

# 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

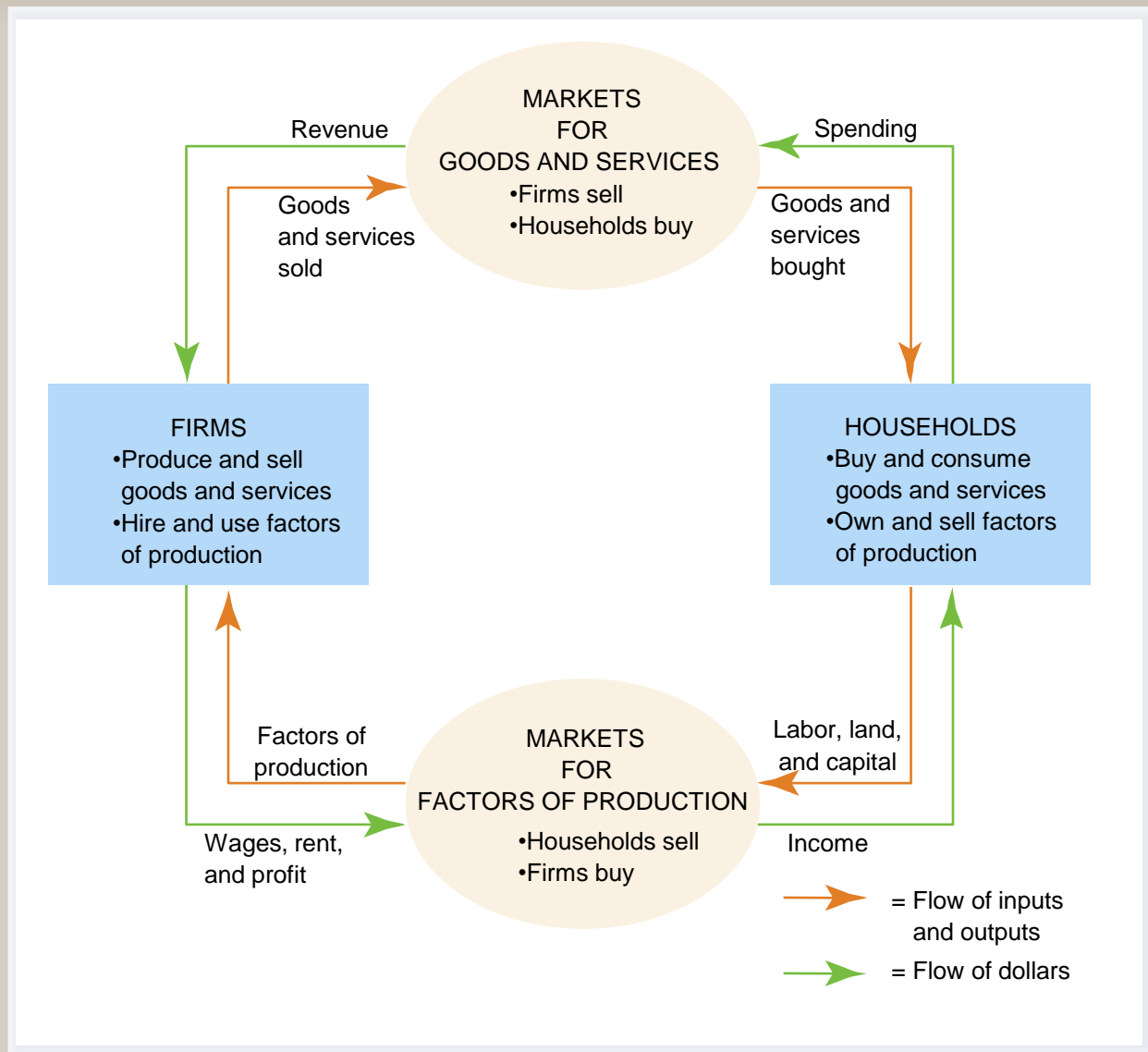
- Economists use tools to simplify reality in order to improve our understanding of the world
- Two of the most basic economic models include:
  - The Circular Flow Diagram
  - The Production Possibilities Frontier

