

## How Can Entrepreneurs Control Costs?

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Entrepreneurship in the U.S. Economy, Lesson 20

### Lesson Description

#### DESCRIPTION

In this lesson students will learn that at certain times all entrepreneurs have some fixed costs that must be paid no matter how many products are offered for sale. Variable costs change with the number of products offered for sale. By identifying and controlling their costs, entrepreneurs are better able to earn a profit and be successful.

#### READING

Anyone who runs a business knows that some costs must be paid no matter how many products are offered for sale. For example, Alex owns a shoe store. He must pay his property taxes whether he sells 20 or 200 pairs of shoes each day. Mortgage payments (payments on the loan he took out to buy his building) must be made to the bank. Fire insurance, the lease on a delivery truck, and installments on a remodeling loan are other examples of costs Alex must pay regardless of sales. Expenses that must be paid no matter how many goods or services are offered for sale are called **fixed costs**. Other types of costs change with the number of products offered for sale. These are called **variable costs**. Variable costs include the wages of production workers or salespeople, raw materials, electric power to run machines, and the cost of maintaining inventory. If Alex decides to offer more types of shoes for sale, he will need to hire more people to stock and sell these items. Alex's inventory costs will grow as well as his shipping costs for any products that he either buys or sends to customers. These are all examples of variable costs. Entrepreneurs need to understand the important differences between fixed and variable costs and how these differences affect a firm's success. Fixed costs must be paid. Sometimes they are called "sunk costs" because at the present they are beyond the control of the entrepreneur. If Alex has signed a lease for his store that requires a \$1,000 payment each month, he must make the payment no matter how many products he offers for sale. The only costs an entrepreneur has immediate control over are variable costs. Alex may be required to pay rent for his shoe store, but he can choose how many salespeople to hire or how many products to stock. The fact that entrepreneurs cannot change their fixed costs at the present does not mean they should ignore them. Fixed costs are generally paid out of the money earned from an entrepreneur's sales. If the entrepreneur can sell more products to earn more money, the fixed costs will be a smaller part of income. Let's look at an example of how this works.

Suppose Alex's shoe store has \$500 in fixed costs that must be paid every week. Alex sold 100 pairs of shoes at an average price of \$50 last week. His store took in \$5,000 ( $\$50 \times 100$  pairs sold = \$5,000). Alex's fixed costs equaled 10 percent of his income ( $\$500$  fixed costs divided by \$5,000 sales = 10 percent). Or you could say he had to pay \$5 in fixed costs per pair of shoes sold ( $\$500$  fixed costs divided by 100 pairs sold = \$5).

If Alex could increase his sales to 200 pairs a week, the amount of fixed costs per pair of shoes would be cut in half. His revenue would grow to \$10,000 ( $\$50 \times 200$  pairs sold = \$10,000). His fixed costs would still be \$500, but now it would be only 5 percent of revenue ( $\$500$  fixed costs divided by \$10,000 sales = 5 percent). Alex would pay \$2.50 in fixed costs per pair of shoes sold ( $\$500$  fixed costs divided by 200 pairs sold = \$2.50). If Alex's other costs did not change, this would increase his profit per pair sold by \$2.50. Alex could accomplish the same objective by offering other types of products for sale, such as wallets, socks, or shoe polish. If these other product lines do not add to his fixed costs, the amount of fixed costs he must pay per item would be less.

Entrepreneurs often try to increase their sales to reduce the amount of fixed costs paid per item sold. This explains why many gas stations have become convenience stores in recent years. If the owner has to pay to have a building and someone there to help customers, it doesn't cost much more to sell milk and bread, too. As the result of selling other products, total sales increase. This reduces the amount of fixed costs that must be paid out of each dollar of sales, thus increasing profit.

Although it is possible to improve a firm's profitability by offering more types of products, there is no guarantee this approach will always work. Entrepreneurs must keep track of their variable costs. Suppose the owners of a store spent an extra \$250 a week to offer fresh lettuce and other produce for sale. If they sold only \$150 worth of the produce, they would lose \$100 because the amount earned in sales is not sufficient to pay the variable costs of stocking the fresh vegetables and fruit. An entrepreneur should never offer a product for sale that cannot pay for its variable costs.

Entrepreneurs need to understand the difference between fixed and variable costs. They should realize that the profit per item can be increased when more products are sold because the fixed cost per item is less. Steps to limit the amount of fixed costs a firm is responsible for often improve its chances for success.

## Grade Levels

Grades 9-12

## Economic Concepts

- Factors of Production
- Entrepreneurs
- **Content Standards and Benchmarks**
- **National Standard Number: 9**  
Competition among sellers lowers costs and prices, and encourages producers to produce more of what consumers are willing and able to buy. Competition among buyers increases prices and allocates goods to those people willing and able to pay the most.
- **National Standard Number: 14**  
Entrepreneurs are people who take the risks of organizing productive resources to make goods and services. Profit is an important incentive that leads entrepreneurs to accept the risks of business failure.

