Price elasticity for food literature review examples

Business, Customers

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Introduction

Economists most often use elasticity to measure the variation of variables like price, demand and supply of certain categories of products. By managers having the knowledge about the price elasticity of demand for the company’s products and the factors which influence it, this will offer them a great competitive advantage and this will lead to increased profits and market share (Genchev & Yarkov, 2010). Price elasticity of demand is defined as a measure of the rate of response of the quantity demanded due to a change in price. The formula to calculate this is: give as Price elasticity of demand = Proportionate change in quantity demanded / Proportionate change in price.

There are various types of elasticity and these include elastic, inelastic and unitary price elasticity of demand. Elastic price elasticity of demand is where the price elasticity is more than one. Unitary elasticity is where this figure is one and inelastic demand is where the figure is less than one and is not sensitive to price changes. There are two extremes of price elasticity of demand; perfectly price elastic demand and perfectly price inelastic demand.

The demand is perfectly price elastic if any small change in price results in an infinitely large percentage change in the quantity demanded. On the other hand, the demand is said to perfectly price inelastic where the proportionate change in the quantity demanded is always equal to zero, regardless of the proportionate change in price. Here the price is completely non-responsive to the price changes (Elasticity, 2012). .

There are several determinants of elasticity and one of them is the availability of substitutes. Where there is a possibility of having more substitutes, the higher the elasticity will be and vice versa. Another determinant is the degree of luxury or necessity. The luxuries products are likely to have greater elasticity but on the other hand, the products that are classified as necessities have lower elasticity. The proportion of the buyer's income consumed by a product is also another determinant. Those products that consume a large percentage of the income of the consumer tend to have higher elasticity and vice versa. The time period under consideration is also a determinant of elasticity. In the longer time period, elasticity tends to be greater for the reason that the consumers have enough time to engage in the adjustment of their behavior (Price elasticity of demand, 2010). .

There is a close relationship between price elasticity of demand and total revenue because the two deals with similar variables which are the price of the product and quantity demanded. In a situation where we have elastic demand, the total revenue can be increased by decreasing the price of that product. In this case, a decrease in price will lead to an increase in the quantity demanded at a greater rate and this will in turn increase the total

revenue. On the other hand, in a situation where there is a product that is price inelastic, the price can be increased and in turn a slightly lower quantity of the product can be sold but a higher revenue will be received (Tuck, 2004). In this paper, there is going to be a review of literature about how the price can affect the food consumption in various parts of the world, and more specifically, in relation to price elasticity of food demand.

How Price Affects Food Consumption

According to Isvilanonda & Kongrith (2008) the economic growth as well as urbanization has certainly had an effect on the household food consumption patterns and especially for rice which is a staple food in nearly all the countries in the Asian continent. These researchers considered the effect of price on rice consumption in Thailand. It is pointed out that Thailand's growing economy has stimulated the consumers to engage in adjusting their behavior of consumption towards " an increasing demand for luxury food items, particularly meat and horticultural products and with less rice" (Isvilanonda & Kongrith, 2008, p. 271).

The assessment of rice consumption can be carried out by utilizing the information on income and price elasticities of demand. The measurement of demand elasticities is usually carried out from " single-equation function with price and income variables, using time-series data" (Isvilanonda & Kongrith, 2008, p. 271). It was found out by Wong (1978) that the income as well as price elasticities of rice consumption in Thailand for the short-run were 0. 09 and -0. 42 respectively. In Thailand, carrying out the estimates of the demand elasticity for the consumption of rice is limited to the Engel curve or

expenditure elasticity by making use of the cross-sectional data of the expenses of the households on food (Isvilanonda & Kongrith, 2008). In their research on the rice consumption in Thailand, Isvilanonda & Kongrith (2008), carried out the analysis basing on consumer behavior model that was introduced by Deaton (1988). They used more updated data that was obtained from the socio-economic survey of the households of Thailand in 2002 and this makes it possible to carry out the expenditure as well as price elasticities of rice demand for Thai household consumption.

