

## >> Making Decisions

### Section 1: Opportunity Cost and Decisions

In Chapter 1 we introduced some core principles underlying economic decisions. We've just seen two of those principles at work in our tale of two invasions. The first is that *resources are scarce*—the invading Allies had a limited number of landing craft, and the invading Germans had a limited number of divisions. Because resources are scarce, the true cost of anything is its *opportunity cost*—that is, the real cost of something is what you must give up to get it. When it comes to making decisions, it is crucial to think in terms of opportunity cost, because the opportunity cost of an action is often considerably more than the simple monetary cost.

#### Explicit Versus Implicit Costs

Suppose that, after graduating from college, you have two options: to go to school for an additional year to get an advanced degree or to take a job immediately. You would like to take the extra year in school but are concerned about the cost.


But what exactly is the cost of that additional year of school? Here is where it is important to remember the concept of opportunity cost: the cost of that year spent getting an advanced degree is what you forgo by not taking a job for that year.




An **explicit cost** is a cost that involves actually laying out money.

An **implicit cost** does not require an outlay of money; it is measured by the value, in dollar terms, of the benefits that are forgone.

This cost, like any cost, can be broken into two parts: the *explicit costs* of the year's schooling and the *implicit costs*.

 An **explicit cost** is a cost that requires an outlay of money. For example, the explicit cost of the additional year of schooling includes tuition. An **implicit cost**, on the other hand, does not involve an outlay of money; instead, it is measured by the value, in dollar terms, of all the benefits that are forgone. For example, the implicit cost of the year spent in school includes the income you would have earned if you had taken that job instead.

A common mistake, both in economic analysis and in real business situations, is to ignore implicit costs and focus exclusively on explicit costs. But often the implicit cost of an activity is quite substantial—indeed, sometimes it is much larger than the explicit cost.

 Table 7-1 gives a breakdown of hypothetical explicit and implicit costs associated with spending an additional year in school instead of taking a job. Explicit costs consist of tuition, books, supplies, and a home computer for doing assignments—all of which require you to spend money. Implicit costs are the salary you would have earned if you had taken a job instead. As you can see, the forgone salary is \$35,000

**TABLE 7-1**

**Opportunity Cost of an Additional Year of School**

Explicit costs		Implicit costs	
Tuition	\$7,000	Forgone salary	\$35,000
Books and supplies	1,000		
Home computer	1,500		
<b>Total explicit cost</b>	<b>9,500</b>	<b>Total implicit cost</b>	<b>35,000</b>
<b>Total opportunity cost = Total explicit cost + Total implicit cost = \$44,500</b>			



and explicit costs are \$9,500, making implicit costs more than three times as much as explicit costs. So ignoring the implicit costs of an action can lead to a seriously misguided decision.



There is another, slightly different way of looking at the implicit costs in this example that can deepen our understanding of opportunity cost. The forgone salary is the cost of using your own resources—your time—in going to school rather than working. The use of your *time* for more schooling, despite the fact that you don't have to spend any money, is nonetheless costly to you. This illustrates an important aspect of opportunity cost: in considering the cost of an activity, you should include the cost of using any of your own resources for that activity. You can calculate the cost of using your own resources by determining what they would have earned in their next best use.



## Accounting Profit Versus Economic Profit

As the example of going to school suggests, taking account of implicit as well as explicit costs can be very important for individuals making decisions. The same is true of businesses.

Consider the case of Kathy's Kopy Shoppe, a small business operating in a local shopping center. Kathy makes copies for customers, who pay for her services. Out of that revenue, she has to pay her expenses: the cost of supplies and the rent for her store space. We suppose that Kathy owns the copy machines themselves. This year Kathy has \$100,000 in revenue and \$60,000 in expenses. Is her business profitable?

At first it might seem that the answer is obviously yes: she receives \$100,000 from her customers and has expenses of only \$60,000. Doesn't this mean that she has a profit of \$40,000? Not according to her accountant, who reduces the number by \$5,000 for the yearly *depreciation* (reduction in value) of the copy machines. Depreciation occurs because machines wear out over time. The yearly depreciation amount reflects what an accountant estimates to be the reduction in the value of the

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The **accounting profit** of a business is the business's revenue minus the explicit costs and depreciation.

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The **economic profit** of a business is the business's revenue minus the opportunity cost of its resources. It is often less than the accounting profit.

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The **capital** of a business is the value of its assets—equipment, buildings, tools, inventory, and financial assets.

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machines due to wear and tear that year. This leaves \$35,000, which is the business's **accounting profit**. Basically, the accounting profit of a company is its revenue minus its explicit costs and depreciation. The accounting profit is the number that Kathy has to report on her income tax forms and that she would be obliged to report to anyone thinking of investing in her business.

Accounting profit is a very useful number, but suppose that Kathy wants to decide whether to keep her business going or to do something else. To make this decision, she will need to calculate her **economic profit**—the revenue she receives minus her opportunity cost, which may include implicit as well as explicit costs. In general, when economists use the simple term *profit*, they are referring to economic profit. (We will adopt this simplification in later chapters of this book.)

Why does Kathy's economic profit differ from her accounting profit? Because she may have implicit costs over and above the explicit costs her accountant has calculated. Businesses can face implicit costs for two reasons. First, a business's **capital**—its equipment, buildings, tools, inventory, and financial assets—could have been put to use in some other way. If the business owns its capital, it does not pay any money for its use, but it pays an implicit cost because it does not use the capital in some other way. Second, the owner devotes time and energy to the business that could have been used elsewhere—a particularly important factor in small businesses, whose owners tend to put in many long hours.

If Kathy had rented her copy machines from the manufacturer, their rent would have been an explicit cost. But because Kathy owns her own machines, she does not pay rent on them and her accountant deducts an estimate of their depreciation in the profit statement. However, this does not account for the opportunity cost of the machines—what Kathy forgoes by owning them. Suppose that instead of using the machines for her own business, the best alternative Kathy has is to sell them for \$50,000 and put the money into a bank account where it would earn yearly interest of \$3,000. This \$3,000 is an implicit cost of running the business.

The **implicit cost of capital** is the opportunity cost of the capital used by a business—the income the owner could have realized from that capital if it had been used in its next best alternative way.

It is generally known as the **implicit cost of capital**, the opportunity cost of the capital used by a business; it reflects the income that could have been realized if the capital had been used in its next best alternative way. It is just as much a true cost as if Kathy had rented the machines instead of owning them.

Finally, Kathy should take into account the opportunity cost of her own time. Suppose that instead of running her own shop, she could earn \$34,000 as an office manager. That \$34,000 is also an implicit cost of her business.

Table 7-2 summarizes the accounting for Kathy's Kopy Shoppe, taking both explicit and implicit costs into account. It turns out, unfortunately, that although the business makes an accounting profit of \$35,000, its economic profit is actually negative. This means that Kathy would be better off financially if she closed the business and devoted her time and capital to something else.

**TABLE 7-2**

**Profits at Kathy's Kopy Shoppe**

Revenue	\$100,000
Explicit costs	60,000
Depreciation	5,000
<b>Accounting profit</b>	<b>35,000</b>
<i>Implicit costs of business</i>	
Income Kathy could have earned on capital in the next alternative way:	3,000
Income Kathy could have earned as manager:	34,000
<b>Economic profit</b>	<b>-2,000</b>

In real life, discrepancies between accounting profits and economic profits are extremely common. This is a message that has found a receptive audience among real-world businesses. ■

