

Microeconomics

Topic 1: “Explain the concept of opportunity cost and explain why accounting profits and economic profits are not the same.”

Reference: Gregory Mankiw’s *Principles of Microeconomics*, 2nd edition, Chapter 1 (p. 3-6) and Chapter 13 (p. 270-2).

Scarcity

Economics is the study of how people make choices under scarcity. What is scarcity? Scarcity means that resources are limited. There are not enough resources available to satisfy everyone’s wants. This is clearly true for individuals. Your income is limited. You cannot buy everything you want, so you must choose between different alternatives. Your time is also limited. You cannot do everything you want to, so you are forced to choose between different alternatives. If you choose to spend the day at the beach, you give up going to class or working.

Opportunity Cost

This concept of scarcity leads to the idea of opportunity cost. The opportunity cost of an action is what you must give up when you make that choice. Another way to say this is: it is the value of the next best opportunity. Opportunity cost is a direct implication of scarcity. People have to choose between different alternatives when deciding how to spend their money and their time. Milton Friedman, who won the Nobel Prize for Economics, is fond of saying "there is no such thing as a free lunch." What that means is that in a world of scarcity, everything has an opportunity cost. There is always a trade-off involved in any decision you make.

The concept of opportunity cost is one of the most important ideas in economics. Consider the question, “How much does it cost to go to college for a year?” We could add up the direct costs like tuition, books, school supplies, etc. These are examples of explicit costs, i.e., costs that require a money payment. However, these costs are small compared to the value of the time it takes to attend class, do homework, etc. The amount that the student could have earned if she had worked rather than attended school is the implicit cost of attending college. Implicit costs are costs that do not require a money payment. The opportunity cost includes both explicit and implicit costs.

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The notion of opportunity cost helps explain why star athletes often do not graduate from college. The cost of going to school includes the millions of dollars they could earn as a professional athletes. If Kobe Bryant had decided to attend college for four years after high school instead of signing with the Lakers, his implicit cost would have been over \$10 million, the salary he earned in his first four years as a Laker.

Economic Profits and Accounting Profits

Economists use opportunity costs to understanding the behavior of firms as well as individuals. The goal of the firm is to maximize profit. Profit is equal to revenue minus cost:

$$\text{Profit} = \text{Total Revenue} - \text{Total Cost}$$

When economists refer to cost, they mean opportunity cost. The firm's cost of production includes explicit costs, like payroll, cost of raw materials and other direct costs. But it also includes implicit costs. One of the most important implicit costs is associated with the firm's capital. For example, consider Josephine Csun, who starts a business with \$100,000 she inherited from her rich uncle. The opportunity cost of this capital is what Josephine could have earned if she had taken the money and invested it elsewhere. If the rate of return on her best alternative investment opportunity is 10%, the implicit cost of capital is \$10,000. This would be added to her other explicit costs of doing business to compute the opportunity cost.

Accountants also compute costs. However, the costs that appear on an accountant's balance sheet are only explicit costs. The firm's accounting profit is equal to total revenue minus explicit costs. In the above example, an accountant would not count the \$10,000 in income that Josephine is giving up because she chose to use her \$100,000 to start her own business rather than investing it elsewhere. However, if Josephine had no rich uncle and had to borrow the \$100,000 from the bank at 10% interest, the interest payment of \$10,000 would appear as an explicit cost.

Economic profit is total revenue minus opportunity cost.

Accounting profit is total revenue minus explicit cost.

Opportunity costs are higher than explicit costs because opportunity costs also include implicit costs. As a result, economic profits are lower than accounting profits.

Accountants do not include implicit costs because they are difficult to measure. An accountant does not always know what investment opportunity was given up to use the money to start a business, but this does not mean opportunity costs are unimportant. Firms and individuals use them to make key decisions.

For example, consider Farmer Jones who owns a 100-acre farm. Farmer Jones is also a well-known banjo player in the area and could earn \$20 an hour giving banjo lessons. If he plants \$100 worth of seed, which takes 10 hours, the wheat produced can be sold for \$400. An accountant would count the cost of producing wheat as \$100 and calculate an accounting profit of \$300. However, an economist would calculate the cost of producing wheat as \$300. This \$300 opportunity cost includes both the \$100 explicit cost of seed and the \$200 implicit cost of Farmer Jones giving up teaching banjo lessons to plant wheat. Farmer Jones earns an economic profit of \$100 (\$400 minus \$300), which is lower than his accounting profit of \$300 (\$400 minus \$100). If Farmer Jones could hire a

laborer to plant his wheat for \$5/hour, he should do so. His economic profit would increase even though his explicit costs would rise, because he would now be free to earn \$20/hour giving banjo lessons.

Summary: The opportunity cost of *any* decision is what is given up as a result of that decision. Opportunity cost includes both explicit costs and implicit costs. The firm's economic profits are calculated using opportunity costs. Accounting profits are calculated using only explicit costs. Therefore, accounting profits are higher than economic profits.