Introduction to Economics I
Lecture 7

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Firms

The main goal of a firm is to maximize profits.

Profit

Profit = Total Revenue – Total Cost

Total Revenue=PxQ (Price x Quantity sold)

Total Cost=Total Variable Cost + Total Fixed Cost

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Total Revenue

Total revenue is the total receipts a seller can obtain from selling goods or services to buyers. It can be written as $P \times Q$, which is the price of the goods multiplied by the quantity of the sold goods.

Total Revenue=PxQ (Price x Quantity sold)

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The Relationship Between Total Revenue and Quantity (with a linear demand)

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Total Cost

T**otal cost** is the total economic cost of production and is made up of variable cost, which varies according to the quantity of a good produced and includes inputs such as labor and raw materials, plus fixed cost, which is independent of the quantity of a good produced and includes inputs that cannot be varied in the short term:

Total Cost=Total Variable Cost + Total Fixed Cost

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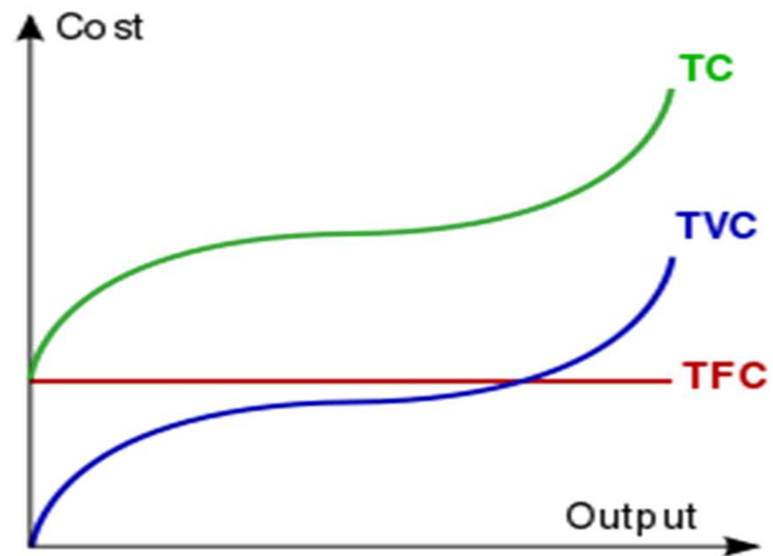
The Relationship Between Cost and Quantity



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Calculating the Cost I

•Total product (= Output) = Q
•Average Total Cost (ATC) = Total Cost / x
•Average Variable Cost (AVC) = Total Variable Cost / Q (This formula is cyclic with the TVC one)
•Average Fixed Cost (AFC) = ATC – AVC
•Total Cost (TC) = (AVC + AFC) × Q
•Total Variable Cost (TVC) = AVC × Q
•Total Fixed Cost (TFC) = TC – TVC
•Marginal Cost (MC) = Change in Total Costs / Change in Q
•Marginal Product (MP) = Change in Q / Change in Variable Factor
•Marginal Revenue (MR) = Change in Total Revenue / Change in Q
•Average Product (AP) = Q / Variable Factor

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Calculating the Cost II

Total Revenue (TR) = Price × Q
Average Revenue (AR) = TR / Q
Total Product (Q) = AP × Variable Factor
Profit = TR – TC or (P-ATC)*Q
Loss = TC – TR (if positive)
Break Even Point: value of Q such that AR = ATC
Profit Maximizing Condition: MR = MC
Marginal Revenue (MR) =The rate of change in (TR) with Q

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Production Function

In economics, a **production function** gives the technological relation between quantities of physical inputs and quantities of output of goods.

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Labor is the single factor of production.