

Economic Detective Elmo Entrepreneur



Problem

Elmo Entrepreneur has a basement wood shop where he enjoys making model cars. He sells his cars to hobby shops, but lately orders have been falling off and Elmo's income is suffering. Reluctantly, Elmo decides he must look for a new business.



Investigation 1

While delivering an order of model cars at the mall, Elmo stops to buy a new pair of running shoes. To his surprise, the price of his favorite shoes has increased \$15. The next day, Elmo goes to the library and studies the market supply and sales data for the city's running shoes. He soon decides that this is a good time to enter the shoe manufacturing business. He will make his favorite style and sell his shoes directly to customers for \$60 a pair, or the price charged by all suppliers.

1. What sort of data did Elmo's library search probably reveal to prompt his decision?

2. How will Elmo's new business affect the market supply for running shoes? _____
3. What amount of income can Elmo expect in his new business? _____
4. How does Elmo's decision illustrate the law of supply? _____



Investigation 2

Elmo starts small. He uses his garage as a factory, with his property taxes costing \$50 a month and his utilities \$40 a month. He buys a cutting-and-stitching machine, hires a worker, and finds that he can produce 5 pairs of shoes an hour. Encouraged, Elmo hires another worker, doubling his labor costs but increasing output to 12 pairs per hour. He continues to hire more workers, increasing output to 21 pairs with three workers, 34 pairs with four workers, and 45 pairs with five workers. In the meantime, the cost of leather for shoe tops and soles has risen twice, but the cost of fabric for linings has fallen enough to offset the rising cost of leather.

1. What factors make up Elmo's variable costs?

2. What is Elmo's total revenue per hour after he hires three workers? _____
3. What is Elmo's marginal product of labor after he hires a second worker? _____
4. When does Elmo reach a diminishing marginal return of labor? _____
5. What does Elmo pay in fixed costs? _____



Investigation 3

Elmo's shoe business does so well that he adds another room to his garage and buys another cutting-and-stitching machine. Unwelcome news comes in the mail, however. The federal government, deciding that running shoes are harmful to the foot, places a tax on all running shoe producers. Seeing his profits shrink, Elmo lays off a worker and cuts his output. After further research, the federal government reverses its position and removes the tax, but the running shoe industry remains depressed. To revive it, the city council votes to pay running shoe producers \$1 a pair but requires them to insert heel cups in the shoes to ensure foot health.

1. How does Elmo try to increase his production?

2. a. What kind of tax does the federal government impose? _____
b. How does it influence quantity supplied?

3. What regulation does Elmo have to follow?

4. a. What subsidy does Elmo receive? _____
b. What is the source of the subsidy? _____