## Materials (see Activities below)

- Activity 1: Joslin's Costs of Doing Business
- Activity 2: Taking Care of Business (77)
- Activity 3: Is More Always Better? (78)
- Activity 3: Comprehension Quiz (79)

## Procedure

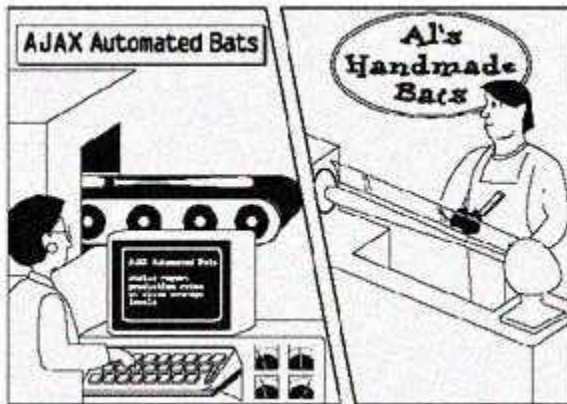
### 1. CHECK YOUR UNDERSTANDING

Complete the READING and consider each of the following questions. If you are not sure of an answer, review the reading to find the information you need before moving on to the next question.

1. What is a fixed cost?
2. What is a variable cost?
3. How can a firm reduce its fixed costs per unit sold?
4. Explain the advantage of reducing the fixed costs per unit sold.
5. Explain why many gas stations have become convenience stores in recent years.
6. Under what conditions will selling more products not improve a firm's profits?

### 2. SOMETHING FOR YOU TO THINK ABOUT

Ask students to study the cartoon in Illustration 20a below. Which entrepreneur is in a better position to control fixed costs of production if there is a decline in the demand for bats—the entrepreneur with the automated bat-production machine or the entrepreneur who provides bats made by hand? What does this show about fixed and variable costs?



### 1. PUTTING IT ALL TOGETHER

Using Activity 2, have students list the fixed and variable costs for operating your hypothetical business. Study the list. Then answer the following questions.

- Has anything happened recently (at the local, state, national, or international level) that might effect a change in the firm's costs?
  - What steps can you take to control the firm's costs?
2. Ask the students to read about Todd's newsstand in Activity 3 and answer some questions for him.

## Closure

Have the students complete Activity 4, the Comprehension Quiz.

## Extensions

1. Use the figures in Illustration 20b (Activity 1) to construct a pie graph showing Joslin's fixed and variable costs.

2. Use the data collected for Activity 2 to construct a pie graph that shows the variable and fixed costs for a submarine sandwich shop.

## Activity 1

### JOSLIN'S COSTS OF DOING BUSINESS

After Joslin moved her business to a larger store in the mall, Jane (her lawyer and largest stockholder) asked her to list all the costs she had to pay for one month. Joslin's list appears below. Study the list and indicate which costs are fixed and which are variable by writing an **F** or **V** in the answer space. If you think an item is a combination of fixed and variable costs, write **F/V** in the space.

Illustration 20b

Fixed or Variable?	Item	Cost for One (1) Month
	Rent	\$ 1,600.00
	Utilities (electricity, phone, etc.)	\$ 453.56
	Insurance	\$ 342.00
	Lease payment for cash register	\$ 88.50
	Cost of goods sold	\$ 8,600.00
	Advertising fee paid to the mall	\$ 200.00
	Joslin's salary (she has hired no help)	\$ 1,450.00
	Cost of cleaning service paid to the mall	\$ 240.00

	Paper, postage, and other supplies	\$ 143.39
	Depreciation on investment in equipment	\$ 245.00
	<b>TOTAL</b>	\$ 13,362.45

Answer the following questions about Joslin's costs.

1. Are most of Joslin's costs fixed or variable? \_\_\_\_\_
2. Joslin sold 1,200 bags at \$10 each. How much money did she earn from sales? \_\_\_\_\_
3. Did the business earn a profit or suffer a loss for the month?  
\_\_\_\_\_
4. How large was the profit or loss? \_\_\_\_\_
5. Do you think the business will have larger costs in the future? Explain why or why not.  
\_\_\_\_\_  
\_\_\_\_\_
6. Should Joslin consider offering a wider line of products in the store? Explain why or why not.  
\_\_\_\_\_  
\_\_\_\_\_
7. What else might Joslin do to improve her profit?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Activity 2

### TAKING CARE OF BUSINESS

How much would it cost to run a submarine sandwich shop in your community? Look through the classified or real-estate advertisements in your local newspaper and identify a building that could be rented. Find the cost of rolls, meat, cheese, lettuce, and so forth that would be needed per sandwich. (For help in determining prices, visit your local supermarket, or use the supermarket ads in the weekly food edition of the local newspaper.) Determine what you would have to pay your help (two workers at all times). Assume you sell 200 submarine sandwiches per day when you stay open from 10:00 AM to 8:00 PM. Write this information in the column at the left below. Then answer the questions that follow.

