# COST CUTTING IS FASHIONABLE

## INTRODUCTION

***History*** Manufacturers in the United States were quick to take advantage of new ideas. The invention of the sewing machine in the 1850s was an example. It led to the eventual mass production of clothing.

***Mystery*** How can a company increase its total costs, decrease the price of its products, and increase the company's profits?

***Economic History*** All choices involve costs. In making choices, individuals seek to obtain the most advantageous combination of costs and benefits. To reduce costs, individual producers may take risks by investing in new methods of production. The substitution of machines for human labor can increase production. The producer's *average* costs are reduced because total costs are "spread out" over many more units.

## CONCEPTS

Costs
Economies of scale
Capital goods
Profit

## OBJECTIVES

♦ Define economies of scale.
♦ Use economic reasoning to explain why producers use capital goods.
♦ Give examples of capital goods which influenced the type of clothing made in the United States.

## LESSON DESCRIPTION

This lesson demonstrates to students the concept of economies of scale. It starts with a short lecture, asks students to complete an activity, and describes different capital goods used to make clothing in the United States.

## TIME REQUIRED

♦ One class period

## MATERIALS

One transparency of Visual 1.
One copy for each student of Activities 1 and 2.

## PROCEDURE

1. Explain to the class that the purpose of this lesson is to use an example from history and some principles of economic reasoning to explain why the prices of computers, VCRs, calculators, and many other products have declined. Understanding why product prices can decline while companies make increased profits is one key to knowing how economies grow.

2. Distribute Activity 1 to the class. After students have read it, invite speculation, using the *Handy Dandy Guide (HDG)*, about why Scott is right. But leave the mystery unresolved at this point. Explain that we are going to investigate a historical example of clothing production, to better understand Scott's problem.

3. Display Visual 1 and discuss the definitions of **Economies of Scale** and **Capital Goods.**

4. Ask the students to imagine the fashion decisions that a famous designer of fashionable clothes would make. Encourage them to describe the characteristics they would like to have in clothes. List ideas on the chalkboard.

5. After they describe their ideas, ask the students how they can earn a living by designing clothes. They should realize that the more people who like their clothes and buy them, the more money the fashion designer makes. Unpopular designs mean financial failure. As a fashion designer, you would want to provide people with the kinds of clothing they would choose to have.

6. Distribute Activity 2 to the class. Divide the class into small groups to do the calculations for Part II. Then assign each group to write a one– or two–sentence statement that explains why Tim's Tailor Shop became so prosperous. Students must use the two new concepts of economies of scale and capital goods in their statements. Here is a sample statement: Combining the use of machines (capital) with human labor can increase production in an economy. The producer's per unit costs are reduced in the sense

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that total costs are "spread out" over many more units. This is economies of scale in action.

**Answers for Activity 2, Part II**

| | |
|---|---|
| Total production | 10 |
| Total number of tailors | 10 |
| Total wages per day ($1 x 10 tailors) | $10.00 |
| Machine cost per day ($313/313) | $1.00 |
| Total material cost per day ($.50 x 100) | $50.00 |
| Total costs per day (Total wages + total machine cost + total rent + total material costs) | $61.00 |
| Cost per unit (Total costs/100) | $ 0.61 |
| Total revenue per day ($2 x 100 suits) | $200.00 |
| Profit (Total revenue – total cost) | $139.00 |

**Answers for Activity 2 Discussion Questions**

1.) Costs per item before the purchase of machines was $15.00. Costs per item after the purchase of machines was $.62.

2.) The price of suits remains $2.00.

3.) The use of capital allowed workers to be more productive per day. The increased production meant the total cost was spread over many items, which in turn meant that the cost of each item was less. The business became more profitable by reducing costs with economies of scale.

4.) Accept a variety of responses.

7. Have a spokesperson for each group read the group's statement to the class. Ask the class to choose the most accurate statement of all those presented, and have the group that wrote it put it on butcher paper. Leave it posted in the room, visible to everyone.

8. Explain to students that this type of cost–cutting, based on capital and economy of scale, will become very important as we examine the economic growth that took place in the United States after the Civil War.

## CLOSURE

Review the case of the Jackson High School News from Activity 1. Ask the class:

A. Why was Scott probably correct in encouraging his school to use the new copier? (Scott wanted to reduce the costs of producing the newspaper. His incentive was to see the newspaper become more successful. He was willing to take some risks to make the newspaper more successful. He figured that use of the copier would reduce production expenses per unit. The fact that the copier would print on both sides and was very fast would save paper and hours of secretarial time. The savings could be used to reduce the price and sell more newspapers. If enough newspapers were sold, the school paper might even make a profit.)

B. What are some other examples of technologies that have reduced costs? (Computers have contributed to reductions of costs of several products and services from performing routine office tasks of typing, filing, and accounting to improving the manufacturing of automobiles. Computers themselves, along with many electronic devices such as fax machines, VCRs, and cellular phones, have generally decreased in price since their introduction into the U.S. market.)