In their study, Isvilanonda & Kongrith (2008), found out that the consumption patterns for rice of the Thai households differed by the income groups and by communities. It was found out that the average amount of household rice consumption in the year 2002 was one hundred and one kilograms per person and this figure was lower than the one reported in 1990 that was one hundred and nineteen (Isvilanonda & Kongrith, 2008).

It was also found out that the amount of household rice consumption in the villages is relatively larger but there is a tendency for the rice unit price to be smaller. This may give a reflection of lower quality rice that is bought by the households in the rural areas. It was found out that rice consumption among the high income group was lower as compared to the low income group but the high income group purchased rice that had a higher unit price. This implies that they were purchasing higher quality rice. These patterns were confirmed by the estimated expenditure elasticities of quality as well as quantity demands. Moreover, the household rice consumption quantity by high income group tends to be much more responsive to change in price; “

the estimated price elasticity is relatively higher than those in the low income group” (Isvilanonda & Kongrith, 2008, p. 280). Moreover, it was found out that households in urban areas are more price sensitive than those in villages (Isvilanonda & Kongrith, 2008). Because rice is a staple food in Thailand, Isvilanonda & Kongrith (2008) gave out a suggestion that the attention of a strategic policy for rice production should be focused more on to the developing rice that is of high quality, which would encompass “ the development of premium products and post-harvest handling and processing to ensure higher grain quality” (Isvilanonda & Kongrith, 2008, p. 280).

Kumar, P., et al (2011) carried out a study on the estimation of demand elasticity for food commodities in India. Their study on patterns of major food commodities in India gave a revelation of a structural shift in the dietary trend of the country’s population that has been occurring for the last two decades cross various income groups. They found out that the consumers were shifting their budgetary allocations for the “ cereal-based towards high-value commodities like fruits, vegetables, milk, fish, meat products, etc.” (Kumar, et al, 2011, p. 13). This study attributed this structural shift to what is referred to as “ consumption diversification effect” coming up from the changes in the consumer taste and preferences, relative prices variation and easier access to supply among other factors on one hand, and on the other hand, it is attributed to “ pure income effect” arising from the higher consumer income levels (Kumar, et al, 2011). It is pointed out that a transition like this has remarkable implications on the allocation of resources as well as research policy setting and the “ state policy needs to be

reoriented towards meeting the challenges arising from this structural change in food consumption” (Kumar, et al, 2011, p. 13).

According to their findings, Kumar, et al (2011) pointed out that the demand elasticities, worked out by making use of two alternative models which are FCDS and QUAIDS, have been utilized to give an explanation for the people’s behavior in food demand. Observations have been made of the demand elasticities to vary widely across the income groups as well as food commodities. The income elasticities that have been estimated have been found to have variations across income groups and “ are lowest for cereal groups and highest for horticultural and livestock products” (Kumar, et al, 2011, p. 13). The estimates of elasticity magnitudes have been found to be higher among the lower income groups and there is a tendency of these decrease while the income increases (Kumar, et al, 2011). The analysis that was carried out of the income as well as price effects that are based on the estimated demand system has given a suggestion that having increased food price inflation, the demand for such staple foods as wheat, sugar and rice may not experience adverse effects but on the other hand, the demand for high-value food commodities has a likelihood to experience negative effects. Therefore, these researchers give out a warning that in case the inflation in the prices of food remains unabated for a long period of time “ there is the possibility of reversal of the trend of diversification and that of consumers returning to cereal-dominated diet, thus accentuating under-nourishment” (Kumar, et al, 2011, p. 13).

