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The Scope and Method of Economics

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# The Scope and Method of Economics

## I. THE SUBJECT MATTER OF ECONOMICS.

Economics is the science of administration of scarce resources in human society. Human beings, living within the framework of a given historical civilisation, experience various wants, such as of food, shelter, clothing, education, social prestige, entertainment, expression of religious, national, or political attitudes, and others. Some of the wants result from biological needs which must be satisfied for the very preservation of life. Most of them, however, are products of life in civilized society, frequently of the very existence of the means to satisfy them, and even the wants which result from biological needs assume forms determined by the standards of the particular civilization under which the human beings live. The wants can be satisfied by means of appropriate objects called *goods*, e.g. land, coal, cattle, buildings, ships, railroads, machinery, stocks of raw materials and the uses of such objects or of persons called *services*, like of transportation, of housing, of workingmen, of teachers, of managers, and of artists, etc. The goods and services are the *resources* which serve to satisfy human wants. Some of the resources, air, for instance, are so plentiful that all wants dependent upon them can be fully satisfied. Others, however, e.g. oil or the services of human beings, exist only in quantities which are not sufficient to satisfy all wants dependent upon these resources. In this case, we say that the resources are *scarce*. When resources are scarce, certain wants must go unsatisfied. Men make decisions which, given the organisation and institutions of society, determine the distribution of the scarce resources among the different persons as well as the uses to which the scarce resources are put. In other words: the resources are administered. The study of the ways in which scarce resources are administered is the task of the science of economics.

The administration of scarce resources is influenced by the standards of civilisation and by the organisation and institutions of the society in which men live. The influence is a two-fold one. The wants which the resources serve to satisfy are products of standards of civilisation historically developed in society. The ways in which scarce resources are procured, adapted to various purposes, distributed among different persons are all results of social organisation and social institutions. Forms of ownership, institutions like corporations and banks, technical knowledge acquired in institutes of research and transmitted by schools, regulation by government agencies, habits and moral standards all influence the ways of administering scarce resources. Economics is thus a *social science*, i.e. it deals with a subject which depends on the standards and forms of life in human society. It differs from sociology, the science of social actions and relations (patterns of repeated social actions) between men, by being interested in the actions of men toward the scarce resources which serve to satisfy their wants. These actions are dependent upon social actions but are distinct from them. We shall call them *economic actions*. While dependent on social actions, economic actions, in turn, influence and even create social actions and relations. The last mentioned influence provides subject-matter for a special field of study. We might name it *economic sociology*, the science of the effect of economic actions upon social actions and relations. Subjects such as the sociology of industrial relations, bureaucracy in corporations, trade-unionism, belong to this field. The present essay is limited to economics, i.e. the study of economic actions. This includes a study of the influence of social organisation and institutions upon the ways and methods of administration of scarce resources.

Like any other science, economics is not content with merely descriptive knowledge. It tries to discern general patterns of uniformity in the administration of scarce resources. The possibility of establishing such patterns of uniformity is based on two observed facts. Human actions with regard to scarce resources are subject to uniform patterns of repetition. For instance, most people react to an increase in their income by spending more money on goods and services. Within the framework of given social organisation and institutions, the uniformities in economic action of individuals or groups of individuals produce certain uniformities in the distribution and use of scarce resources. Thus, an increase in the quantity of bank loans to businessmen or corporations makes them increase their demand for resources with a consequent rise in employment and/or prices. The branch of economics which deals with such patterns of uniformity and combines them in a coherent system is called *theoretical economics* or *economic theory* (also economic analysis). Statements enunciating the patterns of uniformity are referred to as *economic laws*. Economic laws are, like all other scientific laws, conditional statements. They assert that such and such happens regularly whenever such and such conditions are satisfied (i.e. whenever such and such other observations take place). No scientific law applies when its prerequisite conditions do not occur. Since the administration of scarce resources is influenced by social organisation and institutions, such organisation and institutions are among the conditions implied in economic laws. Consequently, economic laws which hold under one type of social organisation may fail to do so under another type. Most economic laws are thus "limited historically" to certain given types of social organisation and institutions. This, however, does not imply any basic difference between the laws of economics (or of other social sciences) and the laws of the natural sciences. The latter, too, are contingent upon conditions which are subject to change. Different laws of the natural sciences have different degrees of historic permanence, usually a much higher one than the laws of economics, though even this is not always the case (some laws of meteorology are less permanent than some laws of economics). The difference is but one of degree. Like all scientific laws, economic laws are established in order to make successful prediction of the outcome of human actions. In economics the laws serve to predict the result of policies, i.e. of actions of public or private agencies with regard to the administration of scarce resources. Such predictions, however, are difficult. This is due to the fact that the number of conditions circumscribing the validity of economic laws is very great, and it is difficult to ascertain whether they are all satisfied in any particular situation. Notwithstanding, some successful predictions are being made with the aid of economic science.

