theories or models that explain economic behaviour.
- ✓ **Amartya Sen (1998)** – developed a theoretical model for his contribution to welfare economics
- ✓ **Robert F Engle (2003)** – Analyzing economic time-series with time-varying volatility
- ✓ **Paul Krugman (2008)** – for his contribution to new trade theory and geographic distribution of economic activity
- ✓ **Abhijit Banerjee, Esther Duflo and Michael Kremer (2019)** – for their experimental approach to alleviating global poverty.

The Science of Economic Analysis

Broadly speaking, economists deal with any problem in a scientific manner through following steps:

1. Statement of theory or **hypothesis**.
2. Specification of the **mathematical model** of the theory
3. Specification of **econometric** model
4. Collecting the **data**
5. Estimation of the econometric model
6. Hypothesis **testing**
7. Forecasting or **prediction**
8. Using the model for control or **policy purposes**.

Examples:

- 1. What is the quantitative effect of changes in oil prices on exchange rate?*
- 2. Does trade diversification affect the productivity?*
- 3. Impact of COVID-19 on Indian financial markets/economy.*
- 4. Do public investment crowd out or crowd in private investment in BRICS?*
- 5. Do the outcome of IPL matches impact on stock returns in India?*

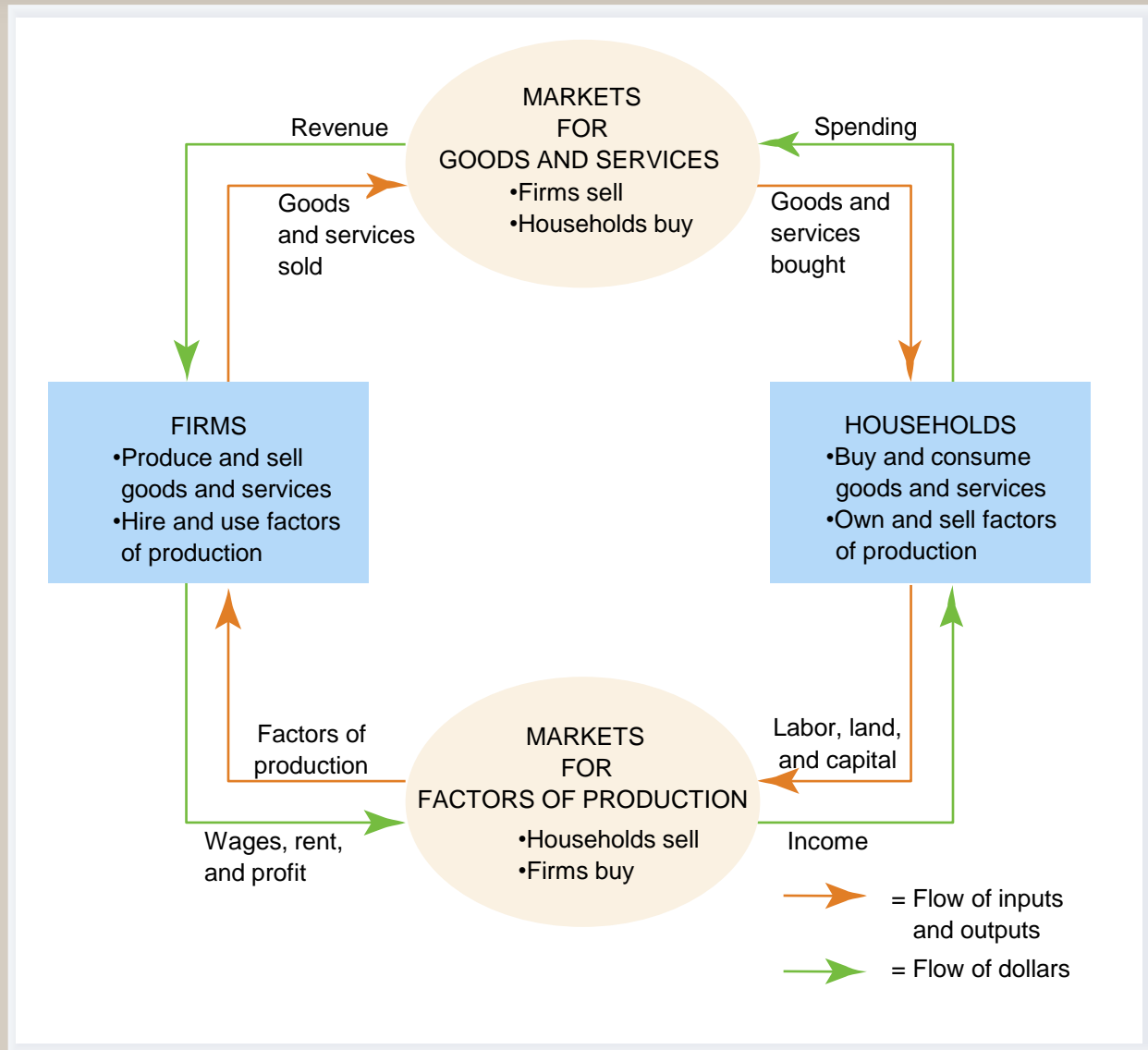
Economic Tools and Models

- Economists use tools to simplify reality in order to improve our understanding of the world
- Two of the most basic economic models include:
 - The Circular Flow Diagram
 - The Production Possibilities Frontier

Our First Model: The Circular-Flow Diagram

- The *circular-flow diagram* is a visual model of the economy that shows how rupees flow through markets among households and firms.

Figure 1 The Circular Flow



Our First Model: The Circular-Flow Diagram

- Firms
 - Produce and sell goods and services
 - Hire and use factors of production
- Households
 - Buy and consume goods and services
 - Own and sell factors of production

Our First Model: The Circular-Flow Diagram

- Markets for Goods and Services
 - Firms sell
 - Households buy
- Markets for Factors of Production
 - Households sell
 - Firms buy

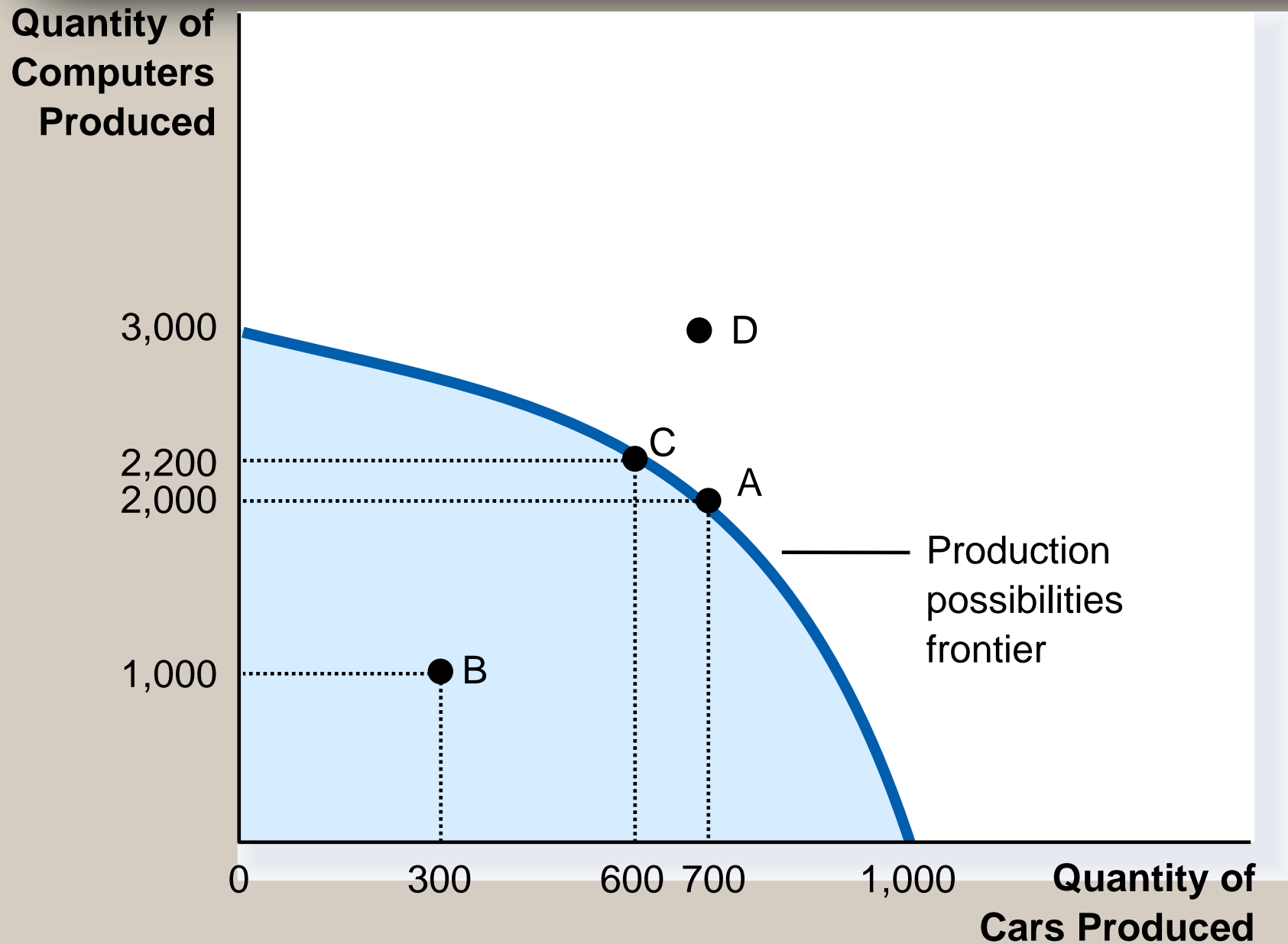
Our First Model: The Circular-Flow Diagram

