

AS Markets & Market Systems

Income Elasticity of Demand

How sensitive is the demand for a product to a change in the real incomes of consumers? We use income elasticity of demand to measure this. The results are important since the values of income elasticity tell us something about the nature of a product and how it is perceived by consumers. It also affects the extent to which changes in economic growth affect the level and pattern of demand for goods and services.

Definition of income elasticity of demand

Income elasticity of demand measures the relationship between a change in quantity demanded for good X and a change in real income.

The formula for calculating income elasticity: % change in demand divided by the % change in income

Normal Goods

Normal goods have a positive income elasticity of demand so as consumers' income rises, so more is demanded at each price level i.e. there is an outward shift of the demand curve

- Normal necessities have an income elasticity of demand of between 0 and +1 for example, if income increases by 10% and the demand for fresh fruit increases by 4% then the income elasticity is +0.4. Demand is rising less than proportionately to income.
- Luxuries have an income elasticity of demand $> +1$ i.e. the demand rises more than proportionate to a change in income - for example a 8% increase in income might lead to a 16% rise in the demand for restaurant meals. The income elasticity of demand in this example is +2.0. Demand is highly sensitive to (increases or decreases in) income.

Inferior Goods

Inferior goods have a negative income elasticity of demand. Demand falls as income rises. Typically inferior goods or services tend to be products where there are superior goods available if the consumer has the money to be able to buy it. Examples include the demand for cigarettes, low-priced own label foods in supermarkets and the demand for council-owned properties.

The income elasticity of demand is usually strongly positive for
Fine wines and spirits, high quality chocolates (e.g. Lindt) and luxury holidays overseas.
Consumer durables - audio visual equipment, 3G mobile phones and designer kitchens.
Sports and leisure facilities (including gym membership and sports clubs).

In contrast, income elasticity of demand is lower for
Staple food products such as bread, vegetables and frozen foods.
Mass transport (bus and rail).
Beer and takeaway pizza!
Income elasticity of demand is negative (inferior) for cigarettes and urban bus services.

Product ranges: However the income elasticity of demand varies *within* a product range. For example the Yed for own-label foods in supermarkets is probably less for the high-value "finest" food ranges that most major supermarkets now offer. You would also expect income elasticity of demand to vary across the vast range of vehicles for sale in the car industry and also in the holiday industry.





Long-term changes: There is a general downward trend in the income elasticity of demand for many products, particularly foodstuffs. One reason for this is that as a society becomes richer, there are changes in consumer perceptions about different goods and services together with changes in

consumer tastes and preferences. What might have been considered a luxury good several years ago might now be regarded as a necessity (with a lower income elasticity of demand).

consumer tastes and preferences. What might have been considered a luxury good several years ago might now be regarded as a necessity (with a lower income elasticity of demand).

Consider the market for foreign travel. A few decades ago, long-distance foreign travel was regarded as a luxury. Now as real price levels have come down and incomes have grown, so millions of consumers are able to fly overseas on short and longer breaks. For many an annual holiday overseas has become a necessity and not a discretionary item of spending!

Estimates for income elasticity of demand

	
<p><i>How high is the income elasticity for fine wines?</i></p>	<p><i>Income elasticity for baked beans? Likely to be low but positive as beans are a staple food</i></p>
	
<p><i>Income elasticity for cigarettes? According to some estimates, cigarettes are inferior goods</i></p>	<p><i>What of the income elasticity of demand for private executive air travel?</i></p>

Product	Share of budget (% of household income)	Price elasticity of demand (Ped)	Income elasticity of demand (Yed)
All Foods	15.1	n/a	0.2
Fruit juices	0.19	-0.55	0.45
Tea	0.19	-0.37	-0.02
Instant coffee	0.17	-0.45	0.16
Margarine	0.03	n/a	-0.37

Source: DEFRA www.defra.gov.uk

The income elasticity of demand for most types of food is pretty low - occasionally negative (e.g. for margarine) and likewise the own price elasticity of demand for most foodstuffs is also inelastic. In other words, the demand for these products among consumers is not sensitive to changes in the product's price or changes in consumer income.

How do businesses make use of estimates of income elasticity of demand?

Knowledge of income elasticity of demand for different products helps firms predict the effect of a business cycle on sales. All countries experience a business cycle where actual GDP moves up and down in a regular pattern causing booms and slowdowns or perhaps a recession. The business cycle means incomes rise and fall.

Luxury products with high income elasticity see greater sales volatility over the business cycle than necessities where demand from consumers is less sensitive to changes in the economic cycle

The UK economy has enjoyed a period of economic growth over the last twelve years. So average real incomes have increased, but because of differences in income elasticity of demand, consumer demand for products will have varied greatly over this period.

Income elasticity and the pattern of consumer demand

Over time we expect to see our real incomes rise. And as we become better off, we can afford to increase our spending on different goods and services. Clearly what is happening to the relative prices of these products will play a key role in shaping our consumption decisions. But the income elasticity of demand will also affect the pattern of demand over time. For normal luxury goods, whose income elasticity of demand exceeds +1, as incomes rise, the proportion of a consumer's income spent on that product will go up. For normal necessities (income elasticity of demand is positive but less than 1) and for inferior goods (where the income elasticity of demand is negative) - then as income rises, the share or proportion of their budget on these products will fall

UK Consumer Spending Shares by Volume					
(%)			1980	1990	2003
Food			14.5	11.5	9.6
Alcohol & tobacco			7.8	5.0	3.5
	<i>Of which</i> Alcohol		2.1	1.8	1.8
	Tobacco		6.0	3.3	1.7
Clothing & footwear			4.8	5.2	8.1
Household goods, etc			5.4	5.4	6.0
Health			1.5	1.6	1.3
Transport			13.9	15.3	14.0
	<i>Of which</i> Cars		4.1	5.8	6.5
	Travel		3.6	3.4	3.1
	<i>Of which</i> Air		1.0	1.2	1.3
Communications			1.4	1.6	3.1
Recreation & culture			7.8	10.0	15.5
Travel	Other, including package holidays		2.0	2.7	4.5
Education			1.4	1.1	1.2
Restaurants & hotels			12.7	12.6	9.3

Source: Family Expenditure Survey