Chapter 5 Project

Elasticity

Purpose

In this chapter, you learned about elasticity and how to calculate the measures of the various types of elasticity. The most important elasticity is the price elasticity of demand, which measures the responsiveness of quantity demanded to changes in price. Generally, demand is more elastic if there are many substitutes available, the good is more of a luxury than a necessity, the good accounts for a large part of a consumer's budget, and the time period involved is longer.

The purpose of this exercise is to illustrate how consumption decisions are affected by the determinants of elasticity, to practice calculating elasticity, and to understand how total spending on a good or service is affected by its elasticity.

Directions

This exercise has two parts. In the first, you will fill in a table and calculate the price elasticity of demand for several goods. In the second, you will evaluate your decisions and categorize the demand for each good as elastic or inelastic.

Part 1 - Complete the Table

Assume that you spend a total of $400 per month on the quantities of the goods and services in the following table. Now, suppose that the price of each good and service increases by 50%, but your budget hasn't changed. You still have only $400 to spend on these products.

1. Complete the table by entering the quantity you would buy after the price increase in the "New Quantity" column. You don't have to spend the entire $400, but you cannot spend more than $400 after the price increase.
2. Calculate the amount you would spend on the good or service after the price increase in the "New Spending" column. Determine the percentage change in the quantity you consume after the price increase in the "% ΔQ" column.
3. Then, calculate your price elasticity of demand for each good in the "Elasticity" column. Calculate elasticity as the simple |(% change in quantity)/(% change in price)|.

Good	Original Price	Original Quantity	Original Spending	New Price	New Quantity	New Spending	% ΔQ	Elasticity
Apples	$2/lb.	5 lbs.	$10	$3/lb.				
Aspirin	$2/bottle	1	$2	$3/bottle				
Beer	$8/six pack	3	$24	$12/six pack				
Print books (Amazon)	$12	2	$24	$18				
Bottled water	$5/case	4	$20	$7.50/case				
Chicken	$4/lb.	4 lbs.	$16	$6/lb.				

Good	Original Price	Original Quantity	Original Spending	New Price	New Quantity	New Spending	% ΔQ	Elasticity
Coffee	$8/lb.	3 lbs.	$24	$12/lb.				
Fast food	$6/meal	8	$48	$9/meal				
Gasoline	$2.50/gallon	24 gallons	$60	$3.75/gallon				
Laundry detergent	$5	2	$10	$7.50				
Microwave popcorn	$3/box	4	$12	$4.50/box				
Restaurant meals	$20	4	$80	$30				
Soda	$5/case	5	$25	$7.50/case				
Uber rides	$15	3	$45	$22.50				

Part 2 - Evaluate and Classify

1. Based on your calculations, classify the price elasticity for each good as elastic or inelastic.
2. Explain how the factors that determine elasticity (i.e., availability of substitutes, necessity vs. luxury, and percentage of budget) influenced your response to the 50% increase in price for each of the goods and services.
3. Explain the relationship between total spending on a good and a price increase when demand is:
   a. elastic
   b. inelastic

Checklist

Part 1

- ☐ Input new quantities in the table for each product after the prices increase.
- ☐ Calculate % change in quantity for each product.
- ☐ Calculate price elasticity for each product.

Part 2

- ☐ Classify price elasticity for each product.
- ☐ Explain factors of elasticity.
- ☐ Describe effects of a price increase on total spending for elastic/inelastic goods.