

GENERAL EQUILIBRIUM AND ECONOMIC EFFICIENCY IN ECONOMY

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Abstract:

This article is about terms, general equilibrium and economic efficiency which are fundamental concepts in economics that play a crucial role in shaping the functioning of an economy. These concepts are closely intertwined and are essential for ensuring optimal resource allocation and overall welfare in a market system.

Keywords: equilibrium, efficiency, resource allocation, welfare, Pareto efficiency.

Introduction

General equilibrium refers to a state in which all markets in an economy are in balance, with the quantity supplied of goods and services equaling the quantity demanded. In this state, prices adjust to ensure that markets clear, meaning that there is neither excess supply nor excess demand for any particular good or service. General equilibrium is a key concept in microeconomics as it provides a framework for analyzing how prices and quantities are determined in a competitive market system.

Economic efficiency, on the other hand, refers to the optimal allocation of resources to maximize overall welfare in an economy. There are two main types of economic efficiency: allocative efficiency and productive efficiency. Allocative efficiency occurs when resources are allocated in such a way that the marginal benefit of production equals the marginal cost, leading to the production of goods and services that society values the most. Productive efficiency, on the other hand, occurs when goods and services are produced at the lowest possible cost, ensuring that resources are used efficiently and not wasted.

General equilibrium analysis determines the prices and quantities in all markets simultaneously, and it explicitly takes feedback effects into account. A feedback effect is a price or quantity adjustment in one market caused by price and quantity adjustments in related markets. Suppose, for example, that the U.S. government taxes oil imports. This policy would immediately shift the supply curve for oil to the left (by making foreign oil more expensive) and raise the price of oil. But the effect of the tax would not end there. The higher price of oil would increase the demand for and then the price of natural gas. The higher natural gas price would in turn cause oil demand to rise (shift to the right) and increase the oil price even more. The oil and natural gas markets will continue to interact until eventually an equilibrium is reached in which the quantity demanded and quantity supplied are equated in both markets.

In practice, a complete general equilibrium analysis, which evaluates the effects of a change in one market on all other markets, is not feasible. Instead, we confine ourselves to two or three markets that are closely related. For example, when looking at a tax on oil, we might also look at



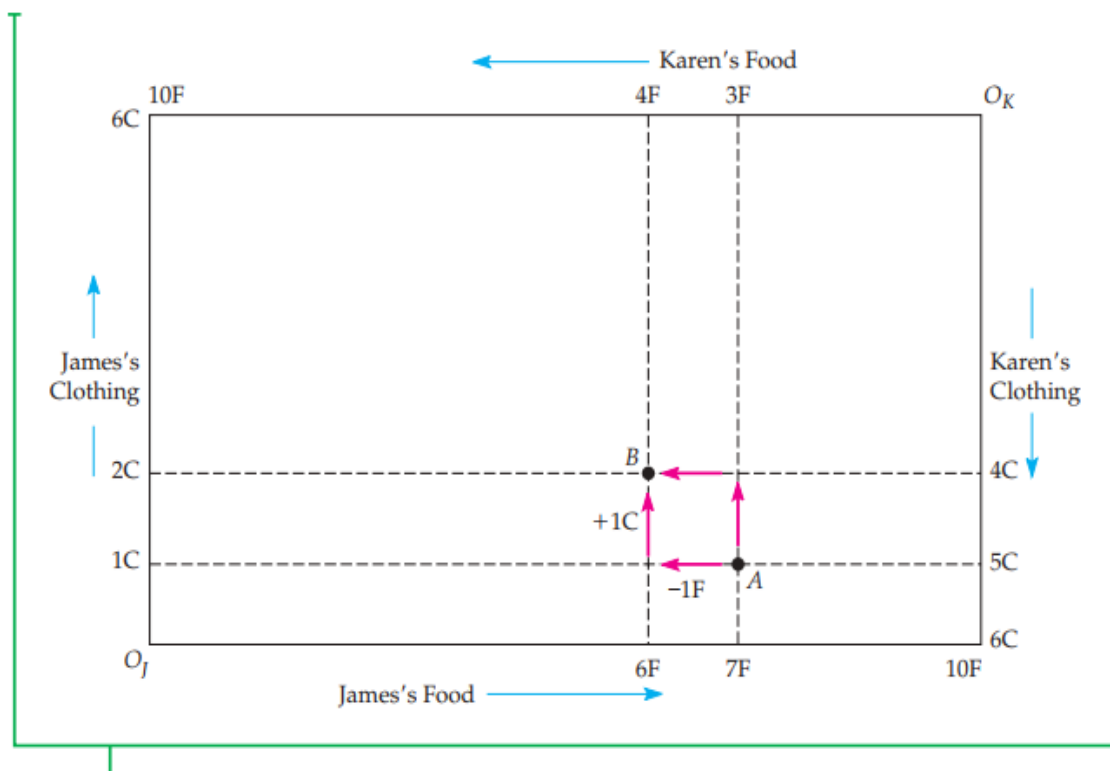
markets for natural gas, coal, and electricity.

