

ECON10004 – INTRODUCTORY MICROECONOMICS

Study Notes

Contents

1	Economic Choice and Models	3
2	Demand and Supply	5
3	Market Equilibrium and Comparative Statics	7
4	Elasticity	10
5	Welfare in Competitive Markets	13
6	Government Intervention	15
7	International Trade	18
8	Externalities	20
9	Public Goods and Common Resources	22
10	Economic Cost, Revenue and Decision Rules	24
11	Technology, Cost and Scale	26
12	Firms in Competitive Markets	29
13	Competitive Supply in the Short Run and Long Run	31
14	Monopoly	33
15	Price Discrimination	36
16	Oligopoly and Strategic Interdependence	38
17	Simultaneous Games	41
18	Sequential Games	43
19	Graph and Calculation Methods	46
20	Formula Reference	48
21	Definition Reference	51

1 Economic Choice and Models

1.1 Scarcity, choice and opportunity cost

Resources have alternative uses, while wants exceed the resources available to satisfy them. Scarcity therefore forces a choice: using a resource one way means giving up what it could have produced elsewhere.

Definition – Opportunity cost

The opportunity cost of an action is the value of the best alternative forgone. It is not the sum of every rejected option, and it need not involve a cash payment.

A decision can carry a large opportunity cost even when its accounting cost is zero. Time spent on one activity cannot be spent on the next-best activity; owner-supplied labour and capital also have alternative uses.

Economic analysis separates two kinds of statement:

Table 1.1. Positive and normative statements differ by whether evidence can settle the claim.

Type	Meaning	Example
Positive	Describes or predicts what happens. Evidence can support or reject it.	A binding price ceiling creates excess demand in the competitive model.
Normative	Judges what ought to happen. The judgement depends partly on values.	Housing should be allocated according to need rather than willingness to pay.

A positive model may still rely on assumptions. The test is whether the reasoning follows from those assumptions and whether the model gives a useful account of the question at hand.

1.2 Marginal decisions and incentives

Most economic choices are not all-or-nothing choices. A firm chooses one more unit of output; a household considers one more hour of work; a government weighs one more unit of abatement.

Key concept – The marginal principle

Increase an activity while the marginal benefit from the next unit exceeds its marginal cost. For a divisible choice with an interior optimum,

$$MB(q^*) = MC(q^*).$$

If the best feasible choice lies at a boundary, equality need not hold.

“Marginal” means the change associated with a small additional unit. It does not mean minor or unimportant. Average benefit and average cost answer different questions from marginal benefit and marginal cost.

An incentive changes the benefit or cost attached to an action. A per-unit tax raises the private marginal cost of the taxed activity; a subsidy lowers it. An incentive can also alter behaviour in an unintended way when the rule rewards a measurable proxy rather than the desired outcome.

Common error – Sunk cost and opportunity cost

A sunk cost has already been incurred and cannot be recovered by the current choice. It should not affect the next decision. An opportunity cost is forward-looking: it is what the chosen action gives up from this point onward.

1.3 Production possibilities

A production possibilities frontier (PPF) shows the maximum feasible combinations of two outputs given resources and technology. Points on the frontier are productively efficient: increasing one output requires reducing the other. A point inside the frontier is feasible but inefficient. A point outside is infeasible with current resources and technology.

The slope of the PPF measures an opportunity cost. With Y on the vertical axis and X on the horizontal axis,

$$\left| \frac{\Delta Y}{\Delta X} \right|$$

is the amount of Y forgone per additional unit of X . A straight frontier has constant opportunity cost. A bowed-out frontier reflects increasing opportunity cost because resources differ in their suitability for the two activities.

Economic growth shifts the frontier outward. A technological improvement specific to one output rotates or stretches the frontier towards that axis; it need not raise productive capacity equally in every direction.