# 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

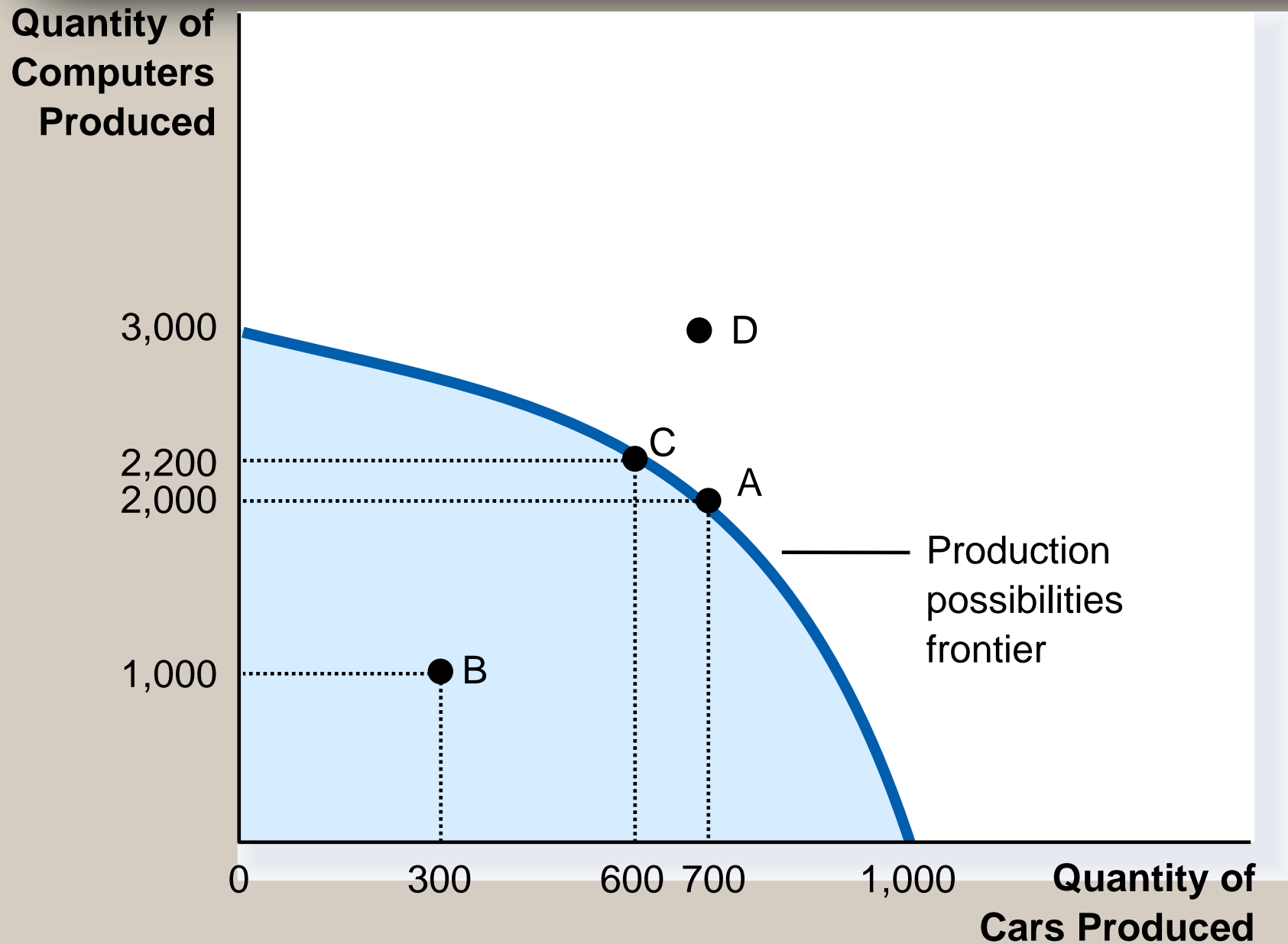
# Our First Model: The Circular-Flow Diagram