Theoretical economics does not exhaust the field of economic inquiry. Economics also studies and describes the particular ways and methods of administering scarce resources as they occur in the history of human society, past and present. Observations are made and classified and interpreted with the aid of the uniformities established by economic theory. This pursuit provides the subject-matter of *applied economics*. Applied economics is subdivided into several parts. The most important are economic history—the study of administration of scarce resources in the human societies of the past—and institutional economics, the study of the influence of particular social institutions upon the administration of scarce resources. The effect of trade-associations upon prices, quality and output of goods, or the effect of collective farming in agriculture on the efficiency of production are examples of problems which fall in the last-mentioned field.

Theoretical economics puts the patterns of uniformity in a coherent system. This is done by presenting the laws of economics as a deductive set of propositions derived by the rules of logic (and of mathematics) from a few basic propositions. The

basic propositions are called assumptions or postulates, the derived propositions are called theorems. Theoretical economics thus appears (like all other theoretical sciences) as a deductive science. This, however, does not make it a branch of pure mathematics or logic. Like the rest of economics, economic theory is an empirical science. Its assumptions or postulates are approximative generalisations of empirical observations; e.g. the assumption that business enterprises act so as to maximise their money profit. Some inaccuracy of approximation (e.g. some considerations, like safety, may keep enterprises from maximising money profit) is accepted for the sake of greater simplicity. The theorems, in turn, are subjected to test by empirical observation. A deductive set of theorems to be subjected to empirical test is also called a *theory*, *hypothesis*, or a *model*. We can thus say that theoretical economics provides hypotheses or models based on generalisation of observations and subject to empirical test.

Since the assumptions (postulates) underlying a model are only approximative, the theorems do not correspond directly to results of empirical observations. In order to establish such a correspondence, special procedures must be provided. First, the concept used in theoretical models are not adequate representations of empirical observation. For instance, a theoretical model speaks of "the price" of a specified good, but experience fails to produce anything like the specified "good" and its "price." There are hundreds of quality-grades and thousands of sellers each charging a different price. Experience is much richer than the language of science can make allowance for. In order to bridge the gap between theoretical concepts and empirical observations, it is necessary to have a procedure of *identification*, which contains rules establishing a correspondence between the two. Such procedures have to be provided by the different branches of applied economics. Furthermore, the theorems of theoretical economics are never borne out exactly by empirical observation. At best, they do so only "approximately." This raises the question as to what is to be considered as an acceptable degree of approximation inducing us to accept a hypothesis as "true" and what degree of approximation is to be judged as insufficient, making us reject the hypothesis as "incompatible with the facts." The question can be answered only in terms of a procedure of *verification* (testing) which establishes rules according to which hypotheses are accepted as "empirically verified" or rejected as "empirically unverified" or "empirically refuted." A recently developed special branch of economics deals with such procedures of verification. It is called *econometrics* and is based on the principles of mathematical statistics.

The administration of scarce resources empirically observed can be evaluated in terms of certain social objectives. Such objectives may consist in the best satisfaction of the wants of private persons according to their own preferences or in marshalling scarce resources for certain collective enterprises—e.g. industrialisation of a country according to time-table, as in the Soviet Union, or successful prosecution of war, or enactment of certain ideas of social justice—or, finally, of a combination of all. The social objectives being given, rules of use of scarce resources can be found which are most conducive to the attainment of these objectives. The use of resources which follows these rules is referred to as the "ideal" use. The rules of "ideal" use of resources provide a standard by which the actual use can be evaluated as to its social desirability. The use of resources empirically observed may be compared with the "ideal" use and measures may be recommended to bring the actual use into closer correspondence with the "ideal" one. This provides subject-matter for another branch of economic science, usually called *welfare economics* (also normative economics or social economics). The rules of "ideal" use of resources are general statements; they express uniform patterns of economic action which, if adopted, are most conducive to the social objectives aimed at. They are conditional statements because they are

valid only under given social objectives and given empirical conditions ; they require empirical verification. (A rule of "ideal" use of resources may prove in practice not to be conducive to the social aims desired). The rules of "ideal" use of resources can thus be considered as a special kind of economic laws. This makes it convenient to include welfare economics in theoretical economics as a supplementary branch of the latter.

## 2. THE OBJECTIVITY OF ECONOMIC SCIENCE.

The statements of economic science have objective validity. This means that two or more persons who agree to abide by the rules of scientific procedure are bound to reach the same conclusions. If they start with the same assumptions, they are bound, by the rules of logic, to derive the same theorems. If they apply the same rules of identification and verification, they are bound to reach agreement as to whether the theorems should be accepted as "true" or rejected as "unverified" or "false." The test of verification decides whether the assumptions are adequate or not. In the latter case, they have to be replaced by new ones which lead to theorems able to stand the test of verification. The final verdict with regard to any statement of economic science is thus based upon an appeal to facts, i.e. to empirical observations. "The proof of the pudding is in the eating." This verdict has interpersonal validity because facts are interpersonal, i.e. can be observed by everyone.

