

KEY TAKEAWAYS

CHAPTER 5

What Is the Theory of the Firm?

- In neoclassical economics, the theory of the firm is a microeconomic concept that states that a firm exists and make decisions to maximize profits.
- The theory of the firm influences decision-making in a variety of areas, including resource allocation, production techniques, pricing adjustments, and the volume of production.
- Modern takes on the theory of the firm sometimes distinguish between long-run motivations, such as sustainability, and short-run motivations, such as profit maximization.

Theory of the Firm vs. Theory of the Consumer

- The theory of the firm works side by side with the [theory of the consumer](#), which states that consumers seek to maximize their overall utility. In this case, utility refers to the perceived value a consumer places on a good or service, sometimes referred to as the level of happiness the customer experiences from the good or service.

- For example, when consumers purchase a good for \$10, they expect to receive a minimum of \$10 in utility from the purchased good.

Factors of Production

In order to produce goods and services which can be sold, and generate **revenue** and **profits**, a firm must purchase or hire scarce inputs, which are its **factors of production**. These factors can be fixed or variable.

Fixed factor inputs

Fixed factors are those that do not change as output is increased or decreased, and typically include premises such as its offices and factories, and capital equipment such as machinery and computer systems.

Variable factor inputs

Variable factors are those that do change with output, which means more are employed when production increases, and less when production decreases. Typical variable factors include labour, energy, and raw materials directly used in production.

Time periods for the firm

The short run

A firm is said to be in its *short run* when it can increase its output by using more variable factors, such as by hiring more workers, but not by increasing its fixed factors. In the short run firms do not use extra fixed factors, such as moving to new premises, to increase output. Therefore, in the short run at least one factor of production is fixed.

The long run

A firm enters its *long run* when it increases its scale of operations. Increasing scale means that no factor of production is fixed, and all are variable. Typically, this means that a firm expands by building or renting larger premises, purchasing or leasing new machinery and employing more workers.

Efficiency

Assessing the efficiency of firms is a powerful means of evaluating performance of firms, and the performance of markets and whole economies. There are several types of efficiency, including allocative and productive efficiency, technical efficiency,

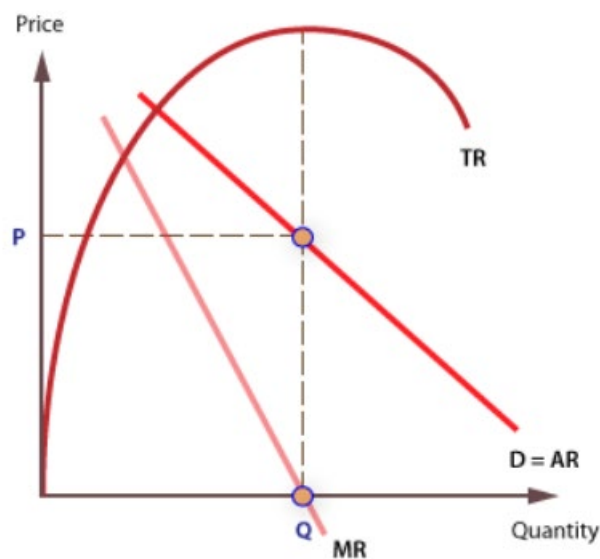
Revenue

Revenue is the income a firm retains from selling its products once it has paid indirect tax, such as VAT. Revenue provides the income which a firm needs to enable it to cover its **costs of production**, and from which it can derive a **profit**. Profit can be distributed to the owners, or shareholders, or retained in the business to purchase new capital assets or upgrade the firm's technology.

Revenue is measured in three ways:

Total revenue

Total revenue (TR), is the total flow of income to a firm from selling a given quantity of output at a given price, less tax going to the government. The value of TR is found by multiplying price of the product by the quantity sold.



Average revenue

Average revenue (AR), is revenue *per unit*, and is found by dividing TR by the quantity sold, Q. AR is equivalent to the price of the product, where $P \times Q/Q = P$, hence AR is also *price*.

Marginal revenue

Marginal revenue (MR) is the revenue generated from selling one extra unit of a good or service. It can be found by finding the change in TR following an increase in output of one unit. MR can be both positive and negative.

Profit

Profit has several meanings in economics. At its most basic level, profit is the reward gained by risk taking entrepreneurs when the **revenue** earned from selling a given amount of output exceeds the total **costs** of producing that output. This simple statement is often expressed as the *profit identity*, which states that:

$$\text{Total profits } \pi = \text{total revenue (TR)} - \text{total costs (TC)}$$

However, the concept of profit needs clarification because there is no standard definition of what counts as a cost.

Normal profit

In markets which are perfectly competitive, the profit available to a single firm in the long run is called normal

profit. This exists when total revenue, TR, equals total cost, TC. Normal profit is defined as the minimum reward that is just sufficient to keep the entrepreneur supplying their enterprise. In other words, the reward is just covering opportunity cost – that is, just better than the next best alternative.

To the economist, normal profit is a cost and is included in the total costs of production.

Super-normal (economic) profit

If a firm makes more than normal profit it is called super-normal profit. Supernormal profit is also called economic profit, and abnormal profit, and is earned when total revenue is greater than the total costs. Total costs include a reward to all the factors, including normal profit. This means that, when total revenue equals total cost, the entrepreneur is earning normal profit, which is the minimum reward that keeps the entrepreneur providing their skill, and taking risks.

The level of super-normal profits available to a firm is largely determined by the level of competition in a market – the more competition the less chance there is to earn super-normal profits.

Super-normal profit can be derived in three general cases:

Marginal profits

Marginal profit is the additional profit from selling one extra unit. A profit per unit will be achieved when marginal revenue (MR) is greater than marginal cost (MC). At profit maximisation, marginal profit is zero because $MC = MR$.

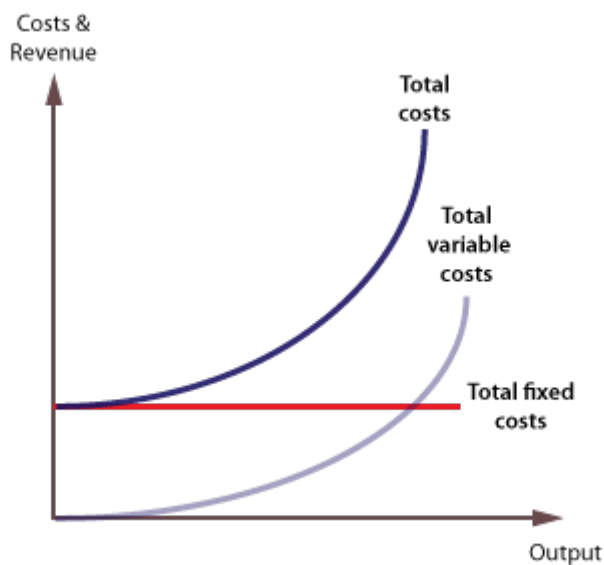
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Costs of production

Fixed and variable costs

Fixed costs are those that do not vary with output and typically include rents, insurance, depreciation, set-up costs, and normal profit. They are also called *overheads*.

Variable costs are costs that do vary with output, and they are also called *direct costs*. Examples of typical variable costs include fuel, raw materials, and some labour costs.



Total fixed costs

Given that *total fixed costs* (**TFC**) are constant as output increases, the curve is a horizontal line on the cost graph.

Total variable costs

The *total variable cost* (**TVC**) curve slopes up at an accelerating rate, reflecting the law of diminishing marginal returns.

Total costs

The *total cost* (**TC**) curve is found by adding total fixed and total variable costs. Its position reflects the amount of fixed costs, and its gradient reflects variable costs.