### Costs of Running a Submarine Sandwich Shop

Item	Cost per Day	Fixed or Variable?
Soft Drink?	\$ _____	
Rent per day (monthly rent= \$ _____, daily rent = \$ _____ (divide by 30))	\$ _____	
Cost of 200 rolls	\$ _____	
Cost of 200 bags and napkins	\$ _____	
Cost of employees (local wage = \$ _____ per hour, daily wages = \$ _____ x 10 hours x 2 workers, add 20% for fringe benefits)	\$ _____	
Cost of insurance per day (\$240/month)	\$ _____	

Utilities (\$360/month)	\$ _____	
Other costs	\$ <u>20</u> _____	
TOTAL	\$ _____	

1. How much would you need to charge per sandwich to earn 5 percent return on your sales?

To find the answer, proceed as follows:

- Multiply total costs times 1.05 to find the amount you must take in from sales.

$$\text{_____} \times 1.05 = \text{_____}$$

- Divide the amount you must take in by 200 sandwiches, and you have the price you must charge per sandwich.

$$\text{_____} \text{ divided by } 200 = \text{_____} \text{ (price)}$$

2. In the fixed-or-variable column, write **F** for fixed costs and **V** for variable costs.

3. Should you sell soft drinks or other products in your submarine sandwich shop? To help you decide, indicate whether costs would change if soft drinks were offered for sale by writing **yes** or **no** in the appropriate place in the "Soft Drink?" column.

## Activity 3

### IS MORE ALWAYS BETTER?

Todd used to run a newsstand, but he's out of the business now. Todd started by selling local newspapers on a street corner. In the winter he got cold, so he paid the city a fee of \$500 for the right to build a 4' by 8' enclosed wooden newsstand on a busy corner. Soon he decided to sell magazines, chewing gum, and candy bars too. He began to stock foreign-language newspapers and paperback romance novels. Then he added hot pretzels and candy apples. When he tried to supply cut flowers, he had gone too far. The costs of all his inventory could not be covered by his sales. He couldn't pay his bills and went out of business. Answer the following questions about Todd's experiences.

### **IS MORE ALWAYS BETTER?**

Todd used to run a newsstand, but he's out of the business now. Todd started by selling local newspapers on a street corner. In the winter he got cold, so he paid the city a fee of \$500 for the right to build a 4' by 8' enclosed wooden newsstand on a busy corner. Soon he decided to sell magazines, chewing gum, and candy bars too. He began to stock foreign-language newspapers and paperback romance novels. Then he added hot pretzels and candy apples. When he tried to supply cut flowers, he had gone too far. The costs of all his inventory could not be covered by his sales. He couldn't pay his bills and went out of business. Answer the following questions about Todd's experiences.

1. When he started his business, were most of Todd's costs fixed or variable? As he sold more items, were most of his costs fixed or variable?

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2. How might Todd have benefited from offering a few more products than just local newspapers?

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3. Why was it a mistake for Todd to continue to expand the number of products he offered?

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4. What should Todd have done before he offered each new product?

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5. What could Todd have done to prevent his business from failing?

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## **Activity 4**

### **COMPREHENSION QUIZ**

**Part I:** Read each statement below. Write **T** before each true statement. Write **F** before each false statement and rewrite each false statement to make it true.

\_\_\_\_\_1. Rent, raw materials, employee wages, and property taxes are all examples of fixed costs.

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\_\_\_\_\_2. Firms often offer a wide variety of goods for sale to reduce their variable costs per product.

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\_\_\_\_\_3. Examples of variable costs include the cost of raw materials, production workers, and electricity to run machines.

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\_\_\_\_\_4. Entrepreneurs benefit from having large fixed costs per item offered for sale.

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\_\_\_\_\_5. Firms should not offer a product for sale that does not earn enough income to pay for its variable costs.

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**Part II.** Answer each of the following in the space provided.

6. How can an entrepreneur reduce the fixed costs per unit sold?

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7. If my fixed costs are \$4 per product when I make 250 products, what will they be per product when I make 500 products?

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8. Why do firms that offer more products for sale have lower costs per item than similar firms that offer fewer products for sale?

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9. How can some wages be examples of fixed costs whereas other wages are examples of variable costs?

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