In normative economics, however — often called “welfare economics” because of its claim to be about how to enhance well-being or welfare — general equilibrium analysis has been if anything even more important than in positive economics. The reason for this is the striking relationship between, on the one hand, allocations that emerge from complete markets in perfectly competitive equilibrium, and on the other hand, allocations satisfying the normative property of Pareto efficiency. The latter are defined as allocations which at least meet the following necessary condition for normative acceptability: it is impossible to reform the economic system in a way that makes any consumer better off without at the same time making some other consumer worse off. As I say, this seems like a necessary condition for normative acceptability because, if it were not met, one could re-design the economic system so that at least one consumer gains without anybody losing. It is surely not a sufficient condition, however, because Pareto efficiency is compatible with extremely unjust distributions of consumption goods and leisure. For example, suppose that one dictator is served by a group of slaves, and consumes everything except the minimum needed to keep these slaves alive. Such an arrangement will be Pareto efficient if there is no way in which the dictator could possibly be made better off, and if no slave could gain unless another loses. Indeed, slavery can easily be compatible with Pareto efficiency (Bergstrom, 1971). So can starvation, if the only way to relieve starvation is by making some of those who would survive anyway worse off (Coles and Hammond, 1995).

Even as a necessary condition for ethical acceptability, the criterion of Pareto efficiency is far from unquestionable. Indeed, it presumes a form of “welfarism” which Sen (1982, 1987) has often criticized. A response to Sen might be to re-define an individual i 's welfare as that aim which it is ethically appropriate to pursue when only individual i is affected by the decisions being considered. Then, however, another crucial assumption becomes open to question — namely, that of “consumer sovereignty.” This identifies each consumer i 's welfare with a complete preference ordering that is meant to explain i 's demands within the market system. Market outcomes can hardly be expected to be ethically satisfactory if consumers choose things they should not want. Of course one can argue — as many ethical theorists do — that it is nearly always right to let consumers have what they want, partly because they are often the best judges of what is good for them, but also because freedom is something to value for its own sake.

If trade is beneficial, which trades can occur? Which of those trades will allocate goods efficiently among customers? How much better off will consumers then be? We can answer these questions for any two-person, two-good example by using a diagram called an Edgeworth box.





This figure shows an Edgeworth box in which the horizontal axis describes the number of units of food and the vertical axis the units of clothing. The length of the box is 10 units of food, the total quantity of food available; its height is 6 units of clothing, the total quantity of clothing available. In the Edgeworth box, each point describes the market baskets of **both** consumers. James's holdings are read from the origin at O_J and Karen's holdings in the reverse direction from the origin at O_K . For example, point A represents the initial allocation of food and clothing. Reading on the horizontal axis from left to right at the bottom of the box, we see that James has 7 units of food; reading upward along the vertical axis on the left of the diagram, we see that he has 1 unit of clothing. For James, therefore, A represents 7F and 1C. This leaves 3F and 5C for Karen. Karen's allocation of food (3F) is read from right to left at the top of the box diagram beginning at O_K ; we read her allocation of clothing (5C) from top to bottom at the right of the box diagram.

In conclusion, general equilibrium and economic efficiency are essential concepts in economics that underpin the functioning of a market economy. Partial equilibrium analyses of markets assume that related markets are unaffected. General equilibrium analyses examine all markets simultaneously,

taking into account feedback effects of other markets on the market being studied. An allocation is efficient when no consumer can be made better off by trade without making someone else worse off. When consumers make all mutually advantageous trades, the outcome is Pareto efficient and lies on the contract curve. A competitive equilibrium describes a set of prices and quantities. When each consumer chooses her most preferred allocation, the quantity demanded is equal to the quantity supplied in every market. All competitive equilibrium allocations lie on the exchange



contract curve and are Pareto efficient. By striving to achieve these goals, policymakers can create conditions that lead to optimal resource allocation, increased productivity, and higher levels of welfare for society as a whole.

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