The interpersonal validity of statements holds also for welfare economics. There is no necessary interpersonal agreement about the social objectives which provide the standard of evaluation for welfare economics. Different persons, social groups and classes may, and frequently do desire different social objectives. Once, however, the objectives are stated and certain assumptions are made about empirical conditions, the rules of "ideal" use of resources are derived by the rules of logic and verified by the rules of verification. This procedure is interpersonally objective, i.e. everyone who applies it is bound to reach the same conclusions. The situation may be compared with that of two physicians treating a patient. There is no necessity of interpersonal agreement about the objective of the treatment. One physician may want to heal the patient, the other may want to kill him (e.g. the patient may be a Jew in a Nazi concentration camp ; one physician may be a fellow prisoner who wants to help him, the other physician may be a Nazi acting under orders to exterminate Jews). But once the objective is set for the purpose under discussion (either of the two physicians may, of course, refuse to act upon it), their statements as to whether a given treatment is conducive to the end under consideration have interpersonal validity. Any disagreement between them can be settled by appeal to fact and to the rules of scientific procedure.

Our conclusion about the objectivity of economic science may seem startling. Economists are rather notorious for being unable to reach agreement and for being divided into opposing "schools of thought," "orthodox" and "unorthodox," "bourgeois" and "socialist," and many others. The existence of profound disagreement among economists, however, does not refute our thesis about the objectivity of economics as a science. The disagreements can all be traced to one or more of the following sources :

(1) Disagreement about social objectives. This is the most frequent source of disagreement, but acts as such only as long as it is implicit and unrecognised. If the social objectives are stated explicitly, the disagreement disappears. For any given set of social objectives and with given assumptions as to empirical conditions, conclusions are drawn with interpersonal validity by the rules of logic and of verification.

(2) Disagreement about facts. Such disagreement can always be resolved by further observation and study of the empirical material. Frequently, however, the empirical data necessary to resolve the disagreement are unavailable. In such cases the issue remains unsettled. The conclusion that the issue cannot be settled with the data available has interpersonal validity. Agreement is reached to withhold judgment.

(3) Failure to abide by the rules of logic, of identification and of verification. The disagreement can be removed by correct application of these rules.

The disagreements are thus all due to failure to abide by the rules of scientific procedure and can be resolved by strict application of these rules. Economists, as well as other scientists, however, are not automatons acting on the basis of the rules of scientific procedure. As human beings they are subject to a great multiplicity of influences, some conscious, most of them subconscious, which determine their conclusions as laid down in the literature of economics. There are influences, sociological and psychological, which sometimes are unfavourable and sometimes favourable to the application of scientific procedure. The persistence of disagreements indicates that the harmful influences are very strong. It is desirable to have a picture of these influences, harmful as well as helpful.

Economists, like other human beings, live under the institutions of a historic society and under the standards of its civilisation. They share in its beliefs and values, prejudices and interests, horizons and limitations. They depend for their living, advancement, and recognition on the institutions of the society in which they live, e.g. on universities, research institutes, publishers, press, government, and business establishments. Most of these institutions have other, more important, objectives than the "untrammelled pursuit of truth," and even those which have this objective are dependent on the rest of society and must make their adjustments and compromises. Furthermore, economists are brought up as members of a particular nation, social class, religious or philosophical group, and political tradition, etc. All this exposes economists, and also other scientists, to a multiplicity of influences other than the rules of scientific procedure. Those influences which are conscious are easily recognised and overcome if they interfere with honest application of scientific procedure. Though even in this case, many may choose to limit their scientific inquiry to "safe" fields where there is little danger of conflict with powerful and dominant interests and prejudices. The really important influences, however, are those which are subconscious. The economist subject to them is unaware of their existence; the influences operate through processes of rationalisation of subconscious motivations. The result is the production of *ideologies*, i.e. systems of beliefs which are held not on grounds of their conformity to scientific procedure but as rationalisations of subconscious, non-logical, motives. Ideologies have no interpersonal validity. They convince only those who share the same subconscious motivations and undergo the same processes of rationalisation.

The study of ideologies, of the conditions of their origins and influences, has become the subject-matter of a special discipline, the *sociology of knowledge*. This discipline has established valuable insights into the sociological and psychological conditions of scientific inquiry. Its most important contribution is the recognition of the fact that all scientific production contains an ideological element. This holds for the natural sciences as well as for the social sciences. The history of the Copernican theory in astronomy and of the theory of evolution in biology provides an example. For a long time the attitude of astronomers and of biologists to these theories was influenced by their general attitude, friendly or hostile, to dominant ecclesiastic doctrines and by their personal dependence or lack of dependence on ecclesiastic institutions. The history of economics is full of instances of the ideological element in

economic science. The most important stepping-stones in the development of economics were not merely scientific but also ideological with far-reaching social consequences.

