

Price Elasticity

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Why Elasticity?

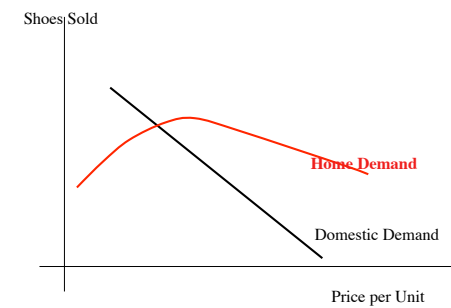
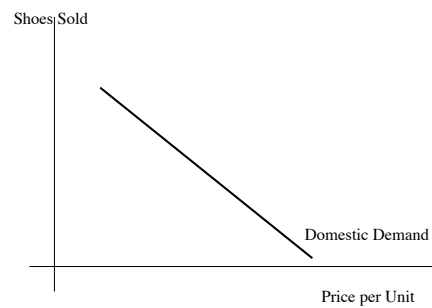
- If we know the slope we have a measure of price sensitivity.
- Why do we need elasticity?

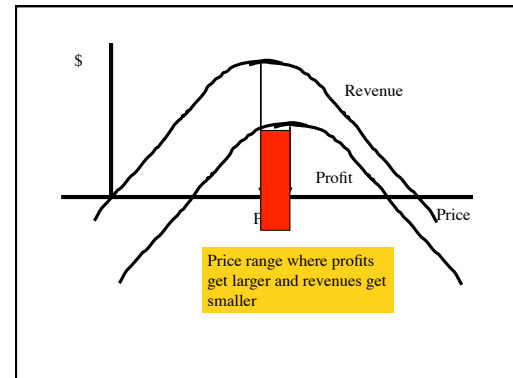
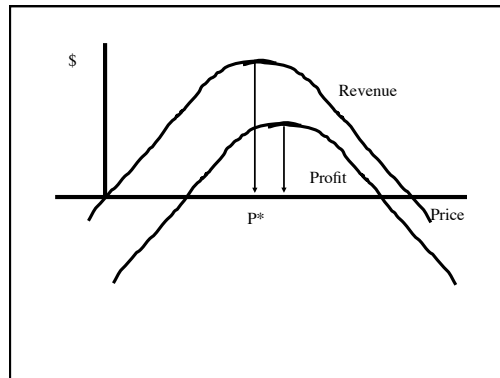
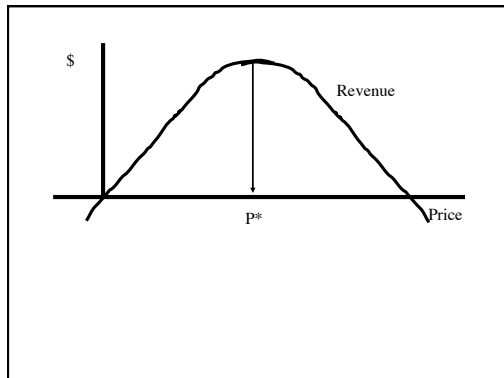
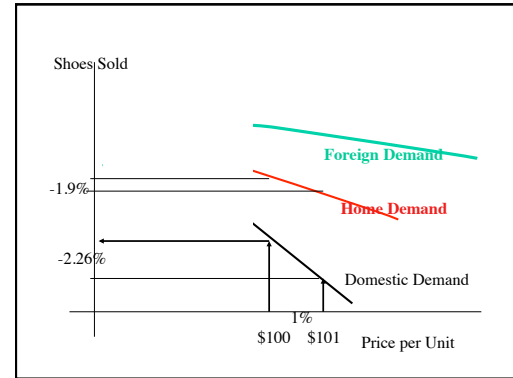
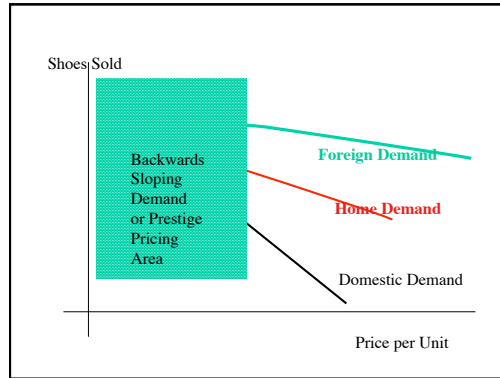
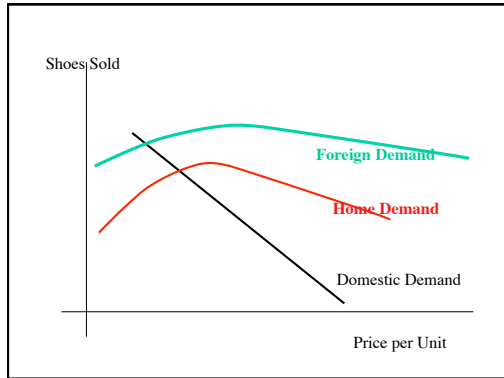
Why Use Elasticity?