Andreyeva, Long & Brownell (2010) carried out an investigation on the impact of food prices on consumption in the United States. They pointed out that there are substantial data on price elasticities of demand for certain foods. They found out the mean price elasticity estimates to range from 0. 27 to 0. 81 with “ the highest elasticities for food away from home, soft drinks, juice, meats, and fruit and most inelastic demand for eggs” (Andreyeva, Long & Brownell, 2010, p. 220). A suggestion is given by higher elasticity estimates of bigger changes in population purchases as the prices change. From the public health point of view, more elastic demand for food “ is encouraging if change is a priority like decreased sugar-sweetened beverages and increased consumption of fruits and vegetables” (Andreyeva, Long & Brownell, 2010, p. 220). Data like this assist in bridging the public health and communities of economics and to start setting up a vision where price changes may greatly impact on the choices made by the consumer as well as on nutrition and health (Andreyeva, Long & Brownell, 2010).

Even if there has been making of publications by the economists expansively on the effects of changes in prices of commodities as well as on the brand-level demand for foods and beverages, there still exist significant gaps in the research base (Andreyeva, Long & Brownell, 2010). There is need to fill these gaps in order to gain an understanding that is more complete of the public health impact of the policies that carry out the realignment of the food prices (Andreyeva, Long & Brownell, 2010). According to these researchers, the studies they reviewed did not carry out the assessment of the way the price changes affect substitutions to health from unhealthy food choices for a large number of the key categories, like whole grains, in the Dietary

Guidelines for the American people, who are targeted in the public health campaigns (Andreyeva, Long & Brownell, 2010).

It is pointed out that there exists some evidence which give an indication that the low-income groups may be more sensitive to the changes in price as compared to the overall population (Andreyeva, Long & Brownell, 2010). These researchers, however, go ahead to point out that the current data on the role income plays is still rather limited, “ and assessments of differences in responsiveness to food prices according to age, education, culture, or ethnicity are not available” (Andreyeva, Long & Brownell, 2010, p. 220).

Andreyeva, Long & Brownell (2010) also point out that even if the estimation of public potential health benefits of price changes in the specific food categories can be carried out, it is vital to carry out the assessment of the changes in consumer behavior while price changes take place. For instance, it is pointed out that in the case where there are higher prices resulting from increased taxes, “ consumers could increase their caloric consumption from fruit juice to compensate for their reduction in soft drink intake, or, more positively, they might generalize the healthy changes they make to other categories of foods” (Andreyeva, Long & Brownell, 2010, p. 221). It is as well imperative to have consideration of how the governments make use of revenues that are generated by the changes that are realized in economic policies like taxes. An example of this can be given of the situation where the regressive food prices could be offset by utilizing revenues in order to lower the healthy foods costs, especially for the “ low income population groups” (Andreyeva, Long & Brownell, 2010, p. 221).

It is reported that, basing on the mean price elasticities of 0. 7 for the fruits and 0. 58 for the vegetables that was found out, price reduction of these food commodities would bring up the level of purchases on average by 5. 8 percent for vegetables and 7. 0 percent for fruits (Andreyeva, Long & Brownell, 2010). In this manner, the price changes alone would possibly not bring up the level of consumption for the fruits and vegetables to the levels that are recommended in the “ Dietary Guidelines” for the American people. But on the other hand, changes in price brought together with the public education campaigns may bring in a “ multiplicative effect” that would remarkably bring improvements in diets, especially among the groups that are classified as “ at-risk population”. Even if demand for food is, in relative terms, inelastic , “ the power of small price changes, especially applied to foods most responsive to such changes, should not be underestimated given that their effects accumulate across population” (Andreyeva, Long & Brownell, 2010, p. 221).

Conclusion

It has been found out that staple foods such as rice, wheat and sugar have inelastic demand and the price changes can not affect greatly the quantity demanded. But on the other hand, foods such as fruits and meats have elastic demand and changes in the prices greatly affect the quantity demanded. The consumption pattern among population has also been seen to be influenced by the level of income, with the people living in urban areas having a different from those in villages. Understanding price elasticity of demand for food products is quite important. By food producers and sellers having this knowledge about the price elasticity of their food products and

the factors which influence it, this will offer them a great competitive advantage and this will lead to increased profits and market share. In addition, the governments need to have this knowledge in order to set up policies that may promote food security and ensure that good health is promoted among their people.

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