- Factors of Production
 - Inputs used to produce goods and services
 - Land, labor, and capital

Our Second Model: The Production Possibilities Frontier

- 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.

Figure 2 The Production Possibilities Frontier

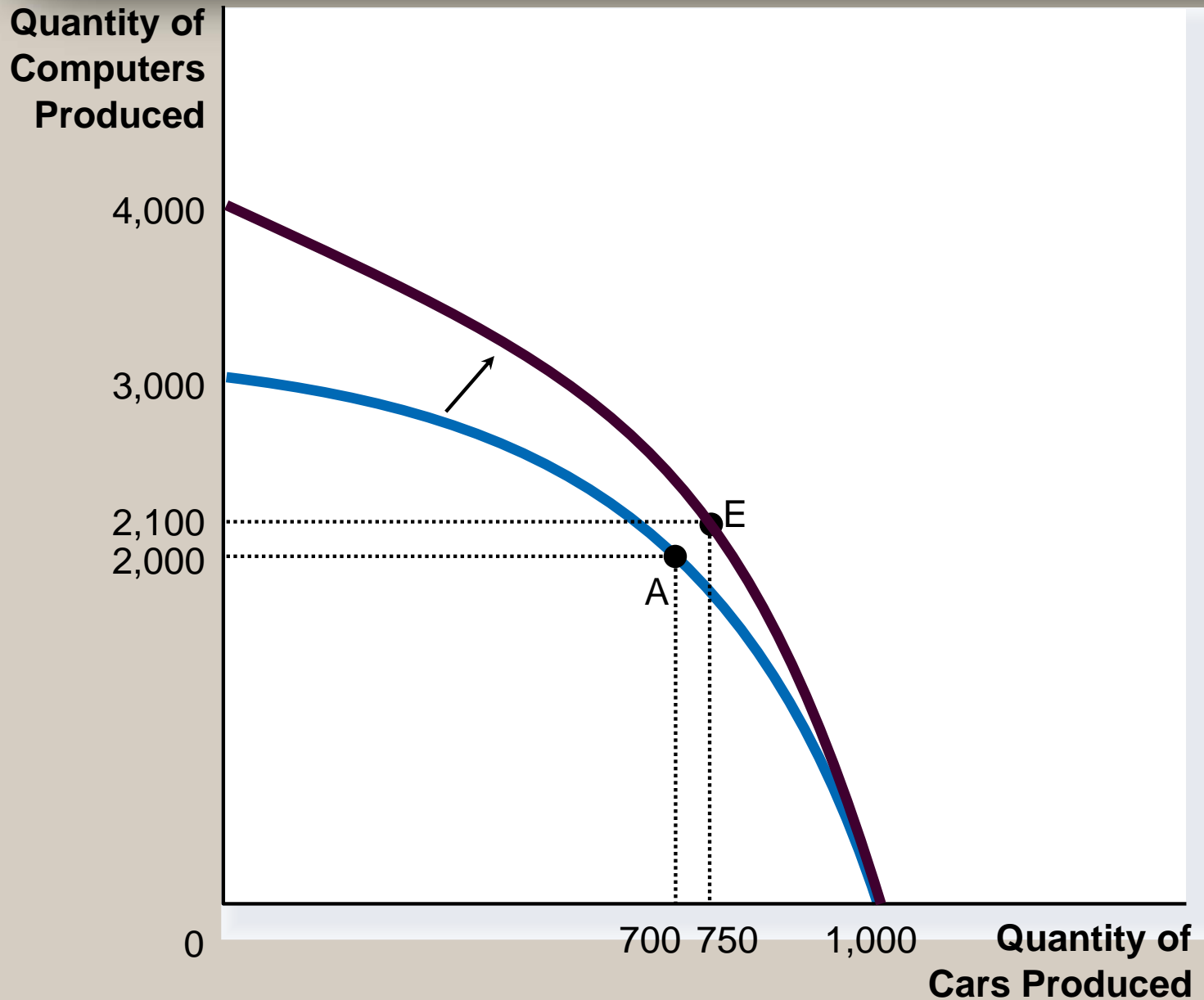


Our Second Model: The Production Possibilities Frontier

- Concepts Illustrated by the Production Possibilities Frontier
 - Efficiency
 - Tradeoffs
 - Opportunity Cost
 - Economic Growth



Figure 3 A Shift in the Production Possibilities Frontier



Law of Comparative Advantage...

- **Comparative advantage** means specialization by the individual, firm, region or country in a particular occupation. The ability to make something at a lower opportunity cost than other producers.
- The **Law of comparative advantage**, which states that the individual with the lowest opportunity cost of producing a particular good should specialize in producing that good.

...Law of Comparative Advantage

❖ **Example:** 2 countries: India and Switzerland

2 commodities: Pant & Shirt, Watch

For India: 1 hour to make a pair of pant & shirt

3 hours to make a watch

For Switzerland: 1 hour for making a watch and 2 hours for making a pair of pant-shirt.

Assumption: 1. 12 hours available to both the countries/per day.

2. Both the countries require to produce both the goods.

- ✓ Without trade, what is the outcome?
- ✓ With trade, comparative advantage, what would be the outcome?

Absolute advantage

- ❖ The ability to make something using fewer resources than other producers use