- **To compare the sensitivity in different markets?**
- **To estimate the percentage change in sales if we change the price by one percent.**
- **Guide to changing price to Maximize Revenues**

Price Elasticity Customer Sensitivity to Price Changes

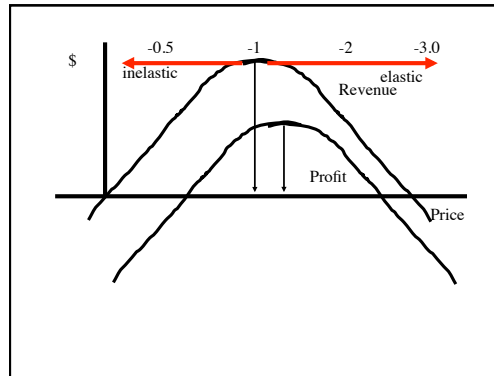
See pages 158-159 in the text





Exam Question

- When a firm has a variable cost per unit, there is a point during the process of increasing the selling price that revenues are coming down and profits are going up.
- True or False
- **Yes. It Is True!!!**



210 Exam

- You need to know
- That elasticity means
- The percentage change in units sold for a 1% change in price

Change In Price

- A firm, selling 1000 units a week, is considering a price reduction strategy. A 5% price reduction should increase unit sales (Q) and the price elasticity(Ep) is estimated at -1.7. What percentage increase in unit sales is anticipated?

Change In Price

- A firm, selling 1000 units a week, is considering a price reduction strategy. A 5% price reduction should increase unit sales (Q) and the price elasticity(Ep) is estimated at -1.7. What percentage increase in unit sales is anticipated?
- $(E_p)(-5\%) = (-1.7)(-5\%) = 8.5\%$
or $8.5\%(1000) = 85 \text{ new units}$

Proof of the Profit Reduction

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The Crucial Question?

- Will there be an increase or decrease in Revenue?
- Elasticity is -1.7 and this is considered to be part of an elastic or sensitive range where a decrease in price causes an increase in revenue.
- **When price elasticity is = -1 then revenue is at the maximum**

Price Elasticity Problem

A firm, selling 1000 units a week at \$5 per unit, is considering a price reduction strategy. A 5% price reduction to \$4.75 should increase unit sales (Q) and the price elasticity(Ep) is estimated at -1.7. The variable cost is V = \$3 per unit with a current markup of 40%. With the price decrease what is the new revenue, total variable cost and the total contribution?

Price Change Result

Current Price result
 P = \$5
 Q = 1000
 R = \$5(1000) = 5000
 Vt = \$3(1000) = 3000
 Mt = \$2(1000)
 = \$2000

Price Change Result

Current Price result	New Price result
P = \$5	Pn = (1-.05)\$5 = \$4.75
Q = 1000	Qn = -1.7(-.05)Q = 1085
R = \$5(1000) = 5000	R = \$4.75(1085) = \$5153.75
Vt = \$3(1000) = 3000	Vtn = \$3(1085) = \$3255
Mt = \$2(1000) = \$2000	Mtn = \$1.75(1085) = \$1898.75

Price Change Result

Current Price result	New Price result
P = \$5	Pn = (1-.05)\$5 = \$4.75
Q = 1000	Qn = -1.7(-.05)Q = 1085
R = \$5(1000) = 5000	R = \$4.75(1085) = \$5153.75
Vt = \$3(1000) = 3000	Vtn = \$3(1085) = \$3255
Mt = \$2(1000)	Mtn = \$1.75(1085)
Z = \$2000	Z = \$1898.75

More Sales! Why less profit?

Price Change Result

Current Price result	New Price result
P = 5	Pn = (1-.05)5 = 4.75
Q = 1000	Qn = -1.7(-.05)Q = 1085
R = 5(1000) = 5000	R = 4.75(1085) = 5153.75
Vt = 3(1000) = 3000	Vtn = 3(1085) = 3255
Mt = 5000-3000 = 2000	Mtn = 1.75(1085) = 1898.75

Elasticity times % price change

Any Questions on Elasticity