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Analysis of Type and Factor of Elasticity of Demand

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Abstract

Some items have been shown to have relatively inelastic pricing by economists. That is, neither a decrease nor a rise in price significantly affects demand. For instance, the demand for gasoline has low price elasticity. Drivers, airlines, the trucking sector, and pretty much everyone else that buys will continue to purchase as much as they need. There are some items whose demand and supply are significantly more sensitive to variations in price. Marketers, unsurprisingly, have a lot of interest in this idea. One may argue that their goal is to ensure that consumers have no choice but to buy the goods they promote. “They do this by establishing a distinct competitive advantage for their products. Elasticity refers to the degree to which price changes result in a sizable shift in the amount requested of a good or service. What this means is that the product's demand point has been significantly pushed out. When there is just a minor shift in consumer demand in response to a shift in price, we say that the market is inelastic. Not much of an increase was seen in the amount from its original value.

Key Words: Elasticity, Demand, Price, Inelastic etc.

Introduction

The price elasticity of demand measures how much of a shift in demand may be expected from a 1% shift in price. Specifically, it means

$$\varepsilon = \frac{\frac{dQ}{Q}}{\frac{dp}{p}} = \frac{dQ}{dp}\frac{p}{Q},$$

where price p and market demand Q(p) are constants. The price elasticity of demand is sensitive to a wide variety of variables, such as the availability of near substitutes, the significance of the good in terms of spending, the length of time needed to adjust, the product's longevity, and its versatility. In this article, we investigate a hitherto ignored factor: the impact of reference price on price elasticity of demand. We focus on how fluctuations in demand over time affect the price elasticity of supply. If the new price is significantly different from the one that customers use as a benchmark, then the demand for the good or service will shift. These pricing

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differences are influenced by consumers' evolving process of adjusting their reference prices. These shifts have an effect on the amount demanded over time, which in turn influences the dynamics of price elasticity.

Types of Elasticity of Demand

The following are the several forms of demand elasticity, each corresponding to a certain sort of demand-affecting variable. One thing to keep in mind is that the elasticity of demand always implies the elasticity of pricing unless specifically stated differently.

Price Elasticity

An item's price elasticity of demand measures how the amount demanded shifts in response to price changes. Here, we assume that a consumer's income, preferences, and the cost of competing items remain unchanged throughout time. It is calculated by dividing the rate of change in demand by the rate of change in price. Therefore,

$$E_p = \frac{\frac{\text{Change in Quantity} \times 100}{\text{Original Quantity}}}{\frac{\text{Change in Price} \times 100}{\text{Original Price}}}$$

$$= \frac{\text{Change in Quantity}}{\text{Original Quantity}} \times \frac{\text{Original Price}}{\text{Change in Price}}$$

Income Elasticity

One way to measure how sensitive demand is to changes in income is to look at the income elasticity of demand. Symbolically,

$$E_I = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in income}}$$

$$e_p = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$$

According to our earlier definition, price elasticity of demand (ep) is larger than one when the percentage change in quantity requested of a commodity is greater than the percentage change in price that brought it about.

Elasticity less than one indicates that demand is inelastic, which occurs when a given percentage change in the price of a commodity results in a lesser percentage change in the

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amount desired. In addition, price elasticity equals one when the proportional shift in demand for an item is the same as the proportional shift in price that prompted it.

When demand is elastic, a little shift in price results in a substantial shift in consumption. Moreover, in the case of inelastic demand, a shift in price results in a hardly noticeable shift in demand.

It's been well observed and acknowledged that the sensitivity of demand to price changes varies widely across different types of commodities. Some products' demand is more sensitive to price fluctuations than others'.

In economic parlance, certain items have a higher price elasticity of demand than others. According to Marshall, who first brought the notion of elasticity to economics, a market's elasticity or responsiveness is high or low depending on how much the quantity requested rises in response to a decrease in price and how much it falls in response to an increase in price.

In Figs. 1 and 2, we have two demand curves, which will help us understand this. The rise in demand seen in Fig. 1 in response to a decrease in price from OP to OP is significantly larger than the increase shown in Fig. 2. Therefore, for a given drop in price, the demand curve in Fig. 1 has more elasticity than the demand curve in Fig. 2. The good depicted in Fig. 1 is considered to have elastic demand, while the good depicted in Fig. 2 has inelastic demand.

