

The Profit Game

Measuring Business Performance

Economists and accountants differ in how they look at costs and profits. Although economists consider the broader picture of opportunity costs, they must still understand the concepts accountants use to measure a business's performance. Business performance is measured using two basic accounting records: *balance sheets* and *income statements*.

The Balance Sheet

A balance sheet shows a business's financial position at a particular point in time; thus, it gives a "snapshot" of the business's financial status at that time.

One side of the balance sheet lists the business *assets*, or items of value that the business owns. The other side of the balance sheet lists the claims against the business assets. These claims are either *liabilities*, which are the company's obligations to make payments to others, or *owner's equity*, which represents the owner's stake in the business (there may also be more than one owner). Owner's equity is found by adding the value of all assets and then subtracting the value of all liabilities.

The Income Statement

In contrast, an *income statement* measures a business's activities over a given period of time. The income statement lists both the business's

total sales (or revenue earned) and total expenses (the explicit costs incurred over the period of time). The difference between sales and expenses is the business's profit. Take, for example, Jumbo-Dogs, a sidewalk cart owned by your friend, who used some savings and a loan from his parents to start a business after graduating. The income statement for Jumbo-Dogs is shown in Figure A.

Depreciation

One explicit cost that deserves special note is *depreciation*, or the reduction in the value of a company's long-lived tangible, or durable, assets. (Land is a special durable asset that does not depreciate—except when improper use degrades its value—because it lasts indefinitely.) Depreciation is the result of aging and wear and tear on an asset. As an asset depreciates, its value on the business's balance sheet falls. Every year, a depreciation charge is subtracted from the income statement. Each of these depreciation charges reflects a portion of the original payment made to purchase the asset.

Let us consider Jumbo-Dogs again. At the beginning of the year, the owner bought a hot-dog cart for \$6000. Because the cart has an expected life span of six years, the value is depreciated over the six-year life, giving a yearly depreciation of \$1000 ($\$6000 \div 6$ years). Therefore, at the end of the first year, the hot-dog cart has a value of \$5000, and the income statement in Figure A shows a depreciation charge of \$1000.

Durable assets have different life spans, so they depreciate at different rates. For example, because a building is a longer-lasting asset than most machinery, the annual depreciation charge for a building is usually proportionately less than

Figure A Income Statement for Jumbo-Dogs

Income Statement (for the year 2004)		
Total Sales		\$50 000
Expenses		
Food	\$15 000	
Fuel	3 500	
Depreciation	1 000	
Interest on loan	500	
Total expenses	<u>20 000</u>	\$20 000
Total profit		<u>\$30 000</u>

The business's accounting profit of \$30 000 is found by deducting total explicit costs of \$20 000 from its total revenue of \$50 000. The explicit costs include payments for food and fuel (for a propane tank), \$500 interest on the business's loan, and wear and tear on the hot-dog cart—depreciation—estimated at \$1000.

that for machinery. Of all the explicit costs, depreciation is the only item that does not entail a payment of cash by the business in the same year it appears on the income statement. In the example of Jumbo-Dogs, the \$1000 depreciation charge is not withdrawn from the deposits of the company. Therefore, to reflect the cash position of the company for the year, the depreciation charge would be added to the accounting profit.

Accounting versus Economic Profit

The main purpose of an income statement is to show the business's accounting profit, which appears at the bottom of the statement, and is found by deducting total expenses from total sales. So, Jumbo-Dogs has an accounting profit, or "bottom line," of \$30 000, as shown in Figure A and below.

$$\begin{aligned}\text{Accounting profit} &= \text{total revenue} - \text{explicit costs} \\ \$30\,000 &= \$50\,000 - \$20\,000\end{aligned}$$

It is important to keep the various definitions of profit distinct. Because accountants consider

only a business's explicit costs in their measure of profit—whereas economists consider both explicit and implicit costs—accounting profit always exceeds economic profit by the amount of implicit costs, which include an estimate of the normal profit that owners must receive to keep their funds and entrepreneurial skills in a business. Therefore, calculating the economic profit of Jumbo-Dogs would involve measuring not only total sales and total expenses but also the business's implicit costs, as shown in Figure B. Imagine that the owner estimates that by working for the company, he sacrifices \$25 000 a year in wages. In addition, he estimates that he could have earned \$3000 a year by devoting his funds and entrepreneurial skills to another business. This \$3000 is called a normal profit. Implicit costs, therefore, equal \$28 000. As a result, Jumbo-Dogs' implicit costs of \$28 000—as well as its explicit costs of \$20 000—are subtracted from the \$50 000 in total revenue to give the company an annual economic profit of \$2000 [$\$50\,000 - (\$28\,000 + \$20\,000)$].

Figure B Calculation of Economic Profit for Jumbo-Dogs

Total Revenue		\$50 000
Explicit Costs		
Food	\$15 000	
Fuel	3 500	
Depreciation	1 000	
Interest on loan	500	
Total explicit costs	<u>20 000</u>	\$20 000
Implicit Costs		
Owner's wage	\$25 000	
Normal profit	3 000	
Total implicit costs	<u>28 000</u>	\$28 000
Economic profit		<u>\$ 2 000</u>

Jumbo-Dogs' economic profit is calculated by subtracting both explicit and implicit costs—\$20 000 and \$28 000, respectively—from total revenue. The \$2000 economic profit is lower than the \$30 000 accounting profit, shown in Figure A, by the \$28 000 in implicit costs.

- During 2004, a computer programmer operates a business, Readyware Solutions, from her own home. Total sales for Readyware Solutions were \$135 400, wages for an assistant programmer were \$20 600, costs for business supplies were \$2300, depreciation charges on office furniture and computer supplies were \$1100, and payments on a bank loan were \$800.
 - Create an income statement for Readyware Solutions and calculate the business's total accounting profit.
 - What does the information in its income statement suggest about the profitability of Readyware Solutions? Explain.
- The owner of Readyware Solutions in question 1 estimates that she could earn a \$65 000 annual wage if she worked for another software company. Meanwhile, she estimates that she could earn an annual 15 percent rate of return on the \$20 000 she has put into her company if she invested it elsewhere at a similar level of risk. What is her economic profit in 2004?