Name_____

# ACTIVITY 1
# *ECONOMIC MYSTERY*
# THE COSTS OF NEWS AT SCHOOL

THE *JACKSON HIGH SCHOOL NEWS*, THE school newspaper, is published four times per year. One rule for producing *The News* is that the paper must pay for itself. This has always caused trouble because it seems nearly impossible to sell enough papers to cover the costs of producing it.

Scott, the student editor, was deeply concerned about the future of the paper. But he had an idea. He figured that if the school bought a new copier, priced at $2,000, he could save money and sell more newspapers. He noted that the copier could print on both sides of the paper and was very fast for the school secretary to operate. He approached Mrs. Kepner, the newspaper adviser, with the idea. She was not impressed. "Wait a minute," she said. "You want me to ask the principal for $2,000? She wants us to spend *less* money, not more! Scott, here's a hall pass. I think you should see the school nurse."

But Scott was right. Even though purchase of the new copier would cause the total cost of producing the newspaper to go up, he could still reduce the cost of each newspaper to the school.

How? This mystery is not an easy one to crack. However, the solution lies in the application of the following principles from the *Handy Dandy Guide*:

People's choices involve cost.

People respond to incentives in predictable ways.

People's choices have consequences that lie in the future.

# VISUAL 1
# DEFINITIONS

**Economies of Scale:** The reduction of per unit costs available to a business enterprise when it expands production in its current plant.

**Capital Goods:** Human–made resources (buildings, machinery, and tools, for example) used in the production of goods and services.

Name_____

# ACTIVITY 2
# THE LOW COST OF FASHION

## PART I WITHOUT MACHINES

Imagine that it is 1854 and you run a tailor shop in New York City. It is the biggest tailor shop in NYC, and you are very proud of it. You employ ten tailors who work six days per week. Each tailor makes one man's suit each day. Each tailor earns $1 per day (a very generous wage). Production of each suit costs you $.50 in material, and you sell your suits for $2 each. Your firm's financial report* looks like this:

| | |
|---|---|
| Total production per day | 10 suits |
| Total wages per day ($1 x 10 Tailors) | $10.00 |
| Total material cost per day ($.50 x 10) | $ 5.00 |
| Total costs per day (Total Wages + Total Material Costs) | $15.00 |
| Cost per unit (TC/10 suits) | $ .50 |
| Total revenue ($2 x 10 suits) | $20.00 |
| Profit per day (TR – TC) | $ 5.00 |

You earn a good living. Your business is open 313 days a year. You sell all the suits you produce, so your yearly profit is $5 x 313 days or $1,565. Your income is about triple the average income of a U.S. citizen in 1854.

**This example is simplified to illustrate points related to the benefits of mass production. The profit level, for example, is much higher than is usual. Many cost factors have not been included.*

## PART II WITH MACHINES

You may think that you are living well, but the bookkeeper is unimpressed. The bookkeeper suggests that if you buy a $313 sewing machine, rent a new building for a year, and train your tailors to use the machine, you could earn more money and produce more suits. In fact, you could produce ten times more suits per worker. You ask, "How can that be? It would drive up my total costs."

*See whether the bookkeeper is right. Do the following calculations.*

| | |
|---|---|
| Total production per day | _____suits |
| Total number of tailors | |
| Total wages per day ($1 x 10 Tailors) per day | $_____ |
| Machine cost per day ($313/313 days) | $_____ |
| Total material cost per day ($.50 x 100) | $_____ |
| Total costs per day (Total wages + total machine + total rent + total materials costs) | $_____ |
| Cost per unit (TC/100 suits) | $_____ |
| Total revenue ($2 x 100 units) | $_____ |
| Profit per day (TR – TC) | $_____ |

If you sold all your suits, you would be rich beyond your dreams. $138 x 313 days is $43,507—about 87 times greater than the average income in the United States at this time. Of course, there are some risks. You have to

commit to buying the machines and material, and renting the building, before you know whether people will buy your suits. If customers are not happy with your product, you could lose money on this proposition. Business owners are risk takers, and the most successful ones are those whose risk–taking pays off.

In this case, your decision paid off. Now you can choose to expand your plant more (hire more tailors and buy more equipment), give your tailors a higher wage, reduce the price of your suits to increase sales and discourage competing firms, or take the money and visit Paris.

## QUESTIONS FOR DISCUSSION

1. What are the costs per suit before and after the purchase of the sewing machine?

2. What was the price of the suits before and after the purchase of the sewing machine?

3. Write a statement—one or two sentences—that explains why Tim's Tailor Shop became so prosperous. Use the ideas of economies of scale and capital goods in your statement.

4. What do you think would be the best use of your increased profits?