The existence of an ideological element in each science has caused some representatives of the sociology of knowledge to deny the objective validity of scientific statements, particularly in the domain of the social sciences. Such a conclusion is unwarranted. The validity of scientific statements can be ascertained with impersonal objectivity through an appeal to facts. Predictions derived from scientific statements are or are not borne out under the test of verification. The outcome is entirely independent of human motivations, conscious or subconscious ; it depends entirely on the correctness of the scientific procedure applied in establishing the statements. Eclipses predicted do or do not occur, bridges stand the stress of traffic or break down, patients get healed or die, whatever the personal motivations of the astronomer, the engineering scientist or the medical man. Certain economic situations lead to unemployment or to inflation, whatever the economist's personal liking or disliking of the capitalist system. The validity of scientific statements does not depend on human motivations ; it depends entirely on the observations of the rule of scientific procedure and is, therefore, interpersonal.

The ideological element in scientific inquiry need not always be a handicap in reaching interpersonally valid results. If this was not the case, little scientific progress would have been made. Ideological motivation may also stimulate the development of science. Discoveries have been made in physics and chemistry as a consequence of the desire to make profits or to promote national defence (indeed, the very development of these sciences is closely related to modern industry and warfare). Biological science has been stimulated by motivations of human sympathy for the sick and the suffering. Most important contributions of the social sciences are due to passion for social justice and betterment. The discoveries of classical economics were thus ideologically motivated by passion for freedom and justice as well as by the interests of the industrial middle class. The progress of institutional economics was substantially motivated ideologically by the desire for justice and for the improvement of the lot of the industrial working class. Some relation seems to exist between the nature of the motivations and their favourable or unfavourable influence upon the development of economics and other social sciences. " Conservative " motivations, i.e. motivations resulting from the desire to maintain established social institutions and standards of civilisation tend to disfavour, while " progressive " motivations which result from the desire to change and improve social institutions and standards of civilisation tend to favour the attainment of scientifically valid results in the domain of the social sciences. For it is the desire for change and betterment, whether conscious or subconscious which creates the inquisitiveness of mind resulting in scientific investigation of human society.

### 3. THE UNITS OF ECONOMIC DECISION AND THEIR CO-ORDINATION.

Administration of scarce resources, or economic activity, is carried on by various units such as individual persons, families, business corporations, or agencies of the government. Each of these units has disposal over certain resources and makes decisions as to their use. We shall call them *units of economic decision* (or of economic activity). Three kinds of use of resources are ordinarily distinguished : (1) *consumption* or the use of resources for direct satisfaction of wants ; (2) *production* or the preparation and adaption of resources for the satisfaction of wants through actions such as changing physical, chemical, and biological qualities, changing location in space,

and storing for future use ; (3) *exchange* or the use of resources for procurement of resources from other units of economic decision. Accordingly, the units of economic decision are frequently classified as consumers and producers, respectively. These classes, however, are not mutually exclusive. For the same unit is frequently a consumer and producer at the same time (a farm, for instance) ; almost all units in modern society engage in exchange. There are practically no units engaging in exchange alone ; e.g. commerce involves always some change in location or some storage of resources.

A more important classification is one according to the objectives which guide the decisions of the units. On this basis three types of units can be distinguished :

(1) *Households*. The objective of the decisions of these units is consumption, i.e. satisfaction of wants. Households may engage in exchange and in production, but these activities are undertaken with the purpose of providing for the satisfaction of wants of members of the unit. Households appear in different forms, namely, as individual persons, families, corporations, and even public agencies (e.g. a municipal orphanage). In our society, the family is the dominant form of a household.

(2) *Firms or Business Enterprises*. These are units which engage in exchange with the purpose of making a money profit, i.e. a difference between the money value of the resources sold and the money value of the resources bought. Firms are practically always producers ; they are distinguished from other producers by the objective of their activity, namely the acquisition of money profit. Firms assume diverse forms : individual enterprises, business corporations, and also government agencies. In our present society, the corporate form is dominant.

(3) *Public Services*. These are agencies operated with the purpose of contributing to the attainment of certain social objectives (usually called public welfare). Instances of public services are schools, hospitals, research institutes, publicly owned and operated utilities, the post-office, the army and navy, etc. In most cases, public services are operated by some branch of government, national, state or local. But this is not always the case, e.g. privately endowed universities or hospitals. Certain public services are also operated jointly by two or several governments or by governments and private institutions.

The three objectives which serve as a basis for this classification can always be conceptually distinguished. Accordingly, each unit of economic decision will be considered as being either a household, a firm, or a public service. Under certain circumstances, the pursuit of one of these objectives may imply exactly the same actions as the pursuit of another one. Thus, a public service may, according to the social objective chosen, act exactly like a business enterprise. In such cases, it is necessary to ascertain the real objective of the decisions (e.g. attainment of a social objective or pursuit of money profit). This can be done by varying the circumstances hypothetically in such a way that the different objectives imply different actions and by inquiring into the actions which will be followed. It should also be noticed that individual persons may be members of several units of economic decision. For instance, a person can be a member of a household, and at the same time a member of several business firms.