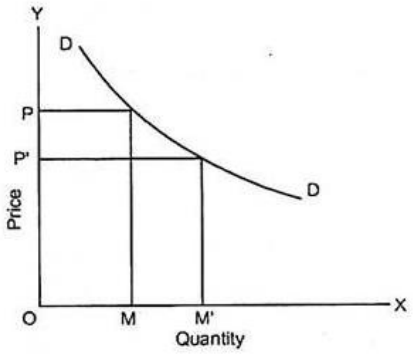

Fig 1: Elastic Demand

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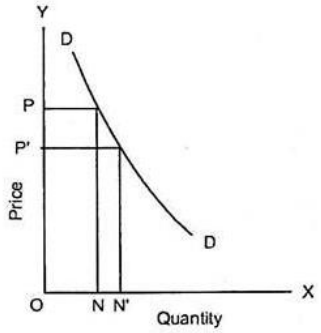

Fig: 2 Inelastic Demand

It is important to keep in mind, however, that the terms elastic and inelastic are employed in a relative sense. That is to say, there is no such thing as too much flexibility. However, the degree to which one product's demand may be changed is what makes certain products more or less elastic than others. That's why, when we say that consumer demand is elastic, we really only mean that it's more elastic than the demand for some other item.

Also, when we state that a product's demand is inelastic, we don't imply that it is completely unresponsive to price changes; we mean that it is less responsive than the demand for another product. The concepts of elastic and inelastic demand have developed specific implications in economic theory. One definition of elastic demand is when the price elasticity of demand for a product is greater than 1.

A product's demand is said to be inelastic if its price elasticity of demand is less than one. Demand is said to be elastic if and only if its price elasticity of demand is more than one, whereas demand is said to be inelastic if its price elasticity of demand is less than one. For the first time, it should be clear that when we say demand is inelastic, we don't mean completely inelastic, but rather that the elasticity of demand is less than unity, and when we say demand is elastic, we don't mean absolutely elastic, but rather that the elasticity of demand is greater than one.

Thus,

Elastic demand: en > 1

Inelastic demand: ep < 1

Unitary elastic demand: ep = 1

Cross Elasticity

The cross elasticity of demand of a commodity X for another commodity Y, is the change in demand of commodity X due to a change in the price of commodity Y. Symbolically,

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$$E_c = \frac{\Delta q_x}{\Delta p_y} \times \frac{p_y}{q_x}$$

Where,

E_c

is the cross elasticity,

Δq_x

is the original demand of commodity X,

Δq_x

is the change in demand of X,

Δp_y

is the original price of commodity Y, and

Δp_y

is the change in price of Y.

Factors That Affect Price Elasticity of Demand

Availability of Substitutes

If consumers can readily swap out one item for another, the market will respond by lowering prices. If the price of coffee suddenly skyrockets, for instance, consumers in a society where both coffee and tea are equally popular would likely switch to tea rather than pay the higher price. This is due to the fact that both coffee and tea may be used as suitable replacements for one another.

Urgency

When prices go up, consumers tend to buy less of a product or service that is more of a luxury item. So, the product's demand is more elastic. Let's say you want to replace your washing machine but your present one is still functional despite its age. If the price of a new washing machine rises up, you could put off buying one until the old one breaks down or until the new one is less expensive. A product's quantity requested drops less for nondiscretionary items. Examples of inelastic purchases include the purchase of high-priced name-brand goods. Both addictive items and products that are necessary add-ons, like inkjet printer cartridges, have low price elasticity.

Duration of Price Change

Furthermore, the duration of the price fluctuation is significant. How consumers react to price changes varies depending on whether the adjustment is temporary or permanent.

Understanding the price elasticity of demand and making meaningful comparisons between items requires a firm grasp of the temporal sensitivity of each." Rather than alter their routines in response to a seasonal price adjustment, consumers may choose to shrug it off.

Conclusion

The price elasticity of demand quantifies how much demand for a product shifts in response to price changes. If a product has infinite price elasticity, it is said to be completely elastic (if demand changes substantially even with minimal price change). The good is elastic if the price elasticity of demand is more than 1, and the good is inelastic if it is less than 1. A good is considered fully inelastic if there is no relationship between its price and its demand. Unitary elasticity describes a situation in which a change in price results in a change in demand that is precisely 1 percent. A product's flexibility changes when a suitable alternative is readily available. An inelastic demand occurs when consumers are unaffected by a change in price because they have no viable alternative to the product they are purchasing.

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