- If Switzerland produces both goods much faster than India.
- Does absolute advantage in both the goods mean specialization is no longer required?
- Try it. Scenario 2:

For India: 2 hour to make a pair of pant & shirt

3 hours to make a watch

For Switzerland: 1 hour for making a pair of pant & shirt and 30 minutes for making a watch.

Ans.....

POSITIVE VERSUS NORMATIVE ANALYSIS

- *Positive statements* are statements that attempt to describe the world as it is.
 - It can be proved or disproved by reference to facts
 - *Normative statements* are statements about how the world should be.
 - A statement that reflects an opinion, which can not be proved or disproved by reference to the facts.
- Economists concern themselves not *with how the economy does work* but *how it should work*.



POSITIVE VERSUS NORMATIVE ANALYSIS

• **Positive or Normative Statements?**

- Printing too much currency increase price levels.
- Higher government expenditures will widen the fiscal deficit.

- Unemployment rate should be lower.
- FIIs should not be allowed to withdraw their investment from Indian stock markets without a locking period.

POSITIVE VERSUS NORMATIVE ANALYSIS

- Positive or Normative Statements?
 - The income gains from a higher minimum wage should reduce the employment.
 - Donald Trump government should collect more service tax on higher education from international students.
 - FIIs should not be allowed to withdraw their investment from Indian stock markets without a locking period.