The decisions of a unit may be independent of the decisions of other units and exert no influence on them. The unit is then said to be an isolated unit. Isolated units of economic decision are by necessity, households. In modern society, however, decisions of the various units influence each other ; they are interdependent. The totality of interdependent units of economic decision is called an *economy* or an *economic system*. If the decisions of the different units in an economy are to be carried out, they must be consistent with each other. Thus, the quantity of resources which units wish to consume must be equal to the quantity which the same or other units wish to produce ; the quantity of resources which units wish to acquire by exchange



must be equal to the quantity which other units wish to give up in the exchange ; the total quantity of a resource desired by the units must be equal to the quantity available in the economy. When the decisions of the various units in the economy are consistent with each other, the economy is said to be in *equilibrium*. Unless the economy is in equilibrium, the decisions of the units cannot all be translated into actions. In order for action to become possible, the decisions must be co-ordinated, i.e. brought into consistency with each other.

There are two principal methods by which decisions of the various units are co-ordinated. One is *planning*, i.e. co-ordination by a central authority with power to influence the decisions of the units. The means used by the planning authority to influence the decisions of the units are many. The planning authority can prescribe quotas, i.e. quantities of resources to be produced or consumed, bought or sold by each unit. It can also use more indirect means as, for instance, subsidies and taxes to encourage or discourage certain decisions. Another means of planning is regulation, the setting of rules which the units must observe in their decisions and actions. The planning authority may extend over the whole economy or over a part of it. It may be public, e.g. an agency of government, or private, as, for instance, a trade association or a cartel. We may, accordingly, distinguish between private and public planning.

The other method of co-ordination is the *market*. A market is a pattern of regular, recurrent exchange relations between units of economic decision. Regular exchange between a large number of units presupposes the use of a generally accepted medium of exchange, namely of money. The units thus transact their exchange in two stages, sale and purchase ; they sell their resources for money and buy with the money the resources desired. The ratio at which money and resources are exchanged in the market is called the price. Meeting in the market, the various units match their offers and bids, their supplies and demands, against each other. They adjust and readjust their quantities offered and demanded and their prices, until co-ordination of their decisions is reached. Thus, through an interplay of the units in the market, equilibrium of the economy is attained. This happens quite unintentionally, as a by-product of the pursuit by each unit of its own individual goals (consumption, money profit, or public service). The market thus automatically produces a result equivalent to that of planning. Its operation has, therefore, been compared (by Adam Smith and others) to that of an invisible hand which produces co-ordination out of the autonomous decisions of many separate units. Not all markets, however, are able to produce such co-ordination, nor is the co-ordination obtained always consistent with accepted social objectives. In such cases, planning is used either to reach the co-ordination otherwise unobtainable or to correct the co-ordination produced by the "invisible hand" of the market.

Planning and the market do not exclude each other. Planning may utilise the uniformity of behaviour patterns of units operating in the market as one of the means of influencing their decisions. This happens, for instance, when the planning authority imposes tariffs or pays subsidies in order to influence the quantities bought or sold. Sometimes regulation—a special method of planning—is necessary in order to enable the market to achieve co-ordination of the units' decisions. The two methods of co-ordination co-exist with each other. However, in different historic societies, one or the other of these methods plays the preponderant role and appears as the chief means of co-ordinating all the units in the economy. The development of economics as a science is closely connected with the growing preponderance of the market in modern times. The co-ordinating operation of the market and, at times, the failure of the market to achieve co-ordination of decisions have posed the intellectual problems which have led to the emergence and growth of economic science.

## 4. CAPITALISM AND OTHER FORMS OF ECONOMIC ORGANISATION.

The history of human society confronts us with different ways in which administration of scarce resources is organised. Of all types of economic activity, production is the one to which men devote their major time and attention. We, therefore, classify the forms of economic organisation according to the units of economic decision which are dominant in the performance of production. In older times, almost all producers were households ; administration of resources was carried on in isolated units. Such a form of economic organisation is usually called a domestic economy. The growing interdependence of households through exchange of goods and services had led to the emergence of the firm or business enterprise as the dominant producing unit in the economy. At present, in most of the advanced countries, production is done by firms.

