**Outline for Lecture 7**

Cross Elasticity and Income Elasticity of Demand

*Cross Elasticity of Demand*

How do we define the cross elasticity of demand?

How do we measure the cross elasticity of demand? What is in the numerator of the elasticity equation? What is in the denominator?

In elasticity calculations, we use the midpoint formula to determine percentage changes.

According to the midpoint formula, how do we measure the percentage change in quantity demanded? How do we measure the percentage change in price?

*Interpretation*

The cross elasticity of demand can be positive or negative depending on whether the two commodities are substitutes or complements.

*Substitute Goods*

Consider Pepsi and Coke.

Suppose that the price of a can of Pepsi rises from $1 to $2. As a result, consumers switch from Pepsi to Coke, raising the quantity of Coke demanded from 10 to 15 cans.

What is the cross elasticity of demand between Pepsi and Coke? Is it positive or negative? Explain what the sign indicates.

*Complementary Goods*

Consider coffee and sugar.

Suppose that the price of ground coffee rises from $4 to $6 per ounce, which reduces coffee consumption. With less coffee, less sugar is needed. As a result, the quantity of sugar demanded falls from 4 to 2 packs.

What is the cross elasticity of demand between coffee and sugar? Is it positive or negative? Explain what the sign indicates.

*Income Elasticity of Demand*

How do we define the income elasticity of demand?

How do we measure the income elasticity of demand? What is in the numerator of the elasticity equation? What is in the denominator?

In elasticity calculations, we use the midpoint formula to determine percentage changes.

According to the midpoint formula, how do we measure the percentage change in quantity demanded? How do we measure the percentage change in income?

*Interpretation*

The income elasticity of demand can be positive or negative depending on whether the commodity is a normal good or an inferior good.

*Normal Goods*

Consider restaurant meals.

Suppose that when consumer income rises from $100 to $200, the quantity of restaurant meals demanded increases from 2 to 5 meals per week.

What is the income elasticity of demand for restaurant meals? Is it positive or negative? Explain what the sign indicates.

*Inferior Goods*

Consider Ramen noodles.

Suppose that when consumer income rises from $200 to $400, the quantity of Ramen noodles demanded falls from 20 to 5 packs per week.

What is the income elasticity of demand for Ramen noodles? Is it positive or negative? Explain what the sign indicates.

**Materials for Lecture 7**

Start with the textbook to get familiar with the content and progression of the lecture. Then, go to videos and supplemental articles, if provided, for further clarification and additional examples.

Textbook

Read carefully pages 133 through 135 from the textbook.

Video

Cross elasticity of demand

<https://www.khanacademy.org/economics-finance-domain/microeconomics/elasticity-tutorial/price-elasticity-tutorial/v/cross-elasticity-of-demand>

Another take on cross elasticity of demand

<https://www.youtube.com/watch?v=FgSSLAWq_nE>

Income elasticity of demand

<https://www.youtube.com/watch?v=JbM8sp4YVjw>

Another take on income elasticity of demand

<https://www.youtube.com/watch?v=a6AHaqlm7J4>

Article

Articles on cross elasticity of demand

<http://gregmankiw.blogspot.com/search?q=Cross-Price+Elasticity+of+Demand>