- 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

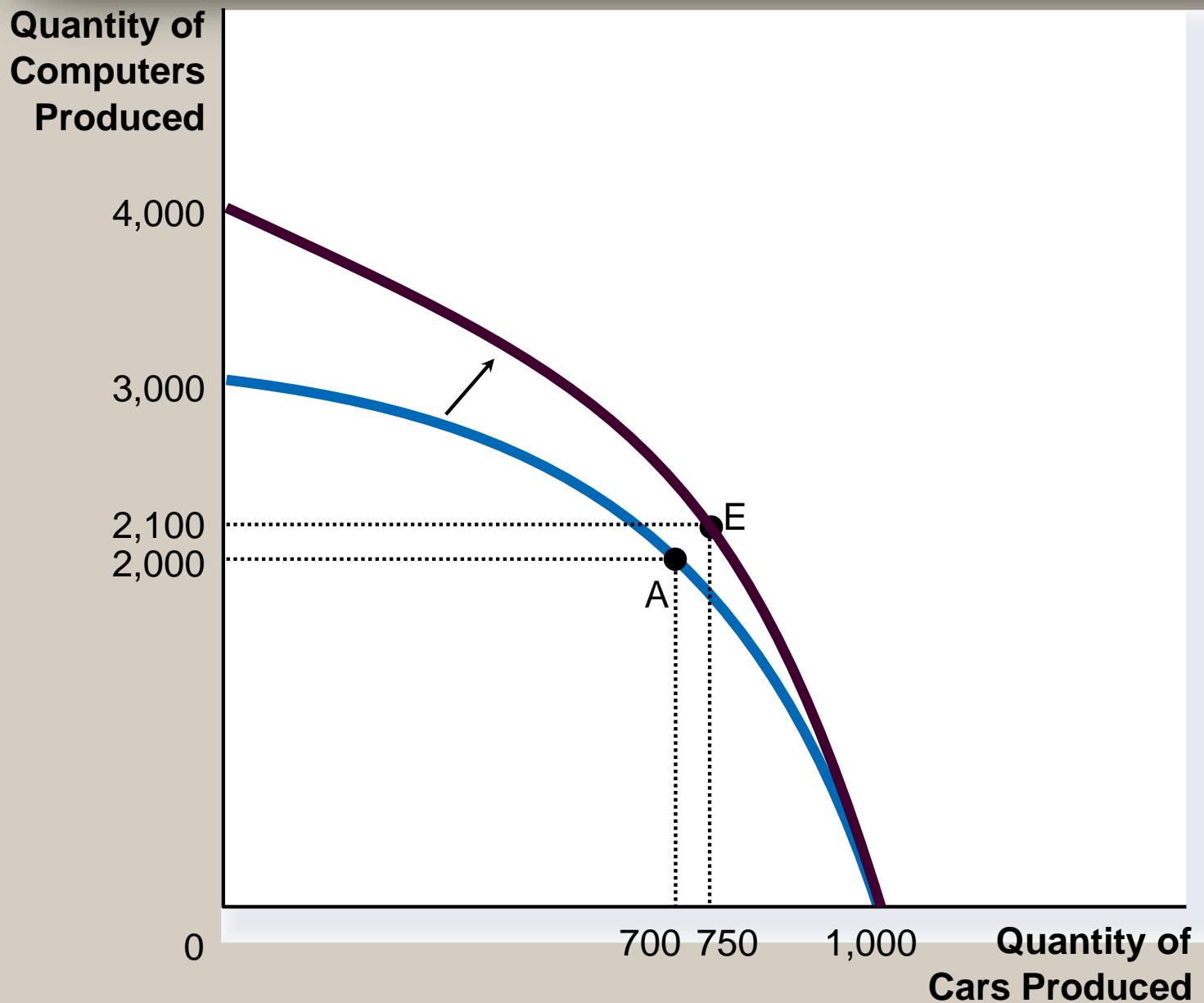


# Our Second Model: The Production Possibilities Frontier

- 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.