Firms or business enterprises have as their objective one single magnitude, namely, money profit. In this they differ from households and public services. A household, for instance, desires to satisfy several wants, not to pursue merely one magnitude as an objective. Similar considerations hold for public services. Having one single magnitude for an objective, the firm attains the objective the better the greater the value of the magnitude attained. In other words : pursuing money profit for its objective, a firm wants to *maximise* it. It uses the resources at its disposal—its capital—in such a way as to obtain the greatest possible money profit. An economy in which all or most of production is done by firms is called a *capitalist economy* ; the economic organisation which leaves production to firms is called *capitalism*. In our present economy, most of the firms or business enterprises are privately owned (most frequently they are private corporations). It is, however, possible to envisage an economic organisation in which production is assigned to publicly owned profit-maximising enterprises. We shall use the term *state capitalism* to denote such an economic organisation. For the sake of distinction, we may describe our present economic organisation as *private capitalism*. Since a publicly owned profit-maximising enterprise operates exactly like a private firm, this distinction is of no importance for economic theory, however significant it may be from the point of view of sociology or political science.

Pursuit of money profit implies participation in exchange. Firms regularly buy and sell resources. The market is, therefore, an integral part of the capitalist economy. It is, indeed, the chief method by which various units of decision in the capitalist economy are co-ordinated. Planning, however, is not excluded as a method of co-ordination under capitalism. It played an important part in early capitalism (mercantilist policy, e.g.) and increases steadily in importance in the present capitalist economy. The existence of the market is not sufficient for the economy to be capitalist ; a market, for instance, exists in an economic organisation in which production is done by households which regularly exchange part of their products. For the economy to be capitalist, according to our definition, money profit must be the sole objective of the units engaged in production. This excludes an economy in which the satisfaction of wants competes with the profit-making objective. A craftsman may refuse to use an opportunity of making an additional money profit because it is not worth the effort involved or because he prefers to devote his time to the satisfaction of specific wants, such as company, entertainment, etc. A farmer may fail to maximise money profit because he prefers to consume some of his products instead of selling them. In order that the producing unit pursue money profit as its sole objective, it must be entirely separated from the owner's (or owners') household and, in addition, all services of persons employed by the unit must be purchased in the market.

The condition that all services of persons employed by the producing unit be

purchased in the market implies that these persons do not own the enterprise. They must be either pure labourers paid wages or salaries or slaves purchased by the enterprise. In antiquity business enterprises operated with slave labour played a considerable role. Some authors, therefore, speak of capitalism in ancient Greece and Rome. In modern times, however, business enterprises employ the services of free wage and salary earners. The existence of a class of labourers working for wages and salaries endows capitalism with specific sociological features. Capitalism as a form of economic organisation is, therefore, a subject of study of economic sociology as well as of economics.

Firms, as defined by us, are but approximative representations of certain units of economic decision found in experience. Although in the present economy, money profit is the chief objective of most units engaged in production, some other objectives are always co-existent. Among these other objectives are, for instance, prestige, social standing, desire for a "quiet life," social responsibilities, and, most important of all, desire for safety, i.e. dislike of decisions involving risk. Strictly speaking, the empirical units called "firms" or "business enterprises" are households which desire to satisfy these specific wants alongside with making money profit; they are ready to sacrifice some money profit to attain the other objectives. The pursuit of money profit, however, dominates the other objectives to such an extent that the units mentioned conform approximately to our theoretical concept of a firm. The extent of approximation between the theoretical concept and its empirical counterpart justifies the assumption that the units engaged in production pursue the single objective of money profit as a useful simplification of analysis. The consequences of the other objectives being present can be introduced at a later stage, whenever necessary. However, the desire for safety may be of such prominence that it sometimes becomes necessary to introduce it from the very beginning in the analysis of the firm. This can be done by redefining the firm as pursuing profit "discounted for risk" as a single objective. The presence of a desire for safety among firms will be considered as compatible with the capitalist character of the economy.

Another form of economic organisation to consider is *socialism*. This is an economic organisation where production is done by public services operated for the satisfaction of the wants of the community. Socialism is the objective of important social and political movements in many countries, e.g. the Labour Party in Great Britain, and in some of the Dominions, the Co-operative Commonwealth Federation in Canada, the socialist and communist movements in the various countries of Europe. One country, the Union of Soviet Socialist Republics, has established a socialist economy. In a socialist economy production is a public, not private, responsibility. All the units of economic decision charged with production need not be owned and operated by the central government. They may be owned and operated by branches of provincial and local government, by citizens' associations like co-operatives, unions, or collective farms, by special public service corporations, or foundations. There may be substantial decentralisation of units of decision in a socialist economy. All these units, however, must be public services, i.e. they must be operated for the satisfaction of the wants of the whole community and not merely of members of the unit. In principle, the co-ordination of the decisions of the various units may be effected by either planning or the market. In practice, both methods prove necessary, as is similar under capitalism. Most socialists, however, assign planning a much greater role under socialism than it has under capitalism. In the U.S.S.R. planning serves as the basic method of co-ordination between producing units, the market playing an important subsidiary role in co-ordinating the decisions of households with the decisions of the producing units. If socialism is adopted by more countries, the socialist economies in different countries

will probably differ substantially as to types of producing units, their degree of centralisation, and as to the relative importance of planning and the market as methods of co-ordination, just as the capitalist economy differs from country to country and in different historical periods.

