

- ✓ One can associate with each bundle of commodities a number that indicates the amount of satisfaction or utility associated with that bundle. These utility numbers are ordinal – they indicate only the rankings of bundles, not precisely how much more one bundle is valued than another.
- ✓ The consumer's budget constraint shows his opportunities, given his income and the prices he faces. The negative of the slope of the budget constraint is the ratio of the prices of the two goods – it shows the opportunity cost of one good in terms of the other.
- ✓ The consumer chooses the bundle that places him on the highest indifference curve that is also on his budget constraint. Consumption of this bundle is an equilibrium – a situation that will persist because the individual has no incentive to change his behaviour.
- ✓ In the case of an interior equilibrium solution (both goods are consumed), the marginal rate of substitution equals the price ratio.
- ✓ The marginal utility of a good is the change in utility associated with the consumption of one more unit. For interior solution, the marginal utility per £ must be the same for each good.

CHAPTER 3

COMPARATIVE STATICS AND DEMAND

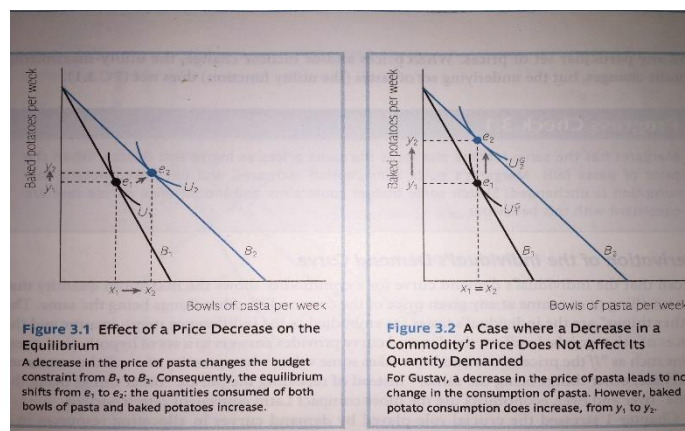
Comparative statics – the process of comparing two equilibria

1. Determine the equilibrium bundle before the particular change under consideration
2. Find the equilibrium after the change
3. Compare two bundles

3.1 PRICE AND INCOME CHANGE

How an individual's consumption of a commodity is affected when the price of that commodity changes, when the price of related commodity changes, and when her income changes.

OWN-PRICE CHANGES



"EXACT" CONSUMER SURPLUS AND THE COMPENSATED DEMAND CURVE

*Compensated demand curve – a schedule that shows how the quantity demanded varies with price, assuming that, as price changes, consumers are compensated with enough income to keep them at their initial utility level.

Deriving a compensated demand curve

- 1) Pivot the budget line in (for price increases) or out (for price decreases)
- 2) Shift the new budget line away from the origin (for price increases) or towards the origin (for price decreases) in a parallel fashion until it is just tangent to the original indifference curve.
- 3) Record the new point of tangency
- 4) Repeat above steps to generate a curve

SUMMARY 4

- ✓ Whenever the price of a commodity changes, there is an income effect and a substitution effect. When the price increases, the income effect is the impact on quantity demanded that is due exclusively to the fact that the price increase lowers the individual's real income. The substitution effect is the change in quantity demanded due exclusively to the change in relative prices.

Type of Good	Substitution effect	Income effect	Total effect
Normal goods	Quantity Decreases	Quantity Decreases	Quantity Decreases
Inferior (not giffen)	Quantity Decreases	Quantity Increases	Quantity Decreases
Giffen	Quantity Decreases	Quantity Increases	Quantity Increases

- ✓ The observed response to a price change, the income effect, and the substitution effect are linked by a relationship called the Slutsky equation.

$$\frac{\Delta x}{\Delta p} = \left(\frac{\Delta x}{\Delta p} \right)_{comp} - x_1 \times \frac{\Delta x}{\Delta I}$$

- ✓ To isolate the substitution effect of a price increase, one must give the individual enough income to attain his or her initial level of utility. This amount of money is called the compensating variation, and is one way to measure the effect of the price change on consumer welfare.
- ✓ An alternative measure is the equivalent variation, which is the amount of money you would have to take away from the individual to reduce his or her welfare as much as the price increase does.
- ✓ Consumer surplus is the difference between what the consumer is willing to pay and what he or she has to pay. Consumer surplus is measured by the area under the ordinary demand curve and above price.
- ✓ A compensated demand curve shows how the quantity demanded of a commodity varies with price, holding the level of utility constant. The area under the compensated demand curve