Microeconomics, Module 3: "The behavior of Consumers"

Micro module 3 readings from tenth edition: Landsburg, Chapter 3

(The attached PDF file has better formatting.)

Modules 3 and 4 deal with consumer behavior. We begin with indifference curves and their application to microeconomics.

Read Section 3.1: We model consumers' tastes with indifference curves. An indifference curve is the locus of points (combinations of goods or baskets of goods) that provide the same level of satisfaction (equal utility).

The textbook presents indifference curves graphically. Some final exam problems use mathematical curves and ask for numerical solutions. Review the practice problems on the discussion forum along with the reading from the textbook. Focus on the curvature - convex or concave.

Definition: The *marginal value* of good A in terms of good B is the amount of good B that the consumer will trade to get one more unit of good A.

This marginal value is the absolute value of the slope of the indifference curve passing through that point (i.e., the point of a given number of units of goods A and B). The indifference curve slopes downward, so its slope is negative; the marginal value is positive.

The simplest indifference curves have the form A × B = k, which has the proper downward slope and convex curvature. The final exam uses curves of this form.

Illustration: Suppose there are only two goods in the economy: bread and wine. Jacob's indifference curves are of the form W × B = k. Jacob gets the same utility from 8 loaves of bread and 2 flasks of wine, 4 loaves of bread and 4 flasks of wine, or 2 loaves of bread and 8 flasks of wine.

Read Section 3.2: The budget constraint (budget line) is the locus of points (combinations of goods) that the consumer can purchase. The slope of the budget line reflects the relative prices of the two goods being considered; the consumer's income determines the distance of the budget line from the origin.

A consumer has 1 budget line and an infinite number of indifference curves. The optimum (the point of maximum utility) is the point of tangency of an indifference curve to the budget line; this is the point where the marginal value of the good equals its relative price.

Final Exam: You will be given the type of indifference curve, such as A × B = k, and a budget line. The budget line may be given as the prices of goods A and B and the income of the consumer. You must find the equilibrium quantity of A and B that the consumer buys. We show the procedure in the practice problems and a homework assignment. The textbook avoids mathematics; the final exam problems use simple curves.

Read Section 3.3: We can often predict consumer behavior by analyzing changes in the points where utility is maximized. Landsburg uses indifference curves to show that the standard indices of changes in the cost of living are biased.

!   A Laspeyres index overstates inflation and makes the price changes look worse for the consumer than they really are.
!   A Paasche index understates inflation and makes the price changes look better for the consumer than they really are.

Jacob: Isn't this true only if the consumer buys more of a good when its price declines and less of a good when its price rises?

Rachel: Yes; we assume that consumers behave rationally; this is the law of demand.

Final Exam: The current edition of Landsburg's textbook does *not* show the mathematics of inflation indices, since college textbooks must be understood even by students who cannot handle mathematics. The practice problems, but the final exam for this course does not test the mathematics.

A final example in Landsburg's text uses indifference curves to show that an income tax lowers consumer welfare more than a head tax that raises the same revenue. This illustration is complex, and the final exam does *not* test the specifics of this illustration.

Jacob: Why does an income tax reduce consumer utility? Is it because we transfer money to the government?

Rachel: Transferring money to the government is a wealth transfer; economists do not say that it reduces social welfare. But an income tax distorts consumer incentives, leading them to work less. If the consumer paid the same tax to the government with a lump-sum tax instead of an income tax, the consumer would have incentives to work more, get more income, and enjoy higher utility.

A common theme of Landsburg's text, Barro's text, and much economic analysis is that most taxes distort consumers' incentives, change their behavior, and reduce social welfare. This does not mean that taxes are necessarily bad; certain government services are essential and someone must pay for them. But some types of taxes reduce social welfare more than others. An economic goal is to obtain the benefits of government services with the least reduction in social welfare.

Jacob: Does Landsburg say that a head tax is better than an income tax? But a head tax is regressive, whereas an income tax is progressive. A head tax which is the same for all citizens can't raise much money, since most citizens are not that wealthy.

Rachel: Landsburg is not comparing an income tax with a head tax that is the same for all citizens. He is comparing an income tax with a head tax that equals the income tax that citizen would pay if we used an income tax.

Jacob: If the tax is the same, why is one better than the other?

Rachel: With the head tax, consumers work more, since there is no disincentive to work.

Review exercises R1, R6, R8, R10; focus on the concepts, not the arithmetic.

Review exercise N1 on page 68. The exercise is simple for actuarial candidates, who use the mathematical curves, not tables. The final exam may give a similar problem, where the utility is $Y \times Z$ (Y and Z are the two products).

Review end of chapter problems 2, 6, 7, 8, 9, 10, 11, 12, 13, 24, 25, 27, 28.