History seldom confronts us with an economic organisation corresponding exactly to our theoretical classifications. In most cases, production is carried on by all three types of units of economic decision, by households, by firms, and by public services. Thus, in the United States at present, households like small farms or craftsmen and public services like publicly owned power plants or transportation services engage in production alongside with business enterprises. Elements of a domestic economy and of a socialist economy co-exist with those of a capitalist economy. But one of the three types (for instance, business enterprises in the United States) may be so dominant (in terms of the amount of resources at the disposal of units of this type) that the economy may be described as approximately domestic, capitalist, or socialist. For purposes of theoretical analysis, we then disregard the other elements and introduce them, if necessary, at a later stage. Such a procedure is sometimes called construction of "ideal types" of economic organisation. Economic theories can then be developed which describe the operation of such "typical" economies, e.g. the economics of capitalism or the economics of socialism. In some cases, however, this proves impossible because several types of units of economic decision are equally important in production, or although one type is dominant, some other type is too important to be disregarded even in a first approximation. For instance, in many countries of Europe big industry and finance are operated as public services, while medium-sized and small industry are operated by business enterprises; in addition, farming is frequently operated by households exchanging but a small part of their products in the market. In such case we speak of a *mixed economy*.

An instance of mixed economy occurs when the government chooses to leave production to private firms (or sometimes to households) or to conduct it through public services, depending upon, in each case, which course promises to contribute more to the satisfaction of the wants of the community. This may be called a *service economy* because production is assigned to the unit which best serves the social purpose. But it can be considered as a special kind of socialist economy. The purpose of production here is always satisfaction of the wants of the community; the operation of production is merely delegated to private firms if they do it better than, or at least, just as well as, public agencies. In such an economy private firms can be considered as a special kind of public service in which the managers are remunerated by being allowed to make whatever money profit they can. Furthermore, in a service economy the government must have the power to decide in each case whether a private firm or a public agency is to be charged with production. This presupposes an alignment of political power similar to that in a socialist society. The service economy type of socialism, rather than the "ideal type" excluding all forms of private business enterprise, is the objective of contemporary socialist movements; the political programmes of the socialist and communist parties are explicit in stating that private enterprise shall continue to operate under socialism in small farming, small trade, and small industry. It is, therefore, an important subject of study for economic science.

## 5. THE POSTULATE OF RATIONALITY.

We have seen that the pursuit by firms of a single magnitude for an objective implies the desire to maximise it. A unit in pursuit of money profit but not desirous of maximising it obviously must be striving for additional objectives. It is ready to

sacrifice some money profit for the attainment of some other objective or objectives. Thus, there appears to be an essential difference between firms and households. Firms pursue a single objective, a magnitude which they want to maximise; households, instead, are concerned with the satisfaction of many different wants, theirs being a multiplicity of objectives. However, since resources are scarce, wants must be weighed against each other and decisions must be made as to which wants to satisfy and to what extent; resources must be allocated accordingly. This implies the existence of given preferences which guide the household in choosing one allocation rather than another. We may now ask whether these preferences can be ordered along a scale. When this is possible, the household can be interpreted as pursuing a single objective, namely, the most preferred allocation of the resources among its different wants. The household appears then as maximising a magnitude. We call this magnitude *utility*. The decisions of the household are interpreted, in this case, in a way similar to those of firms, i.e. as resulting from the pursuit of a single objective.

The possibility of interpreting decisions of households in a way similar to decisions of firms suggests the adoption of a general postulate covering both cases. We call it the *postulate of rationality*. A unit of economic decision is said to act rationally when its objective is the maximisation of a magnitude. Firms thus act rationally, by definition, while households do so only when their preferred allocations of resources among different wants can be ordered along a scale. The postulate of rationality is the assumption that all units of economic decision act rationally. This assumption provides us with a most powerful tool for simplification of theoretical analysis. For, if a unit of decision acts rationally, its decisions in any given situation can be predicted by mere application of the rules of logic (and of mathematics). In absence of rational action such prediction could be made only after painstaking empirical study of the uniformities in the decision patterns of the unit. For a unit which acts rationally, these uniformities or laws can be deduced immediately by logic and the decisions predicted, accordingly. Thus, the postulate of rationality is a short-cut to the discovery of laws governing the decisions of units and to the prediction of their actions under given circumstances.

Though a short-cut designed to save elaborate empirical investigation, the postulate of rationality is, nevertheless, but an empirical assumption. It is a hypothesis which, in each case, must be verified by confronting the logical deductions obtained from the postulate with the observations of experience. The use of the postulate is justified only when the logical deductions agree with the results of empirical observation with an acceptable degree of approximation. Otherwise, the postulate would lead us to make predictions which fail to be borne out by observed facts. This needs to be stressed because some economists believe that the postulate of rationality can be used as an *a priori* principle, not subject to empirical verification. In such case, however, the conclusions derived from the postulate of rationality could not have any empirical relevance, either. Theoretical economics would become a branch of pure logic or mathematics without empirical implications, whatsoever. If the laws deduced from the postulate of rationality are to serve as a basis of making predictions about the decisions of units encountered in experience, this postulate must be treated as an empirical hypothesis.

The hypothesis that producing units act rationally, i.e. with the objective of maximising money profit, is verified with satisfactory approximation in the capitalist economy. It serves, therefore, as a useful tool of simplification in the study of that economy. The situation is more doubtful with regard to households. Here the verification of the hypothesis is much more precarious, and we must expect much larger discrepancies between results of empirical observation and conclusions derived from

the postulate of rationality. There seems, however, to be some difference between households operating in the capitalist economy and households of the domestic economy of pre-capitalist societies. The dominance of business enterprises with a tangible and quantified magnitude (money profit) as their objective has created a mental habit of considering all kinds of decisions as a pursuit of a single objective, expressed as a magnitude. Some authors call this mental habit the "capitalist spirit." It spreads beyond the specific decisions of business enterprises and affects the mode of operation of other units, including households. Under the influence of the mental habit mentioned, households are encouraged to order their preferences along a scale, i.e. to maximise utility. In capitalist society, therefore, the decisions of households are more likely to conform to the deductions derived from the postulate of rationality than in societies which preceded the rise of modern capitalism.

Public services act rationally when the social objective they aim at can be expressed as a single magnitude to be maximised. The magnitude is then called *public welfare*. Public welfare exists as a magnitude when the community, or more exactly the agencies of the community responsible for the judgment, have preferences as to the distribution of resources among members of the community as well as to the allocation of resources among the various wants of each member, and when, furthermore, these preferences can be ordered along a scale. In this case, the decisions of public services in any given situation can be derived by the rules of logic from the postulate of rationality. But the community seldom has such definite and ordered preferences. Because of this, the study of the operation of public services has to be based on the observations of institutional economics and economic history rather than on logical deductions from the postulate of rationality. However, there is a different way in which the postulate of rationality is useful in the study of public services. Instead of accepting it as an empirical hypotheses, we can consider conformity of public services with the postulate of rationality as a social objective. In other words : we can set up a chosen set of ordered preferences, i.e. some concept of public welfare, as our own (i.e. the student's) social objective and require that all public services be guided by this objective as a norm. This leads to rules of "ideal" use of resources and provides a basis for critical evaluation of the actual administration of resources by public services as well as by firms and households. The postulate of rationality becomes then the basis of a theory of welfare economics.

There is a difference between the rationality of households and firms and the rationality, whether (approximately) actual or normative (as in welfare economics) of public services. The first involves the pursuit of a private objective—utility or profit, respectively ; the latter involves pursuit of a social objective, namely, public welfare. We can speak of *private* and *social rationality*, accordingly. Private rationality need not necessarily exclude social rationality. If the community's preferences as to allocation of resources among the various wants of each member coincide with the individual preferences of the members, then each member, by maximising his private utility, contributes to the attainment of maximum public welfare. Under certain conditions the maximisation of money profit by firms implies maximisation of public welfare too. In such cases, their own private rationality makes the members of the community act as if they were public services ; private rationality then implies social rationality. The existence of such situations underlies the idea of the service economy. If all firms were always subject to these conditions, the capitalist economy could be considered as a special case of a service economy in which it is found expedient to delegate all production to private firms. This, indeed, is the famous doctrine of *laissez faire* which maintains that the capitalist economy, provided it is not hampered by government planning, spontaneously operates in such a way that it secures the maximum

of public welfare. Accordingly, non-interference in the spontaneous operation of the capitalist economy is considered to be the best way of assuring the "ideal" use of resources. Most contemporary students of welfare economics consider this claim to be false and point out many conflicts between the private rationality of business enterprises and social rationality as postulated by welfare economics. The private rationality of business enterprises is also in conflict with the social objectives accepted by most citizens of modern democratic society. This accounts for the increasing tendency toward planning under contemporary capitalism and also for the socialist movements present in most capitalist countries.

A final observation has to be made about the procedure of verification of the postulate of rationality. There is some difference in procedure between firms, on the one hand, and households and public services on the other. Money profit is a quantity which can be observed empirically (like, for instance, velocity in physics). The theoretical concept of money profit, therefore, can be easily identified with corresponding empirical observations (the procedure of identification involves an interpretation of book-keeping categories). Direct observation tells, then, whether firms do or do not maximise money profit. Utility and public welfare, instead, are purely theoretical constructs; there are no empirical observations which would serve as their counterparts (just like in the case of the concept of potential in physics). But this does not preclude verification by indirect devices. The uniformities of decision patterns are different when utility or public welfare, respectively, are maximised than when they are not. This difference in the uniformities mentioned makes it possible to verify empirically the hypothesis of rationality of acts of households and of public services.

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